Associated with document Ref. Ares(2025)8627308 - 10/10/2025

EUROPEAN CLIMATE, INFRASTRUCTURE AND ENVIRONMENT EXECUTIVE AGENCY (CINEA)

CINEA.C – Green research and innovation
C.3 – Horizon Europe Transport

GRANT AGREEMENT

Project 101239472 — URBAN-FLOW

PREAMBLE

This **Agreement** ('the Agreement') is **between** the following parties:

on the one part,

the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and

on the other part,

1. 'the coordinator':

THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC), PIC 997420543, established in RUE DE LA LOI 155 RESIDENCE PALACE IPC, BRUXELLES 1040, Belgium,

and the following other beneficiaries, if they sign their 'accession form' (see Annex 3 and Article 40):

2. **INTERUNIVERSITAIR MICRO-ELECTRONICA CENTRUM (IMEC)**, PIC 999981149, established in KAPELDREEF 75, LEUVEN 3001, Belgium,

3. **TEKNOLOGIAN TUTKIMUSKESKUS VTT OY (VTT)**, PIC 932760440, established in TEKNIIKANTIE 21, ESPOO 02150, Finland,

4. **FUNDACION TECNALIA RESEARCH & INNOVATION (TEC)**, PIC 999604110, established in PARQUE CIENTIFICO Y TECNOLOGICO DE BIZKAIA, ASTONDO BIDEA, EDIFICIO 700, DERIO BIZKAIA 48160, Spain,

5. **UNIVERSITAT POLITECNICA DE VALENCIA (UPV)**, PIC 999864846, established in CAMINO DE VERA SN EDIFICIO 3A, VALENCIA 46022, Spain,

6. **THE UNIVERSITY OF EDINBURGH (UEDIN)**, PIC 999974941, established in OLD COLLEGE, SOUTH BRIDGE, EDINBURGH EH8 9YL, United Kingdom,

7. **FUNDACION DE LA COMUNITAT VALENCIANA PARA LA PROMOCION ESTRATEGICA EL DESARROLLO Y LA INNOVACION URBANA (VIC)**, PIC 953813514, established in PLAZA AYUNTAMIENTO 1, VALENCIA 46002, Spain,

8. **EMPRESA MUNICIPAL DE TRANSPORTES DE VALENCIA SA (EMT)**, PIC 965524324, established in PLAZA DEL CORREO VIEJO 5, VALENCIA 46001, Spain,

9. **FUNDACIO DE LA COMUNITAT VALENCIANA VALENCIA CLIMA I ENERGIA (VCE)**, PIC 935397773, established in C/JOAN VERDEGUER, 16 NAVE 2, VALENCIA 46024, Spain,

10. **AGENZIA PER LA PROMOZIONE DELLA RICERCA EUROPEA (APRE)**, PIC 999514191, established in VIA CAVOUR 71, ROMA 00184, Italy,

11. **ENGINEERING - INGEGNERIA INFORMATICA SPA (ENG)**, PIC 999960488, established in PIAZZALE DELL'AGRICOLTURA 24, ROMA 00144, Italy,

12. **MUNICIPIA SPA (MUN)**, PIC 899334143, established in VIA ANDRIANO OLIVETTI 7, TRENTO 38122, Italy,

13. **ETRA INVESTIGACION Y DESARROLLO SA (ETRA)**, PIC 999926441, established in CALLE TRES FORQUES 147, VALENCIA 46014, Spain,

14. **CEFRIEL SOCIETA CONSORTILE A RESPONSABILITA LIMITATA SOCIETA BENEFIT (CEF)**, PIC 999647178, established in VIALE SARCA 226, MILANO 20126, Italy,

15. **KENTYOU (KENT)**, PIC 894317400, established in 93 COURS BERRIAT, GRENOBLE 38000, France,

16. **SERVIZI ALLA STRADA SPA (SAS)**, PIC 904144567, established in VIA GUGLIELMO MARCONI 18/20, FIRENZE 50131, Italy,

17. **SPES CONSULTING SRL (SPES)**, PIC 953750464, established in VIA XII OTTOBRE 1, GENOVA GE 16121, Italy,

18. **REMOTED OY (REM)**, PIC 885139066, established in HUPPIONMAENKATU 5 A 7, TAMPERE 33720, Finland,

19. **DIADIKASIA BUSINESS CONSULTING SYMVOULOI EPICHEIRISEON AE (DBC)**, PIC 983764495, established in KIFISSIAS AVE 296 & NAVARINOU 40 HALANDRI, ATHINA 15232, Greece,

20. **LATITUDO 40 SRL (LAT)**, PIC 910401164, established in VIA UGO NIUTTA 36, NAPOLI 80128, Italy,

21. **PLUSVALUE ITALY SRL SOCIETA BENEFIT (PV)**, PIC 888902181, established in CORSO MONFORTE 41, MILANO 20122, Italy,

22. **OPEN & AGILE SMART CITIES (OASC)**, PIC 914842115, established in LUXEMBURGSTRAAT 19, BRUXELLES 1000, Belgium,

23. **STICHTING CLIMATE-KIC INTERNATIONAL FOUNDATION (CKIC)**, PIC 878875582, established in PLANTAGE MIDDENLAAN 45, AMSTERDAM 1018 DC, Netherlands,

24. **EIT URBAN MOBILITY FOUNDATION (EIT UM)**, PIC 882621237, established in Calle Pamplona 104, 3, BARCELONA 08018, Spain,

25. **Czech Smart City Cluster, z.s. (CSCC)**, PIC 907068826, established in Újezd 450/40, Praha 118 00, Czechia,

26. **AYUNTAMIENTO DE VALENCIA (VLC)**, PIC 984507903, established in PLAZA AYUNTAMIENTO 1, VALENCIA 46002, Spain,

27. **COMUNE DI FIRENZE (FLO)**, PIC 969024472, established in PIAZZA SIGNORIA 1, FIRENZE 50122, Italy,

28. **TAMPEREEN KAUPUNKISEUDUN ELINKEINOJA KEHITYSYHTIO BUSINESS TAMPERE OY (BT)**, PIC 897506372, established in KELLOPORTINKATU 1 B, TAMPERE 33100, Finland,

29. **THE CITY OF EDINBURGH COUNCIL (CEC)**, PIC 953520671, established in HIGH STREET, EDINBURGH EH1 1YJ, United Kingdom,

30. **VILLE DE BRUXELLES (BRU)**, PIC 950386407, established in RUE DES HALLES 4, BRUXELLES 1000, Belgium,

Unless otherwise specified, references to ‘beneficiary’ or ‘beneficiaries’ include the coordinator and affiliated entities (if any).

If only one beneficiary signs the grant agreement (‘mono-beneficiary grant’), all provisions referring to the ‘coordinator’ or the ‘beneficiaries’ will be considered — mutatis mutandis — as referring to the beneficiary.

The parties referred to above have agreed to enter into the Agreement.

By signing the Agreement and the accession forms, the beneficiaries accept the grant and agree to implement the action under their own responsibility and in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

The Agreement is composed of:

Preamble

Terms and Conditions (including Data Sheet)

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Annex 1 Description of the action[1]

Annex 2 Estimated budget for the action

Annex 2a Additional information on unit costs and contributions (if applicable)

Annex 3 Accession forms (if applicable)[2]

Annex 3a Declaration on joint and several liability of affiliated entities (if applicable)[3]

Annex 4 Model for the financial statements

Annex 5 Specific rules (if applicable)

[1] Template published on Portal Reference Documents.
[2] Template published on Portal Reference Documents.
[3] Template published on Portal Reference Documents.

TERMS AND CONDITIONS

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DATA SHEET

1. General data

Project summary:

Project summary
URBAN-FLOW is a groundbreaking initiative designed to reshape urban spaces into sustainable, climate-neutral, and resilient environments. The project addresses key urban challenges such as limited public space, inefficient mobility and land use planning, suburban connectivity gaps, fragmented energy and mobility systems, and the need for inclusive, liveable urban areas. By integrating Local Digital Twins (LDTs) and Mobility Data Spaces (MDS), URBAN-FLOW enhances data-driven decision-making, enabling dynamic space management and participatory urban regeneration towards climate-neutral mobility, integrated energy, and resilient design. The project is demonstrated in three Lead Cities: Valencia (Spain), Florence (Italy), and Tampere (Finland), where innovative urban solutions will be tested. These solutions include dynamic curb-side management, multimodal transport optimization, and green infrastructure integration. The project also involves three Replicant Cities: Edinburgh (United Kingdom), Brussels (Belgium), and Pilsen (Czech Republic), ensuring the scalability and adaptability of the proposed measures across diverse urban contexts. URBAN-FLOW employs a systemic co-creation approach through City Living Labs (CLLs), engaging policymakers, citizens, and businesses in collaborative urban transformation. The project aligns with the European Green Deal and the Mission 100 Climate-Neutral Cities, driving policy-driven replication across European cities. By combining advanced digital tools, participatory governance, and climate resilience strategies, URBAN-FLOW seeks to create urban environments that enhance accessibility, reduce greenhouse gas emissions, and improve the overall quality of life for residents. To maximise its footprint and its results uptake, the project leverages several city and climate related EU networks: ClimateKIC, EIT Urban Mobility, Open and Agile Smart Cities, Urban Technologies Alliance.

Keywords:

- Mobility management
- Sustainable energy policy
- Sustainable planning
- Sustainable transport
- Urban planning
- Urban transport
- Urban Space Management, Climate Neutrality, Climate-Neutral Mobility, Integrated Energy Solutions, Resilient Urban Design, Efficient Space Allocation, Sustainable Development

Project number: 101239472

Project name: Enhancing Liveable Cities with Smart Public Space Management and Sustainable Mobility for climate neutrality in urban areas: the URBAN-FLOW Approach

Project acronym: URBAN-FLOW

Call: HORIZON-MISS-2024-CIT-01

Topic: HORIZON-MISS-2024-CIT-01-01

Type of action: HORIZON Innovation Actions

Granting authority: European Climate, Infrastructure and Environment Executive Agency

Grant managed through EU Funding & Tenders Portal: Yes (eGrants)

Project starting date: fixed date: 1 January 2026

Project end date: 31 December 2029

Project duration: 48 months

Consortium agreement: Yes

2. Participants

List of participants:

N°	Role	Short name	Legal name	Ctry	PIC	Total eligible costs (BEN and AE)	Max grant amount
1	COO	LC	THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL	BE	997420543	1 177 000.00	1 177 000.00
2	BEN	IMEC	INTERUNIVERSITAIR MICRO-ELECTRONICA CENTRUM	BE	999981149	623 125.00	623 125.00
3	BEN	VTT	TEKNOLOGIAN TUTKIMUSKESKUS VTT OY	FI	932760440	732 000.00	732 000.00
4	BEN	TEC	FUNDACION TECNALIA RESEARCH & INNOVATION	ES	999604110	806 093.75	806 093.75
5	BEN	UPV	UNIVERSITAT POLITECNICA DE VALENCIA	ES	999864846	430 625.00	430 625.00
6	BEN	UEDIN	THE UNIVERSITY OF EDINBURGH	UK	999974941	209 500.00	209 500.00
7	BEN	VIC	FUNDACION DE LA COMUNITAT VALENCIANA PARA LA PROMOCION ESTRATEGICA EL DESARROLLO Y LA INNOVACION URBANA	ES	953813514	1 012 000.00	1 012 000.00
8	BEN	EMT	EMPRESA MUNICIPAL DE TRANSPORTES DE VALENCIA SA	ES	965524324	153 342.50	107 339.75
9	BEN	VCE	FUNDACIO DE LA COMUNITAT VALENCIANA VALENCIA CLIMA I ENERGIA	ES	935397773	415 000.00	415 000.00
10	BEN	APRE	AGENZIA PER LA PROMOZIONE DELLA RICERCA EUROPEA	IT	999514191	440 000.00	440 000.00
11	BEN	ENG	ENGINEERING - INGEGNERIA INFORMATICA SPA	IT	999960488	383 125.00	268 187.50
12	BEN	MUN	MUNICIPIA SPA	IT	899334143	689 625.00	482 737.50
13	BEN	ETRA	ETRA INVESTIGACION Y DESARROLLO SA	ES	999926441	785 250.00	549 675.00
14	BEN	CEF	CEFRIEL SOCIETA CONSORTILE A RESPONSABILITA LIMITATA SOCIETA BENEFIT	IT	999647178	348 750.00	348 750.00
15	BEN	KENT	KENTYOU	FR	894317400	681 250.00	476 875.00
16	BEN	SAS	SERVIZI ALLA STRADA SPA	IT	904144567	413 600.00	289 520.00
17	BEN	SPES	SPES CONSULTING SRL	IT	953750464	415 781.25	291 046.88
18	BEN	REM	REMOTED OY	FI	885139066	1 377 500.00	964 250.00
19	BEN	DBC	DIADIKASIA BUSINESS CONSULTING SYMVOULOI EPICHEIRISEON AE	EL	983764495	263 750.00	184 625.00
20	BEN	LAT	LATITUDO 40 SRL	IT	910401164	228 750.00	160 125.00
21	BEN	PV	PLUSVALUE ITALY SRL SOCIETA BENEFIT	IT	888902181	491 250.00	343 875.00
22	BEN	OASC	OPEN & AGILE SMART CITIES	BE	914842115	542 500.00	542 500.00
23	BEN	CKIC	STICHTING CLIMATE-KIC INTERNATIONAL FOUNDATION	NL	878875582	336 500.00	336 500.00
24	BEN	EIT UM	EIT URBAN MOBILITY FOUNDATION	ES	882621237	614 375.00	614 375.00
25	BEN	CSCC	Czech Smart City Cluster, z.s.	CZ	907068826	331 625.00	331 625.00
26	BEN	VLC	AYUNTAMIENTO DE VALENCIA	ES	984507903	147 500.00	147 500.00
27	BEN	FLO	COMUNE DI FIRENZE	IT	969024472	1 206 875.00	1 206 875.00
28	BEN	BT	TAMPEREEN KAUPUNKISEUDUN ELINKEINOJA KEHITYSYHTIO BUSINESS TAMPERE OY	FI	897506372	910 957.50	910 957.50
29	BEN	CEC	THE CITY OF EDINBURGH COUNCIL	UK	953520671	269 375.00	269 375.00
30	BEN	BRU	VILLE DE BRUXELLES	BE	950386407	325 000.00	325 000.00
31	AP	UTA	URBAN TECHNOLOGY ALLIANCE ASSOCIATION	CH	894313229	0.00	0.00
32	AP	D4P	DIGITAL FOR PLANET-D4P	CH	897171237	0.00	0.00
Total						16 762 025.00	14 997 057.88

Coordinator:

– THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC)

3. Grant

Maximum grant amount, total estimated eligible costs and contributions and funding rate:

Total eligible costs (BEN and AE)	Funding rate (%)	Maximum grant amount (Annex 2)	Maximum grant amount (award decision)
16 762 025.00	70, 100	14 997 057.88	14 997 057.88

Grant form: Budget-based

Grant mode: Action grant

Budget categories/activity types:

- A. Personnel costs
  - A.1 Employees, A.2 Natural persons under direct contract, A.3 Seconded persons
  - A.4 SME owners and natural person beneficiaries
  - A.6 Personnel unit cost
- B. Subcontracting costs
- C. Purchase costs
  - C.1 Travel and subsistence
  - C.2 Equipment
  - C.3 Other goods, works and services
- D. Other cost categories
  - D.2 Internally invoiced goods and services
- E. Indirect costs

Cost eligibility options:

- In-kind contributions eligible costs
- Parental leave
- Project-based supplementary payments
- Average personnel costs (unit cost according to usual cost accounting practices)
- Limitation for subcontracting
- Travel and subsistence:
  - Travel: Actual costs
  - Accommodation: Actual costs
  - Subsistence: Actual costs
- Equipment: depreciation only
- Indirect cost flat-rate: 25% of the eligible direct costs (categories A-D, except volunteers costs, subcontracting costs, financial support to third parties and exempted specific cost categories, if any)
- VAT: Yes
- Other ineligible costs

Budget flexibility: Yes (no flexibility cap)

4. Reporting, payments and recoveries

4.1 Continuous reporting (art 21)

Deliverables: see Funding & Tenders Portal Continuous Reporting tool

4.2 Periodic reporting and payments

Reporting and payment schedule (art 21, 22):

Reporting					Payments	
Reporting periods			Type	Deadline	Type	Deadline (time to pay)
RP No	Month from	Month to				
					Initial prefinancing	30 days from entry into force/10 days before starting date – whichever is the latest
1	1	18	Periodic report	60 days after end of reporting period	Interim payment	90 days from receiving periodic report
2	19	36	Periodic report	60 days after end of reporting period	Interim payment	90 days from receiving periodic report
3	37	48	Periodic report	60 days after end of reporting period	Final payment	90 days from receiving periodic report

Prefinancing payments and guarantees:

Prefinancing payment	
Type	Amount
Prefinancing 1 (initial)	7 997 930.97

Reporting and payment modalities (art 21, 22):

Mutual Insurance Mechanism (MIM): Yes

MIM contribution: 5% of the maximum grant amount (749 852.89), retained from the initial prefinancing

Restrictions on distribution of initial prefinancing: The prefinancing may be distributed only if the minimum number of beneficiaries set out in the call condititions (if any) have acceded to the Agreement and only to beneficiaries that have acceded.

Interim payment ceiling (if any): 90% of the maximum grant amount

Exception for revenues: Yes

No-profit rule: Yes

Late payment interest: ECB + 3.5%

Bank account for payments:

BE75310139123651 BBRUBEBBXXX

Conversion into euros: Double conversion

Reporting language: Language of the Agreement

4.3 Certificates (art 24):

Certificates on the financial statements (CFS):

Conditions:

Schedule: only at final payment, if threshold is reached

Standard threshold (beneficiary-level):

- financial statement: requested EU contribution to costs ≥ EUR 430 000.00

Special threshold for beneficiaries with a systems and process audit(see Article 24): financial statement: requested EU contribution to costs ≥ EUR 725 000.00

4.4 Recoveries (art 22)

First-line liability for recoveries:

Beneficiary termination: Beneficiary concerned

Final payment: Each beneficiary for their own debt

After final payment: Beneficiary concerned

Joint and several liability for enforced recoveries (in case of non-payment):

Individual financial responsibility: Each beneficiary is liable only for its own debts (and those of its affiliated entities, if any)

Joint and several liability of affiliated entities — n/a

5. Consequences of non-compliance, applicable law & dispute settlement forum

Suspension and termination:

Additional suspension grounds (art 31)

Additional termination grounds (art 32)

Applicable law (art 43):

Standard applicable law regime: EU law + law of Belgium

Dispute settlement forum (art 43):

Standard dispute settlement forum:

EU beneficiaries: EU General Court + EU Court of Justice (on appeal)

Non-EU beneficiaries: Courts of Brussels, Belgium (unless an international agreement provides for the enforceability of EU court judgements)

6. Other

Specific rules (Annex 5): Yes

Standard time-limits after project end:

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Confidentiality (for X years after final payment): 5

Record-keeping (for X years after final payment): 5 (or 3 for grants of not more than EUR 60 000)

Reviews (up to X years after final payment): 2

Audits (up to X years after final payment): 2

Extension of findings from other grants to this grant (no later than X years after final payment): 2

Impact evaluation (up to X years after final payment): 5 (or 3 for grants of not more than EUR 60 000)

CHAPTER 1 GENERAL

ARTICLE 1 — SUBJECT OF THE AGREEMENT

This Agreement sets out the rights and obligations and terms and conditions applicable to the grant awarded for the implementation of the action set out in Chapter 2.

ARTICLE 2 — DEFINITIONS

For the purpose of this Agreement, the following definitions apply:

Actions — The project which is being funded in the context of this Agreement.

Grant — The grant awarded in the context of this Agreement.

EU grants — Grants awarded by EU institutions, bodies, offices or agencies (including EU executive agencies, EU regulatory agencies, EDA, joint undertakings, etc.).

Participants — Entities participating in the action as beneficiaries, affiliated entities, associated partners, third parties giving in-kind contributions, subcontractors or recipients of financial support to third parties.

Beneficiaries (BEN) — The signatories of this Agreement (either directly or through an accession form).

Affiliated entities (AE) — Entities affiliated to a beneficiary within the meaning of Article 190 of EU Financial Regulation 2024/2509[4] which participate in the action with similar rights and obligations as the beneficiaries (obligation to implement action tasks and right to charge costs and claim contributions).

Associated partners (AP) — Entities which participate in the action, but without the right to charge costs or claim contributions.

Purchases — Contracts for goods, works or services needed to carry out the action (e.g. equipment, consumables and supplies) but which are not part of the action tasks (see Annex 1).

Subcontracting — Contracts for goods, works or services that are part of the action tasks (see Annex 1).

In-kind contributions — In-kind contributions within the meaning of Article 2(38) of EU Financial Regulation 2024/2509, i.e. non-financial resources made available free of charge by third parties.

[4] For the definition, see Article 190 Regulation (EU, Euratom) 2024/2509 of the European Parliament and of the Council of 23 September 2024 on the financial rules applicable to the general budget of the Union (recast) ('EU Financial Regulation') (OJ L, 2024/2509, 26.9.2024): "**affiliated entities** [are]:

(a) entities that form a sole beneficiary [(i.e. where an entity is formed of several entities that satisfy the criteria for being awarded a grant, including where the entity is specifically established for the purpose of implementing an action to be financed by a grant)];

(b) entities that satisfy the eligibility criteria and that do not fall within one of the situations referred to in Article 138(1) and 143(1) and that have a link with the beneficiary, in particular a legal or capital link, which is neither limited to the action nor established for the sole purpose of its implementation".

Fraud — Fraud within the meaning of Article 3 of EU Directive 2017/1371[5] and Article 1 of the Convention on the protection of the European Communities' financial interests, drawn up by the Council Act of 26 July 1995[6], as well as any other wrongful or criminal deception intended to result in financial or personal gain.

Irregularities — Any type of breach (regulatory or contractual) which could impact the EU financial interests, including irregularities within the meaning of Article 1(2) of EU Regulation 2988/95[7].

Grave professional misconduct — Any type of unacceptable or improper behaviour in exercising one's profession, especially by employees, including grave professional misconduct within the meaning of Article 138(1)(c) of EU Financial Regulation 2024/2509[8].

Applicable EU, international and national law — Any legal acts or other (binding or non-binding) rules and guidance in the area concerned.

Portal — EU Funding & Tenders Portal; electronic portal and exchange system managed by the European Commission and used by itself and other EU institutions, bodies, offices or agencies for the management of their funding programmes (grants, procurements, prizes, etc.).

CHAPTER 2 ACTION

ARTICLE 3 — ACTION

The grant is awarded for the action **101239472** — **URBAN-FLOW** ('action'), as described in Annex 1.

ARTICLE 4 — DURATION AND STARTING DATE

The duration and the starting date of the action are set out in the Data Sheet (see Point 1).

CHAPTER 3 GRANT

ARTICLE 5 — GRANT

[5] Directive (EU) 2017/1371 of the European Parliament and of the Council of 5 July 2017 on the fight against fraud to the Union's financial interests by means of criminal law (OJ L 198, 28.7.2017, p. 29).

[6] OJ C 316, 27.11.1995, p. 48.

[7] Council Regulation (EC, Euratom) No 2988/95 of 18 December 1995 on the protection of the European Communities financial interests (OJ L 312, 23.12.1995, p. 1).

[8] 'Professional misconduct' includes, in particular, the following: violation of ethical standards of the profession; wrongful conduct with impact on professional credibility; breach of generally accepted professional ethical standards; false declarations/misrepresentation of information; participation in a cartel or other agreement distorting competition; violation of IPR; attempting to influence decision-making processes by taking advantage, through misrepresentation, of a conflict of interests, or to obtain confidential information from public authorities to gain an advantage; incitement to discrimination, hatred or violence or similar activities contrary to the EU values where negatively affecting or risking to affect the performance of a legal commitment.

5.1 Form of grant

The grant is an action grant[9] which takes the form of a budget-based mixed actual cost grant (i.e. a grant based on actual costs incurred, but which may also include other forms of funding, such as unit costs or contributions, flat-rate costs or contributions, lump sum costs or contributions or financing not linked to costs).

5.2 Maximum grant amount

The maximum grant amount is set out in the Data Sheet (see Point 3) and in the estimated budget (Annex 2).

5.3 Funding rate

The funding rate for costs is 100% of the eligible costs for beneficiaries that are non-profit legal entities[10] and 70% of the eligible costs for beneficiaries that are profit legal entities.

Contributions are not subject to any funding rate.

5.4 Estimated budget, budget categories and forms of funding

The estimated budget for the action is set out in Annex 2.

It contains the estimated eligible costs and contributions for the action, broken down by participant and budget category.

Annex 2 also shows the types of costs and contributions (forms of funding)[11] to be used for each budget category.

If unit costs or contributions are used, the details on the calculation will be explained in Annex 2a.

5.5 Budget flexibility

The budget breakdown may be adjusted — without an amendment (see Article 39) — by transfers (between participants and budget categories), as long as this does not imply any substantive or important change to the description of the action in Annex 1.

However:

- changes to the budget category for volunteers (if used) always require an amendment
- changes to budget categories with lump sums costs or contributions (if used; including financing not linked to costs) always require an amendment

[9] For the definition, see Article 183(2)(a) EU Financial Regulation 2024/2509: '**action grant**' means an EU grant to finance "an action intended to help achieve a Union policy objective".

[10] For the definition, see Article XX of the Horizon Europe Framework Programme and Rules for Participation Regulation (EU) XXX: '**non-profit legal entity**' means a legal entity which by its legal form is non-profit-making or which has a legal or statutory obligation not to distribute profits to its shareholders or individual members.

[11] See Article 125 EU Financial Regulation 2024/2509.

- changes to budget categories with higher funding rates or budget ceilings (if used) always require an amendment
- addition of amounts for subcontracts not provided for in Annex 1 either require an amendment or simplified approval in accordance with Article 6.2
- other changes require an amendment or simplified approval, if specifically provided for in Article 6.2
- flexibility caps: not applicable.

ARTICLE 6 — ELIGIBLE AND INELIGIBLE COSTS AND CONTRIBUTIONS

In order to be eligible, costs and contributions must meet the **eligibility** conditions set out in this Article.

6.1 General eligibility conditions

The **general eligibility conditions** are the following:

(a) for actual costs:

(i) they must be actually incurred by the beneficiary

(ii) they must be incurred in the period set out in Article 4 (with the exception of costs relating to the submission of the final periodic report, which may be incurred afterwards; see Article 21)

(iii) they must be declared under one of the budget categories set out in Article 6.2 and Annex 2

(iv) they must be incurred in connection with the action as described in Annex 1 and necessary for its implementation

(v) they must be identifiable and verifiable, in particular recorded in the beneficiary's accounts in accordance with the accounting standards applicable in the country where the beneficiary is established and with the beneficiary's usual cost accounting practices

(vi) they must comply with the applicable national law on taxes, labour and social security and

(vii) they must be reasonable, justified and must comply with the principle of sound financial management, in particular regarding economy and efficiency

(b) for unit costs or contributions (if any):

(i) they must be declared under one of the budget categories set out in Article 6.2 and Annex 2

(ii) the units must:

- be actually used or produced by the beneficiary in the period set out in Article 4

(with the exception of units relating to the submission of the final periodic report, which may be used or produced afterwards; see Article 21)

- be necessary for the implementation of the action and

(iii) the number of units must be identifiable and verifiable, in particular supported by records and documentation (see Article 20)

(c) for flat-rate costs or contributions (if any):

(i) they must be declared under one of the budget categories set out in Article 6.2 and Annex 2

(ii) the costs or contributions to which the flat-rate is applied must:

- be eligible

- relate to the period set out in Article 4 (with the exception of costs or contributions relating to the submission of the final periodic report, which may be incurred afterwards; see Article 21)

(d) for lump sum costs or contributions (if any):

(i) they must be declared under one of the budget categories set out in Article 6.2 and Annex 2

(ii) the work must be properly implemented by the beneficiary in accordance with Annex 1

(iii) the deliverables/outputs must be achieved in the period set out in Article 4 (with the exception of deliverables/outputs relating to the submission of the final periodic report, which may be achieved afterwards; see Article 21)

(e) for unit, flat-rate or lump sum costs or contributions according to usual cost accounting practices (if any):

(i) they must fulfil the general eligibility conditions for the type of cost concerned

(ii) the cost accounting practices must be applied in a consistent manner, based on objective criteria, regardless of the source of funding

(f) for financing not linked to costs (if any): the results must be achieved or the conditions must be fulfilled as described in Annex 1.

In addition, for direct cost categories (e.g. personnel, travel & subsistence, subcontracting and other direct costs) only costs that are directly linked to the action implementation and can therefore be attributed to it directly are eligible. They must not include any indirect costs (i.e. costs that are only indirectly linked to the action, e.g. via cost drivers).

In-kind contributions provided by third parties free of charge may be declared as eligible direct costs by the beneficiaries which use them (under the same conditions as if they were their own, provided that they concern only direct costs and that the third parties and their in-kind contributions are set out in Annex 1 (or approved ex post in the periodic report, if their use does not entail changes to the

Agreement which would call into question the decision awarding the grant or breach the principle of equal treatment of applicants; 'simplified approval procedure').

6.2 Specific eligibility conditions for each budget category

For each budget category, the **specific eligibility conditions** are as follows:

Direct costs

A. Personnel costs

A.1 Costs for employees (or equivalent) are eligible as personnel costs, if they fulfil the general eligibility conditions and are related to personnel working for the beneficiary under an employment contract (or equivalent appointing act) and assigned to the action.

They must be limited to salaries (including net payments during parental leave), social security contributions, taxes and other costs linked to the remuneration, if they arise from national law or the employment contract (or equivalent appointing act) and be calculated on the basis of the costs actually incurred, in accordance with the following method:

{daily rate for the person

multiplied by

number of day-equivalents worked on the action (rounded up or down to the nearest half-day)}.

The daily rate must be calculated as:

{annual personnel costs for the person

divided by

215}.

The number of day-equivalents declared for a person must be identifiable and verifiable (see Article 20).

The actual time spent on parental leave by a person assigned to the action may be deducted from the 215 days indicated in the above formula.

The total number of day-equivalents declared in EU grants, for a person for a year, cannot be higher than 215, minus time spent on parental leave (if any).

For personnel which receives supplementary payments for work in projects (project-based remuneration), the personnel costs must be calculated at a rate which:

- corresponds to the actual remuneration costs paid by the beneficiary for the time worked by the person in the action over the reporting period
- does not exceed the remuneration costs paid by the beneficiary for work in similar projects funded by national schemes ('national projects reference')
- is defined based on objective criteria allowing to determine the amount to which the person is entitled

and

- reflects the usual practice of the beneficiary to pay consistently bonuses or supplementary payments for work in projects funded by national schemes.

The national projects reference is the remuneration defined in national law, collective labour agreement or written internal rules of the beneficiary applicable to work in projects funded by national schemes.

If there is no such national law, collective labour agreement or written internal rules or if the project-based remuneration is not based on objective criteria, the national project reference will be the average remuneration of the person in the last full calendar year covered by the reporting period, excluding remuneration paid for work in EU actions.

If the beneficiary uses average personnel costs (unit cost according to usual cost accounting practices), the personnel costs must fulfil the general eligibility conditions for such unit costs and the daily rate must be calculated:

- using the actual personnel costs recorded in the beneficiary's accounts and excluding any costs which are ineligible or already included in other budget categories; the actual personnel costs may be adjusted on the basis of budgeted or estimated elements, if they are relevant for calculating the personnel costs, reasonable and correspond to objective and verifiable information

and

- according to usual cost accounting practices which are applied in a consistent manner, based on objective criteria, regardless of the source of funding.

A.2 and **A.3 Costs for natural persons working under a direct contract** other than an employment contract and costs for **seconded persons by a third party against payment** are also eligible as personnel costs, if they are assigned to the action, fulfil the general eligibility conditions and:

(a) work under conditions similar to those of an employee (in particular regarding the way the work is organised, the tasks that are performed and the premises where they are performed) and

(b) the result of the work belongs to the beneficiary (unless agreed otherwise).

They must be calculated on the basis of a rate which corresponds to the costs actually incurred for the direct contract or secondment and must not be significantly different from those for personnel performing similar tasks under an employment contract with the beneficiary.

A.4 The work of **SME owners** for the action (i.e. owners of beneficiaries that are small and medium-sized enterprises[12] not receiving a salary) or **natural person beneficiaries** (i.e. beneficiaries that are

[12] For the definition, see Commission Recommendation 2003/361/EC: micro, small or medium-sized enterprise (SME) are enterprises

- engaged in an economic activity, irrespective of their legal form (including, in particular, self- employed persons and family businesses engaged in craft or other activities, and partnerships or associations regularly engaged in an economic activity) and

- employing fewer than 250 persons (expressed in 'annual working units' as defined in Article 5 of the

natural persons not receiving a salary) may be declared as personnel costs, if they fulfil the general eligibility conditions and are calculated as unit costs in accordance with the method set out in Annex 2a.

A.6 For **beneficiaries with personnel unit cost**, the personnel costs under categories A.1-A.4 must be declared as unit cost and are eligible, if they fulfil the general eligibility conditions, are calculated as unit costs in accordance with the method set out in Annex 2a and comply with the conditions set out in Points A.1-A.4 for the underlying types of costs (personnel).

B. Subcontracting costs

Subcontracting costs for the action (including related duties, taxes and charges, such as non-deductible or non-refundable value added tax (VAT)) are eligible, if they are calculated on the basis of the costs actually incurred, fulfil the general eligibility conditions and are awarded using the beneficiary's usual purchasing practices — provided these ensure subcontracts with best value for money (or if appropriate the lowest price) and that there is no conflict of interests (see Article 12).

Beneficiaries that are 'contracting authorities/entities' within the meaning of the EU Directives on public procurement must also comply with the applicable national law on public procurement.

Subcontracting may cover only a limited part of the action.

The tasks to be subcontracted and the estimated cost for each subcontract must be set out in Annex 1 and the total estimated costs of subcontracting per beneficiary must be set out in Annex 2 (or may be approved ex post in the periodic report, if the use of subcontracting does not entail changes to the Agreement which would call into question the decision awarding the grant or breach the principle of equal treatment of applicants; 'simplified approval procedure').

C. Purchase costs

Purchase costs for the action (including related duties, taxes and charges, such as non-deductible or non-refundable value added tax (VAT)) are eligible if they fulfil the general eligibility conditions and are bought using the beneficiary's usual purchasing practices — provided these ensure purchases with best value for money (or if appropriate the lowest price) and that there is no conflict of interests (see Article 12).

Beneficiaries that are 'contracting authorities/entities' within the meaning of the EU Directives on public procurement must also comply with the applicable national law on public procurement.

C.1 Travel and subsistence

Purchases for **travel, accommodation** and **subsistence** must be calculated as follows:

- travel: on the basis of the costs actually incurred and in line with the beneficiary's usual practices on travel

- accommodation: on the basis of the costs actually incurred and in line with the beneficiary's usual practices on travel

Recommendation) and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million.

- subsistence: on the basis of the costs actually incurred and in line with the beneficiary's usual practices on travel .

C.2 Equipment

Purchases of **equipment, infrastructure or other assets** used for the action must be declared as depreciation costs, calculated on the basis of the costs actually incurred and written off in accordance with international accounting standards and the beneficiary's usual accounting practices.

Only the portion of the costs that corresponds to the rate of actual use for the action during the action duration can be taken into account.

Costs for **renting or leasing** equipment, infrastructure or other assets are also eligible, if they do not exceed the depreciation costs of similar equipment, infrastructure or assets and do not include any financing fees.

C.3 Other goods, works and services

Purchases of **other goods, works and services** must be calculated on the basis of the costs actually incurred.

Such goods, works and services include, for instance, consumables and supplies, promotion, dissemination, protection of results, translations, publications, certificates and financial guarantees, if required under the Agreement.

D. Other cost categories

D.2 Internally invoiced goods and services

Costs for internally invoiced goods and services directly used for the action may be declared as unit cost according to usual cost accounting practices, if and as declared eligible in the call conditions, if they fulfil the general eligibility conditions for such unit costs and the amount per unit is calculated:

- using the actual costs for the good or service recorded in the beneficiary's accounts, attributed either by direct measurement or on the basis of cost drivers, and excluding any cost which are ineligible or already included in other budget categories; the actual costs may be adjusted on the basis of budgeted or estimated elements, if they are relevant for calculating the costs, reasonable and correspond to objective and verifiable information

and

- according to usual cost accounting practices which are applied in a consistent manner, based on objective criteria, regardless of the source of funding.

'Internally invoiced goods and services' means goods or services which are provided within the beneficiary's organisation directly for the action and which the beneficiary values on the basis of its usual cost accounting practices.

This cost will not be taken into account for the indirect cost flat-rate.

Indirect costs

E. Indirect costs

Indirect costs will be reimbursed at the flat-rate of 25% of the eligible direct costs (categories A-D, except volunteers costs, subcontracting costs, financial support to third parties and exempted specific cost categories, if any).

Contributions

Not applicable

6.3 Ineligible costs and contributions

The following costs or contributions are **ineligible**:

(a) costs or contributions that do not comply with the conditions set out above (Article 6.1 and 6.2), in particular:

(i) costs related to return on capital and dividends paid by a beneficiary

(ii) debt and debt service charges

(iii) provisions for future losses or debts

(iv) interest owed

(v) currency exchange losses

(vi) bank costs charged by the beneficiary's bank for transfers from the granting authority

(vii) excessive or reckless expenditure

(viii) deductible or refundable VAT (including VAT paid by public bodies acting as public authority)

(ix) costs incurred or contributions for activities implemented during grant agreement suspension (see Article 31)

(x) in-kind contributions by third parties: not applicable

(b) costs or contributions declared under other EU grants (or grants awarded by an EU Member State, non-EU country or other body implementing the EU budget), except for the following cases:

(i) Synergy actions: not applicable

(ii) if the action grant is combined with an operating grant[13] running during the same period and the beneficiary can demonstrate that the operating grant does not cover any (direct or indirect) costs of the action grant

[13] For the definition, see Article 183(2)(b) EU Financial Regulation 2024/2509: '**operating grant**' means an EU grant to finance "the functioning of a body which has an objective forming part of and supporting an EU policy".

(c) costs or contributions for staff of a national (or regional/local) administration, for activities that are part of the administration's normal activities (i.e. not undertaken only because of the grant)

(d) costs or contributions (especially travel and subsistence) for staff or representatives of EU institutions, bodies or agencies

(e) other :

(i) country restrictions for eligible costs: not applicable

(ii) costs or contributions declared specifically ineligible in the call conditions.

6.4 Consequences of non-compliance

If a beneficiary declares costs or contributions that are ineligible, they will be rejected (see Article 27).

This may also lead to other measures described in Chapter 5.

CHAPTER 4 GRANT IMPLEMENTATION

SECTION 1 CONSORTIUM: BENEFICIARIES, AFFILIATED ENTITIES AND OTHER PARTICIPANTS

ARTICLE 7 — BENEFICIARIES

The beneficiaries, as signatories of the Agreement, are fully responsible towards the granting authority for implementing it and for complying with all its obligations.

They must implement the Agreement to their best abilities, in good faith and in accordance with all the obligations and terms and conditions it sets out.

They must have the appropriate resources to implement the action and implement the action under their own responsibility and in accordance with Article 11. If they rely on affiliated entities or other participants (see Articles 8 and 9), they retain sole responsibility towards the granting authority and the other beneficiaries.

They are jointly responsible for the *technical* implementation of the action. If one of the beneficiaries fails to implement their part of the action, the other beneficiaries must ensure that this part is implemented by someone else (without being entitled to an increase of the maximum grant amount and subject to an amendment; see Article 39). The *financial* responsibility of each beneficiary in case of recoveries is governed by Article 22.

The beneficiaries (and their action) must remain eligible under the EU programme funding the grant for the entire duration of the action. Costs and contributions will be eligible only as long as the beneficiary and the action are eligible.

The **internal roles and responsibilities** of the beneficiaries are divided as follows:

(a) Each beneficiary must:

(i) keep information stored in the Portal Participant Register up to date (see Article 19)

(ii) inform the granting authority (and the other beneficiaries) immediately of any events or circumstances likely to affect significantly or delay the implementation of the action (see Article 19)

(iii) submit to the coordinator in good time:

- the prefinancing guarantees (if required; see Article 23)
- the financial statements and certificates on the financial statements (CFS) (if required; see Articles 21 and 24.2 and Data Sheet, Point 4.3)
- the contribution to the deliverables and technical reports (see Article 21)
- any other documents or information required by the granting authority under the Agreement

(iv) submit via the Portal data and information related to the participation of their affiliated entities.

(b) The coordinator must:

(i) monitor that the action is implemented properly (see Article 11)

(ii) act as the intermediary for all communications between the consortium and the granting authority, unless the Agreement or granting authority specifies otherwise, and in particular:

- submit the prefinancing guarantees to the granting authority (if any)
- request and review any documents or information required and verify their quality and completeness before passing them on to the granting authority
- submit the deliverables and reports to the granting authority
- inform the granting authority about the payments made to the other beneficiaries (report on the distribution of payments; if required, see Articles 22 and 32)

(iii) distribute the payments received from the granting authority to the other beneficiaries without unjustified delay (see Article 22).

The coordinator may not delegate or subcontract the above-mentioned tasks to any other beneficiary or third party (including affiliated entities).

However, coordinators which are public bodies may delegate the tasks set out in Point (b)(ii) last indent and (iii) above to entities with ‘authorisation to administer’ which they have created or which are controlled by or affiliated to them. In this case, the coordinator retains sole responsibility for the payments and for compliance with the obligations under the Agreement.

Moreover, coordinators which are 'sole beneficiaries'[14] (or similar, such as European research infrastructure consortia (ERICs)) may delegate the tasks set out in Point (b)(i) to (iii) above to one of their members. The coordinator retains sole responsibility for compliance with the obligations under the Agreement.

The beneficiaries must have **internal arrangements** regarding their operation and co-ordination, to ensure that the action is implemented properly.

If required by the granting authority (see Data Sheet, Point 1), these arrangements must be set out in a written **consortium agreement** between the beneficiaries, covering for instance:

- the internal organisation of the consortium
- the management of access to the Portal
- different distribution keys for the payments and financial responsibilities in case of recoveries (if any)
- additional rules on rights and obligations related to background and results (see Article 16)
- settlement of internal disputes
- liability, indemnification and confidentiality arrangements between the beneficiaries.

The internal arrangements must not contain any provision contrary to this Agreement.

ARTICLE 8 — AFFILIATED ENTITIES

Not applicable

ARTICLE 9 — OTHER PARTICIPANTS INVOLVED IN THE ACTION

9.1 Associated partners

The following entities which cooperate with a beneficiary will participate in the action as 'associated partners':

- **URBAN TECHNOLOGY ALLIANCE ASSOCIATION (UTA)**, PIC 894313229
- **DIGITAL FOR PLANET-D4P (D4P)**, PIC 897171237

Associated partners must implement the action tasks attributed to them in Annex 1 in accordance with Article 11. They may not charge costs or contributions to the action and the costs for their tasks are not eligible.

The tasks must be set out in Annex 1.

The beneficiaries must ensure that their contractual obligations under Articles 11 (proper

[14] For the definition, see Article 190(2) EU Financial Regulation 2024/2509: "Where several entities satisfy the criteria for being awarded a grant and together form one entity, that entity may be treated as the **sole beneficiary**, including where it is specifically established for the purpose of implementing the action financed by the grant."

implementation), 12 (conflict of interests), 13 (confidentiality and security), 14 (ethics), 17.2 (visibility), 18 (specific rules for carrying out action), 19 (information) and 20 (record-keeping) also apply to the associated partners.

The beneficiaries must ensure that the bodies mentioned in Article 25 (e.g. granting authority, OLAF, Court of Auditors (ECA), etc.) can exercise their rights also towards the associated partners.

9.2 Third parties giving in-kind contributions to the action

Other third parties may give in-kind contributions to the action (i.e. personnel, equipment, other goods, works and services, etc. which are free-of-charge) if necessary for the implementation.

Third parties giving in-kind contributions do not implement any action tasks. They may not charge costs or contributions to the action, but the costs for the in-kind contributions are eligible and may be charged by the beneficiaries which use them, under the conditions set out in Article 6. The costs will be included in Annex 2 as part of the beneficiaries' costs.

The third parties and their in-kind contributions should be set out in Annex 1.

The beneficiaries must ensure that the bodies mentioned in Article 25 (e.g. granting authority, OLAF, Court of Auditors (ECA), etc.) can exercise their rights also towards the third parties giving in-kind contributions.

9.3 Subcontractors

Subcontractors may participate in the action, if necessary for the implementation.

Subcontractors must implement their action tasks in accordance with Article 11. The costs for the subcontracted tasks (invoiced price from the subcontractor) are eligible and may be charged by the beneficiaries, under the conditions set out in Article 6. The costs will be included in Annex 2 as part of the beneficiaries' costs.

The beneficiaries must ensure that their contractual obligations under Articles 11 (proper implementation), 12 (conflict of interest), 13 (confidentiality and security), 14 (ethics), 17.2 (visibility), 18 (specific rules for carrying out action), 19 (information) and 20 (record-keeping) also apply to the subcontractors.

The beneficiaries must ensure that the bodies mentioned in Article 25 (e.g. granting authority, OLAF, Court of Auditors (ECA), etc.) can exercise their rights also towards the subcontractors.

9.4 Recipients of financial support to third parties

If the action includes providing financial support to third parties (e.g. grants, prizes or similar forms of support), the beneficiaries must ensure that their contractual obligations under Articles 12 (conflict of interest), 13 (confidentiality and security), 14 (ethics), 17.2 (visibility), 18 (specific rules for carrying out action), 19 (information) and 20 (record-keeping)also apply to the third parties receiving the support (recipients).

The beneficiaries must also ensure that the bodies mentioned in Article 25 (e.g. granting authority, OLAF, Court of Auditors (ECA), etc.) can exercise their rights also towards the recipients.

ARTICLE 10 — PARTICIPANTS WITH SPECIAL STATUS

10.1 Non-EU participants

Participants which are established in a non-EU country (if any) undertake to comply with their obligations under the Agreement and:

- to respect general principles (including fundamental rights, values and ethical principles, environmental and labour standards, rules on classified information, intellectual property rights, visibility of funding and protection of personal data)
- for the submission of certificates under Article 24: to use qualified external auditors which are independent and comply with comparable standards as those set out in EU Directive 2006/43/EC[15]
- for the controls under Article 25: to allow for checks, reviews, audits and investigations (including on-the-spot checks, visits and inspections) by the bodies mentioned in that Article (e.g. granting authority, OLAF, Court of Auditors (ECA), etc.).

Special rules on dispute settlement apply (see Data Sheet, Point 5).

10.2 Participants which are international organisations

Participants which are international organisations (IOs; if any) undertake to comply with their obligations under the Agreement and:

- to respect general principles (including fundamental rights, values and ethical principles, environmental and labour standards, rules on classified information, intellectual property rights, visibility of funding and protection of personal data)
- for the submission of certificates under Article 24: to use either independent public officers or external auditors which comply with comparable standards as those set out in EU Directive 2006/43/EC[16]
- for the controls under Article 25: to allow for the checks, reviews, audits and investigations by the bodies mentioned in that Article, taking into account the specific agreements concluded by them and the EU (if any).

For such participants, nothing in the Agreement will be interpreted as a waiver of their privileges or immunities, as accorded by their constituent documents or international law.

Special rules on applicable law and dispute settlement apply (see Article 43 and Data Sheet, Point 5).

10.3 Pillar-assessed participants

Pillar-assessed participants (if any) may rely on their own systems, rules and procedures, in so far as

[15] Directive 2006/43/EC of the European Parliament and of the Council of 17 May 2006 on statutory audits of annual accounts and consolidated accounts (OJ L 157, 9.6.2006, p. 87).

[16] Directive 2006/43/EC of the European Parliament and of the Council of 17 May 2006 on statutory audits of annual accounts and consolidated accounts (OJ L 157, 9.6.2006, p. 87).

they have been positively assessed and do not call into question the decision awarding the grant or breach the principle of equal treatment of applicants or beneficiaries.

'Pillar-assessment' means a review by the European Commission on the systems, rules and procedures which participants use for managing EU grants (in particular internal control system, accounting system, external audits, financing of third parties, rules on recovery and exclusion, information on recipients and protection of personal data; see Article 157 EU Financial Regulation 2024/2509).

Participants with a positive pillar assessment may rely on their own systems, rules and procedures, in particular for:

- record-keeping (Article 20): may be done in accordance with internal standards, rules and procedures
- currency conversion for financial statements (Article 21): may be done in accordance with usual accounting practices
- guarantees (Article 23): for public law bodies, prefinancing guarantees are not needed
- certificates (Article 24):
    - certificates on the financial statements (CFS): may be provided by their regular internal or external auditors and in accordance with their internal financial regulations and procedures
    - certificates on usual accounting practices (CoMUC): are not needed if those practices are covered by an ex-ante assessment

and use the following specific rules, for:

- recoveries (Article 22): in case of financial support to third parties, there will be no recovery if the participant has done everything possible to retrieve the undue amounts from the third party receiving the support (including legal proceedings) and non-recovery is not due to an error or negligence on its part
- checks, reviews, audits and investigations by the EU (Article 25): will be conducted taking into account the rules and procedures specifically agreed between them and the framework agreement (if any)
- impact evaluation (Article 26): will be conducted in accordance with the participant's internal rules and procedures and the framework agreement (if any)
- grant agreement termination (Article 32): the final grant amount and final payment will be calculated taking into account also costs relating to contracts due for execution only after termination takes effect, if the contract was entered into before the pre-information letter was received and could not reasonably be terminated on legal grounds
- liability for damages (Article 33.2): the granting authority must be compensated for damage it sustains as a result of the implementation of the action or because the action was not implemented in full compliance with the Agreement only if the damage is due to an infringement of the participant's internal rules and procedures or due to a violation of third

parties' rights by the participant or one of its employees or individual for whom the employees are responsible.

Participants whose pillar assessment covers procurement and granting procedures may also do purchases, subcontracting and financial support to third parties (Article 6.2) in accordance with their internal rules and procedures for purchases, subcontracting and financial support.

Participants whose pillar assessment covers data protection rules may rely on their internal standards, rules and procedures for data protection (Article 15).

The participants may however not rely on provisions which would breach the principle of equal treatment of applicants or beneficiaries or call into question the decision awarding the grant, such as in particular:

- eligibility (Article 6)
- consortium roles and set-up (Articles 7-9)
- security and ethics (Articles 13, 14)
- IPR (including background and results, access rights and rights of use), communication, dissemination and visibility (Articles 16 and 17)
- information obligation (Article 19)
- payment, reporting and amendments (Articles 21, 22 and 39)
- rejections, reductions, suspensions and terminations (Articles 27, 28, 29-32)

If the pillar assessment was subject to remedial measures, reliance on the internal systems, rules and procedures is subject to compliance with those remedial measures.

Participants must inform the coordinator without delay of any changes to the systems, rules and procedures that were part of the pillar assessment. The coordinator must immediately inform the granting authority.

Pillar-assessed participants that have also concluded a framework agreement with the EU, may moreover — under the same conditions as those above (i.e. not call into question the decision awarding the grant or breach the principle of equal treatment of applicants or beneficiaries) — rely on the provisions set out in that framework agreement.

SECTION 2 RULES FOR CARRYING OUT THE ACTION

ARTICLE 11 — PROPER IMPLEMENTATION OF THE ACTION

11.1 Obligation to properly implement the action

The beneficiaries must implement the action as described in Annex 1 and in compliance with the provisions of the Agreement, the call conditions and all legal obligations under applicable EU, international and national law.

11.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 12 — CONFLICT OF INTERESTS

12.1 Conflict of interests

The beneficiaries must take all measures to prevent any situation where the impartial and objective implementation of the Agreement could be compromised for reasons involving family, emotional life, political or national affinity, economic interest or any other direct or indirect interest ('conflict of interests').

They must formally notify the granting authority without delay of any situation constituting or likely to lead to a conflict of interests and immediately take all the necessary steps to rectify this situation.

The granting authority may verify that the measures taken are appropriate and may require additional measures to be taken by a specified deadline.

12.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28) and the grant or the beneficiary may be terminated (see Article 32).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 13 — CONFIDENTIALITY AND SECURITY

13.1 Sensitive information

The parties must keep confidential any data, documents or other material (in any form) that is identified as sensitive in writing ('sensitive information') — during the implementation of the action and for at least until the time-limit set out in the Data Sheet (see Point 6).

If a beneficiary requests, the granting authority may agree to keep such information confidential for a longer period.

Unless otherwise agreed between the parties, they may use sensitive information only to implement the Agreement.

The beneficiaries may disclose sensitive information to their personnel or other participants involved in the action only if they:

(a) need to know it in order to implement the Agreement and

(b) are bound by an obligation of confidentiality.

The granting authority may disclose sensitive information to its staff and to other EU institutions and bodies.

It may moreover disclose sensitive information to third parties, if:

(a) this is necessary to implement the Agreement or safeguard the EU financial interests and

(b) the recipients of the information are bound by an obligation of confidentiality.

The confidentiality obligations no longer apply if:

(a) the disclosing party agrees to release the other party

(b) the information becomes publicly available, without breaching any confidentiality obligation

(c) the disclosure of the sensitive information is required by EU, international or national law.

Specific confidentiality rules (if any) are set out in Annex 5.

13.2 Classified information

The parties must handle classified information in accordance with the applicable EU, international or national law on classified information (in particular, Decision 2015/444[17] and its implementing rules).

Deliverables which contain classified information must be submitted according to special procedures agreed with the granting authority.

Action tasks involving classified information may be subcontracted only after explicit approval (in writing) from the granting authority.

Classified information may not be disclosed to any third party (including participants involved in the action implementation) without prior explicit written approval from the granting authority.

Specific security rules (if any) are set out in Annex 5.

13.3 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 14 — ETHICS AND VALUES

14.1 Ethics

The action must be carried out in line with the highest ethical standards and the applicable EU, international and national law on ethical principles.

Specific ethics rules (if any) are set out in Annex 5.

14.2 Values

[17] Commission Decision 2015/444/EC, Euratom of 13 March 2015 on the security rules for protecting EU classified information (OJ L 72, 17.3.2015, p. 53).

The beneficiaries must commit to and ensure the respect of basic EU values (such as respect for human dignity, freedom, democracy, equality, the rule of law and human rights, including the rights of minorities).

Specific rules on values (if any) are set out in Annex 5.

14.3 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 15 — DATA PROTECTION

15.1 Data processing by the granting authority

Any personal data under the Agreement will be processed under the responsibility of the data controller of the granting authority in accordance with and for the purposes set out in the Portal Privacy Statement.

For grants where the granting authority is the European Commission, an EU regulatory or executive agency, joint undertaking or other EU body, the processing will be subject to Regulation 2018/1725[18].

15.2 Data processing by the beneficiaries

The beneficiaries must process personal data under the Agreement in compliance with the applicable EU, international and national law on data protection (in particular, Regulation 2016/679[19]).

They must ensure that personal data is:

- processed lawfully, fairly and in a transparent manner in relation to the data subjects
- collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes
- adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed
- accurate and, where necessary, kept up to date
- kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the data is processed and
- processed in a manner that ensures appropriate security of the data.

[18] Regulation (EU) 2018/1725 of the European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, and repealing Regulation (EC) No 45/2001 and Decision No 1247/2002/EC (OJ L 295, 21.11.2018, p. 39).

[19] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (‘GDPR’) (OJ L 119, 4.5.2016, p. 1).

The beneficiaries may grant their personnel access to personal data only if it is strictly necessary for implementing, managing and monitoring the Agreement. The beneficiaries must ensure that the personnel is under a confidentiality obligation.

The beneficiaries must inform the persons whose data are transferred to the granting authority and provide them with the Portal Privacy Statement.

15.3 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 16 — INTELLECTUAL PROPERTY RIGHTS (IPR) — BACKGROUND AND RESULTS —ACCESS RIGHTS AND RIGHTS OF USE

16.1 Background and access rights to background

The beneficiaries must give each other and the other participants access to the background identified as needed for implementing the action, subject to any specific rules in Annex 5.

'Background' means any data, know-how or information — whatever its form or nature (tangible or intangible), including any rights such as intellectual property rights — that is:

(a) held by the beneficiaries before they acceded to the Agreement and

(b) needed to implement the action or exploit the results.

If background is subject to rights of a third party, the beneficiary concerned must ensure that it is able to comply with its obligations under the Agreement.

16.2 Ownership of results

The granting authority does not obtain ownership of the results produced under the action.

'Results' means any tangible or intangible effect of the action, such as data, know-how or information, whatever its form or nature, whether or not it can be protected, as well as any rights attached to it, including intellectual property rights.

16.3 Rights of use of the granting authority on materials, documents and information received for policy, information, communication, dissemination and publicity purposes

The granting authority has the right to use non-sensitive information relating to the action and materials and documents received from the beneficiaries (notably summaries for publication, deliverables, as well as any other material, such as pictures or audio-visual material, in paper or electronic form) for policy, information, communication, dissemination and publicity purposes — during the action or afterwards.

The right to use the beneficiaries' materials, documents and information is granted in the form of a royalty-free, non-exclusive and irrevocable licence, which includes the following rights:

(a) **use for its own purposes** (in particular, making them available to persons working for the granting authority or any other EU service (including institutions, bodies, offices, agencies, etc.) or EU Member State institution or body; copying or reproducing them in whole or in part, in unlimited numbers; and communication through press information services)

(b) **distribution to the public** (in particular, publication as hard copies and in electronic or digital format, publication on the internet, as a downloadable or non-downloadable file, broadcasting by any channel, public display or presentation, communicating through press information services, or inclusion in widely accessible databases or indexes)

(c) **editing or redrafting** (including shortening, summarising, inserting other elements (e.g. meta-data, legends, other graphic, visual, audio or text elements), extracting parts (e.g. audio or video files), dividing into parts, use in a compilation)

(d) **translation**

(e) **storage** in paper, electronic or other form

(f) **archiving**, in line with applicable document-management rules

(g) the right to authorise **third parties** to act on its behalf or sub-license to third parties the modes of use set out in Points (b), (c), (d) and (f), if needed for the information, communication and publicity activity of the granting authority

(h) **processing**, analysing, aggregating the materials, documents and information received and **producing derivative works**.

The rights of use are granted for the whole duration of the industrial or intellectual property rights concerned.

If materials or documents are subject to moral rights or third party rights (including intellectual property rights or rights of natural persons on their image and voice), the beneficiaries must ensure that they comply with their obligations under this Agreement (in particular, by obtaining the necessary licences and authorisations from the rights holders concerned).

Where applicable, the granting authority will insert the following information:

> "© – [year] – [name of the copyright owner]. All rights reserved. Licensed to the [name of granting authority] under conditions."

16.4 Specific rules on IPR, results and background

Specific rules regarding intellectual property rights, results and background (if any) are set out in Annex 5.

16.5 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such a breach may also lead to other measures described in Chapter 5.

ARTICLE 17 — COMMUNICATION, DISSEMINATION AND VISIBILITY

17.1 Communication — Dissemination — Promoting the action

Unless otherwise agreed with the granting authority, the beneficiaries must promote the action and its results by providing targeted information to multiple audiences (including the media and the public), in accordance with Annex 1 and in a strategic, coherent and effective manner.

Before engaging in a communication or dissemination activity expected to have a major media impact, the beneficiaries must inform the granting authority.

17.2 Visibility — European flag and funding statement

Unless otherwise agreed with the granting authority, communication activities of the beneficiaries related to the action (including media relations, conferences, seminars, information material, such as brochures, leaflets, posters, presentations, etc., in electronic form, via traditional or social media, etc.), dissemination activities and any infrastructure, equipment, vehicles, supplies or major result funded by the grant must acknowledge EU support and display the European flag (emblem) and funding statement (translated into local languages, where appropriate):







Funded by the
European Union



Co-funded by the
European Union

The emblem must remain distinct and separate and cannot be modified by adding other visual marks, brands or text.

Apart from the emblem, no other visual identity or logo may be used to highlight the EU support.

When displayed in association with other logos (e.g. of beneficiaries or sponsors), the emblem must be displayed at least as prominently and visibly as the other logos.

For the purposes of their obligations under this Article, the beneficiaries may use the emblem without first obtaining approval from the granting authority. This does not, however, give them the right to

exclusive use. Moreover, they may not appropriate the emblem or any similar trademark or logo, either by registration or by any other means.

17.3 Quality of information — Disclaimer

Any communication or dissemination activity related to the action must use factually accurate information.

Moreover, it must indicate the following disclaimer (translated into local languages where appropriate):

> "Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or [name of the granting authority]. Neither the European Union nor the granting authority can be held responsible for them."

17.4 Specific communication, dissemination and visibility rules

Specific communication, dissemination and visibility rules (if any) are set out in Annex 5.

17.5 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 18 — SPECIFIC RULES FOR CARRYING OUT THE ACTION

18.1 Specific rules for carrying out the action

Specific rules for implementing the action (if any) are set out in Annex 5.

18.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such a breach may also lead to other measures described in Chapter 5.

SECTION 3 GRANT ADMINISTRATION

ARTICLE 19 — GENERAL INFORMATION OBLIGATIONS

19.1 Information requests

The beneficiaries must provide — during the action or afterwards and in accordance with Article 7 — any information requested in order to verify eligibility of the costs or contributions declared, proper implementation of the action and compliance with the other obligations under the Agreement.

The information provided must be accurate, precise and complete and in the format requested, including electronic format.

19.2 Participant Register data updates

The beneficiaries must keep — at all times, during the action or afterwards — their information stored in the Portal Participant Register up to date, in particular, their name, address, legal representatives, legal form and organisation type.

19.3 Information about events and circumstances which impact the action

The beneficiaries must immediately inform the granting authority (and the other beneficiaries) of any of the following:

(a) **events** which are likely to affect or delay the implementation of the action or affect the EU's financial interests, in particular:

(i) changes in their legal, financial, technical, organisational or ownership situation (including changes linked to one of the exclusion grounds listed in the declaration of honour signed before grant signature)

(ii) linked action information: not applicable

(b) **circumstances** affecting:

(i) the decision to award the grant or

(ii) compliance with requirements under the Agreement.

19.4 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 20 — RECORD-KEEPING

20.1 Keeping records and supporting documents

The beneficiaries must — at least until the time-limit set out in the Data Sheet (see Point 6) — keep records and other supporting documents to prove the proper implementation of the action in line with the accepted standards in the respective field (if any).

In addition, the beneficiaries must — for the same period — keep the following to justify the amounts declared:

(a) for actual costs: adequate records and supporting documents to prove the costs declared (such as contracts, subcontracts, invoices and accounting records); in addition, the beneficiaries' usual accounting and internal control procedures must enable direct reconciliation between the amounts declared, the amounts recorded in their accounts and the amounts stated in the supporting documents

(b) for flat-rate costs and contributions (if any): adequate records and supporting documents to prove the eligibility of the costs or contributions to which the flat-rate is applied

(c) for the following simplified costs and contributions: the beneficiaries do not need to keep specific records on the actual costs incurred, but must keep:

(i) for unit costs and contributions (if any): adequate records and supporting documents to prove the number of units declared

(ii) for lump sum costs and contributions (if any): adequate records and supporting documents to prove proper implementation of the work as described in Annex 1

(iii) for financing not linked to costs (if any): adequate records and supporting documents to prove the achievement of the results or the fulfilment of the conditions as described in Annex 1

(d) for unit, flat-rate and lump sum costs and contributions according to usual cost accounting practices (if any): the beneficiaries must keep any adequate records and supporting documents to prove that their cost accounting practices have been applied in a consistent manner, based on objective criteria, regardless of the source of funding, and that they comply with the eligibility conditions set out in Articles 6.1 and 6.2.

Moreover, the following is needed for specific budget categories:

(e) for personnel costs: time worked for the beneficiary under the action must be supported by declarations signed monthly by the person and their supervisor, unless another reliable time-record system is in place; the granting authority may accept alternative evidence supporting the time worked for the action declared, if it considers that it offers an adequate level of assurance

(f) additional record-keeping rules: not applicable

The records and supporting documents must be made available upon request (see Article 19) or in the context of checks, reviews, audits or investigations (see Article 25).

If there are on-going checks, reviews, audits, investigations, litigation or other pursuits of claims under the Agreement (including the extension of findings; see Article 25), the beneficiaries must keep these records and other supporting documentation until the end of these procedures.

The beneficiaries must keep the original documents. Digital and digitalised documents are considered originals if they are authorised by the applicable national law. The granting authority may accept non-original documents if they offer a comparable level of assurance.

20.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, costs or contributions insufficiently substantiated will be ineligible (see Article 6) and will be rejected (see Article 27), and the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 21 — REPORTING

21.1 Continuous reporting

The beneficiaries must report on the progress of the action (e.g. **deliverables, milestones, outputs/ outcomes, critical risks, indicators,** etc; if any), in the Portal Continuous Reporting tool and in accordance with the timing and conditions it sets out (as agreed with the granting authority).

Standardised deliverables (e.g. progress reports not linked to payments, reports on cumulative expenditure, special reports, etc; if any) must be submitted using the templates published on the Portal.

21.2 Periodic reporting: Technical reports and financial statements

In addition, the beneficiaries must provide reports to request payments, in accordance with the schedule and modalities set out in the Data Sheet (see Point 4.2):

- for additional prefinancings (if any): an **additional prefinancing report**
- for interim payments (if any) and the final payment: a **periodic report**.

The prefinancing and periodic reports include a technical and financial part.

The technical part includes an overview of the action implementation. It must be prepared using the template available in the Portal Periodic Reporting tool.

The financial part of the additional prefinancing report includes a statement on the use of the previous prefinancing payment.

The financial part of the periodic report includes:

- the financial statements (individual and consolidated; for all beneficiaries/affiliated entities)
- the explanation on the use of resources (or detailed cost reporting table, if required)
- the certificates on the financial statements (CFS) (if required; see Article 24.2 and Data Sheet, Point 4.3).

The **financial statements** must detail the eligible costs and contributions for each budget category and, for the final payment, also the revenues for the action (see Articles 6 and 22).

All eligible costs and contributions incurred should be declared, even if they exceed the amounts indicated in the estimated budget (see Annex 2). Amounts that are not declared in the individual financial statements will not be taken into account by the granting authority.

By signing the financial statements (directly in the Portal Periodic Reporting tool), the beneficiaries confirm that:

- the information provided is complete, reliable and true
- the costs and contributions declared are eligible (see Article 6)
- the costs and contributions can be substantiated by adequate records and supporting documents (see Article 20) that will be produced upon request (see Article 19) or in the context of checks, reviews, audits and investigations (see Article 25)
- for the final periodic report: all the revenues have been declared (if required; see Article 22).

Beneficiaries will have to submit also the financial statements of their affiliated entities (if any). In case of recoveries (see Article 22), beneficiaries will be held responsible also for the financial statements of their affiliated entities.

21.3 Currency for financial statements and conversion into euros

The financial statements must be drafted in euro.

Beneficiaries with general accounts established in a currency other than the euro must convert the costs recorded in their accounts into euro, at the average of the daily exchange rates published in the C series of the *Official Journal of the European Union* (ECB website), calculated over the corresponding reporting period.

If no daily euro exchange rate is published in the *Official Journal* for the currency in question, they must be converted at the average of the monthly accounting exchange rates published on the European Commission website (InforEuro), calculated over the corresponding reporting period.

Beneficiaries with general accounts in euro must convert costs incurred in another currency into euro according to their usual accounting practices.

21.4 Reporting language

The reporting must be in the language of the Agreement, unless otherwise agreed with the granting authority (see Data Sheet, Point 4.2).

21.5 Consequences of non-compliance

If a report submitted does not comply with this Article, the granting authority may suspend the payment deadline (see Article 29) and apply other measures described in Chapter 5.

If the coordinator breaches its reporting obligations, the granting authority may terminate the grant or the coordinator's participation (see Article 32) or apply other measures described in Chapter 5.

ARTICLE 22 — PAYMENTS AND RECOVERIES — CALCULATION OF AMOUNTS DUE

22.1 Payments and payment arrangements

Payments will be made in accordance with the schedule and modalities set out in the Data Sheet (see Point 4.2).

They will be made in euro to the bank account indicated by the coordinator (see Data Sheet, Point 4.2) and must be distributed without unjustified delay (restrictions may apply to distribution of the initial prefinancing payment; see Data Sheet, Point 4.2).

Payments to this bank account will discharge the granting authority from its payment obligation.

The cost of payment transfers will be borne as follows:

- the granting authority bears the cost of transfers charged by its bank
- the beneficiary bears the cost of transfers charged by its bank

- the party causing a repetition of a transfer bears all costs of the repeated transfer.

Payments by the granting authority will be considered to have been carried out on the date when they are debited to its account.

22.2 Recoveries

Recoveries will be made, if — at beneficiary termination, final payment or afterwards — it turns out that the granting authority has paid too much and needs to recover the amounts undue.

Each beneficiary's financial responsibility in case of recovery is in principle limited to their own debt and undue amounts of their affiliated entities.

In case of enforced recoveries (see Article 22.4), affiliated entities will be held liable for repaying debts of their beneficiaries, if required by the granting authority (see Data Sheet, Point 4.4).

22.3 Amounts due

22.3.1 Prefinancing payments

The aim of the prefinancing is to provide the beneficiaries with a float.

It remains the property of the EU until the final payment.

For **initial prefinancings** (if any), the amount due, schedule and modalities are set out in the Data Sheet (see Point 4.2).

For **additional prefinancings** (if any), the amount due, schedule and modalities are also set out in the Data Sheet (see Point 4.2). However, if the statement on the use of the previous prefinancing payment shows that less than 70% was used, the amount set out in the Data Sheet will be reduced by the difference between the 70% threshold and the amount used.

The contribution to the Mutual Insurance Mechanism will be retained from the prefinancing payments (at the rate and in accordance with the modalities set out in the Data Sheet, see Point 4.2) and transferred to the Mechanism.

Prefinancing payments (or parts of them) may be offset (without the beneficiaries' consent) against amounts owed by a beneficiary to the granting authority — up to the amount due to that beneficiary.

For grants where the granting authority is the European Commission or an EU executive agency, offsetting may also be done against amounts owed to other Commission services or executive agencies.

Payments will not be made if the payment deadline or payments are suspended (see Articles 29 and 30).

22.3.2 Amount due at beneficiary termination — Recovery

In case of beneficiary termination, the granting authority will determine the provisional amount due for the beneficiary concerned. Payments (if any) will be made with the next interim or final payment.

The **amount due** will be calculated in the following step:

Step 1 — Calculation of the total accepted EU contribution

Step 1 — Calculation of the total accepted EU contribution

The granting authority will first calculate the 'accepted EU contribution' for the beneficiary for all reporting periods, by calculating the 'maximum EU contribution to costs' (applying the funding rate to the accepted costs of the beneficiary), taking into account requests for a lower contribution to costs and CFS threshold cappings (if any; see Article 24.5) and adding the contributions (accepted unit, flat-rate or lump sum contributions and financing not linked to costs, if any).

After that, the granting authority will take into account grant reductions (if any). The resulting amount is the 'total accepted EU contribution' for the beneficiary.

The **balance** is then calculated by deducting the payments received (if any; see report on the distribution of payments in Article 32), from the total accepted EU contribution:

{total accepted EU contribution for the beneficiary

minus

{prefinancing and interim payments received (if any)}}.

If the balance is **positive**, the amount will be included in the next interim or final payment to the consortium.

If the balance is **negative**, it will be **recovered** in accordance with the following procedure:

The granting authority will send a **pre-information letter** to the beneficiary concerned:

- formally notifying the intention to recover, the amount due, the amount to be recovered and the reasons why and
- requesting observations within 30 days of receiving notification.

If no observations are submitted (or the granting authority decides to pursue recovery despite the observations it has received), it will confirm the amount to be recovered and ask this amount to be paid to the coordinator (**confirmation letter**).

If payment is not made to the coordinator by the date specified in the confirmation letter, the granting authority may call on the Mutual Insurance Mechanism to intervene, if continuation of the action is guaranteed and the conditions set out in the rules governing the Mechanism are met.

In this case, it will send a **beneficiary recovery letter**, together with a **debit note** with the terms and date for payment.

The debit note for the beneficiary will include the amount calculated for the affiliated entities which also had to end their participation (if any).

If payment is not made by the date specified in the debit note, the granting authority will **enforce recovery** in accordance with Article 22.4.

The amounts will later on also be taken into account for the next interim or final payment.

22.3.3 Interim payments

Interim payments reimburse the eligible costs and contributions claimed for the implementation of the action during the reporting periods (if any).

Interim payments (if any) will be made in accordance with the schedule and modalities set out the Data Sheet (see Point 4.2).

Payment is subject to the approval of the periodic report. Its approval does not imply recognition of compliance, authenticity, completeness or correctness of its content.

The **interim payment** will be calculated by the granting authority in the following steps:

Step 1 — Calculation of the total accepted EU contribution

Step 2 — Limit to the interim payment ceiling

Step 1 — Calculation of the total accepted EU contribution

The granting authority will calculate the 'accepted EU contribution' for the action for the reporting period, by first calculating the 'maximum EU contribution to costs' (applying the funding rate to the accepted costs of each beneficiary), taking into account requests for a lower contribution to costs and CFS threshold cappings (if any; see Article 24.5) and adding the contributions (accepted unit, flat-rate or lump sum contributions and financing not linked to costs, if any).

After that, the granting authority will take into account grant reductions from beneficiary termination (if any). The resulting amount is the 'total accepted EU contribution'.

Step 2 — Limit to the interim payment ceiling

The resulting amount is then capped to ensure that the total amount of prefinancing and interim payments (if any) does not exceed the interim payment ceiling set out in the Data Sheet (see Point 4.2).

Interim payments (or parts of them) may be offset (without the beneficiaries' consent) against amounts owed by a beneficiary to the granting authority — up to the amount due to that beneficiary.

For grants where the granting authority is the European Commission or an EU executive agency, offsetting may also be done against amounts owed to other Commission services or executive agencies.

Payments will not be made if the payment deadline or payments are suspended (see Articles 29 and 30).

22.3.4 Final payment — Final grant amount — Revenues and Profit — Recovery

The final payment (payment of the balance) reimburses the remaining part of the eligible costs and contributions claimed for the implementation of the action (if any).

The final payment will be made in accordance with the schedule and modalities set out in the Data Sheet (see Point 4.2).

Payment is subject to the approval of the final periodic report. Its approval does not imply recognition of compliance, authenticity, completeness or correctness of its content.

The **final grant amount for the action** will be calculated in the following steps:

Step 1 — Calculation of the total accepted EU contribution

Step 2 — Limit to the maximum grant amount

Step 3 — Reduction due to the no-profit rule

Step 1 — Calculation of the total accepted EU contribution

The granting authority will first calculate the 'accepted EU contribution' for the action for all reporting periods, by calculating the 'maximum EU contribution to costs' (applying the funding rate to the total accepted costs of each beneficiary), taking into account requests for a lower contribution to costs, CFS threshold cappings (if any; see Article 24.5) and adding the contributions (accepted unit, flat-rate or lump sum contributions and financing not linked to costs, if any).

After that, the granting authority will take into account grant reductions (if any). The resulting amount is the 'total accepted EU contribution'.

Step 2 — Limit to the maximum grant amount

If the resulting amount is higher than the maximum grant amount set out in Article 5.2, it will be limited to the latter.

Step 3 — Reduction due to the no-profit rule

If the no-profit rule is provided for in the Data Sheet (see Point 4.2), the grant must not produce a profit (i.e. surplus of the amount obtained following Step 2 plus the action's revenues, over the eligible costs and contributions approved by the granting authority).

'Revenue' is all income generated by the action, during its duration (see Article 4), for beneficiaries that are profit legal entities (— with the exception of income generated by the exploitation of results, which are not considered as revenues).

If there is a profit, it will be deducted in proportion to the final rate of reimbursement of the eligible costs approved by the granting authority (as compared to the amount calculated following Steps 1 and 2 minus the contributions).

The **balance** (final payment) is then calculated by deducting the total amount of prefinancing and interim payments already made (if any), from the final grant amount:

{final grant amount

minus

{prefinancing and interim payments made (if any)}}.

If the balance is **positive**, it will be **paid** to the coordinator.

The amount retained for the Mutual Insurance Mechanism (see above) will be released and **paid** to the coordinator (in accordance with the rules governing the Mechanism).

The final payment (or part of it) may be offset (without the beneficiaries' consent) against amounts owed by a beneficiary to the granting authority — up to the amount due to that beneficiary.

For grants where the granting authority is the European Commission or an EU executive agency,

offsetting may also be done against amounts owed to other Commission services or executive agencies.

Payments will not be made if the payment deadline or payments are suspended (see Articles 29 and 30).

If — despite the release of the Mutual Insurance Mechanism contribution — the balance is **negative**, it will be **recovered** in accordance with the following procedure:

The granting authority will send a **pre-information letter** to the coordinator:

- formally notifying the intention to recover, the final grant amount, the amount to be recovered and the reasons why
- requesting a report on the distribution of payments to the beneficiaries within 30 days of receiving notification and
- requesting observations within 30 days of receiving notification.

If no observations are submitted (or the granting authority decides to pursue recovery despite the observations it has received) and the coordinator has submitted the report on the distribution of payments, it will calculate the **share of the debt per beneficiary**, by:

(a) identifying the beneficiaries for which the amount calculated as follows is negative:

{{{total accepted EU contribution for the beneficiary

divided by

total accepted EU contribution for the action}

multiplied by

final grant amount for the action},

minus

{prefinancing and interim payments received by the beneficiary (if any)}}

and

(b) dividing the debt:

{{amount calculated according to point (a) for the beneficiary concerned

divided by

the sum of the amounts calculated according to point (a) for all the beneficiaries identified according to point (a)}

multiplied by

the amount to be recovered}.

and confirm the amount to be recovered from each beneficiary concerned (**confirmation letter**), together with **debit notes** with the terms and date for payment.

The debit notes for beneficiaries will include the amounts calculated for their affiliated entities (if any).

If the coordinator has not submitted the report on the distribution of payments, the granting authority will **recover** the full amount from the coordinator (**confirmation letter** and **debit note** with the terms and date for payment).

If payment is not made by the date specified in the debit note, the granting authority will **enforce recovery** in accordance with Article 22.4.

22.3.5 Audit implementation after final payment — Revised final grant amount — Recovery

If — after the final payment (in particular, after checks, reviews, audits or investigations; see Article 25) — the granting authority rejects costs or contributions (see Article 27) or reduces the grant (see Article 28), it will calculate the **revised final grant amount** for the beneficiary concerned.

The **beneficiary revised final grant amount** will be calculated in the following step:

Step 1 — Calculation of the revised total accepted EU contribution

Step 1 — Calculation of the revised total accepted EU contribution

The granting authority will first calculate the 'revised accepted EU contribution' for the beneficiary, by calculating the 'revised accepted costs' and 'revised accepted contributions'.

After that, it will take into account grant reductions (if any). The resulting 'revised total accepted EU contribution' is the beneficiary revised final grant amount.

If the revised final grant amount is lower than the beneficiary's final grant amount (i.e. its share in the final grant amount for the action), it will be **recovered** in accordance with the following procedure:

The **beneficiary final grant amount** (i.e. share in the final grant amount for the action) is calculated as follows:

{{total accepted EU contribution for the beneficiary

divided by

total accepted EU contribution for the action}

multiplied by

final grant amount for the action}.

The granting authority will send a **pre-information letter** to the beneficiary concerned:

- formally notifying the intention to recover, the amount to be recovered and the reasons why and
- requesting observations within 30 days of receiving notification.

If no observations are submitted (or the granting authority decides to pursue recovery despite the observations it has received), it will confirm the amount to be recovered (**confirmation letter**), together with a **debit note** with the terms and the date for payment.

Recoveries against affiliated entities (if any) will be handled through their beneficiaries.

If payment is not made by the date specified in the debit note, the granting authority will **enforce recovery** in accordance with Article 22.4.

22.4 Enforced recovery

If payment is not made by the date specified in the debit note, the amount due will be recovered:

(a) by offsetting the amount — without the coordinator or beneficiary's consent — against any amounts owed to the coordinator or beneficiary by the granting authority.

In exceptional circumstances, to safeguard the EU financial interests, the amount may be offset before the payment date specified in the debit note.

For grants where the granting authority is the European Commission or an EU executive agency, debts may also be offset against amounts owed by other Commission services or executive agencies.

(b) financial guarantee(s): not applicable

(c) joint and several liability of beneficiaries: not applicable

(d) by holding affiliated entities jointly and severally liable (if any, see Data Sheet, Point 4.4)

(e) by taking legal action (see Article 43) or, provided that the granting authority is the European Commission or an EU executive agency, by adopting an enforceable decision under Article 299 of the Treaty on the Functioning of the EU (TFEU) and Article 100(2) of EU Financial Regulation 2024/2509.

If the Mutual Insurance Mechanism was called on by the granting authority to intervene, recovery will be continued in the name of the Mutual Insurance Mechanism. If two debit notes were sent, the second one (in the name of the Mutual Insurance Mechanism) will be considered to replace the first one (in the name of the granting authority). Where the MIM intervened, offsetting, enforceable decisions or any other of the above-mentioned forms of enforced recovery may be used mutatis mutandis.

The amount to be recovered will be increased by **late-payment interest** at the rate set out in Article 22.5, from the day following the payment date in the debit note, up to and including the date the full payment is received.

Partial payments will be first credited against expenses, charges and late-payment interest and then against the principal.

Bank charges incurred in the recovery process will be borne by the beneficiary, unless Directive 2015/2366[20] applies.

For grants where the granting authority is an EU executive agency, enforced recovery by offsetting or enforceable decision will be done by the services of the European Commission (see also Article 43).

22.5 Consequences of non-compliance

[20] Directive (EU) 2015/2366 of the European Parliament and of the Council of 25 November 2015 on payment services in the internal market, amending Directives 2002/65/EC, 2009/110/EC and 2013/36/EU and Regulation (EU) No 1093/2010, and repealing Directive 2007/64/EC (OJ L 337, 23.12.2015, p. 35).

22.5.1 If the granting authority does not pay within the payment deadlines (see above), the beneficiaries are entitled to **late-payment interest** at the rate applied by the European Central Bank (ECB) for its main refinancing operations in euros ('reference rate'), plus the rate specified in the Data Sheet (Point 4.2). The reference rate is the rate in force on the first day of the month in which the payment deadline expires, as published in the C series of the *Official Journal of the European Union*.

If the late-payment interest is lower than or equal to EUR 200, it will be paid to the coordinator only on request submitted within two months of receiving the late payment.

Late-payment interest is not due if all beneficiaries are EU Member States (including regional and local government authorities or other public bodies acting on behalf of a Member State for the purpose of this Agreement).

If payments or the payment deadline are suspended (see Articles 29 and 30), payment will not be considered as late.

Late-payment interest covers the period running from the day following the due date for payment (see above), up to and including the date of payment.

Late-payment interest is not considered for the purposes of calculating the final grant amount.

22.5.2 If the coordinator breaches any of its obligations under this Article, the grant may be reduced (see Article 28) and the grant or the coordinator may be terminated (see Article 32).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 23 — GUARANTEES

Not applicable

ARTICLE 24 — CERTIFICATES

24.1 Operational verification report (OVR)

Not applicable

24.2 Certificate on the financial statements (CFS)

If required by the granting authority (see Data Sheet, Point 4.3), the beneficiaries must provide certificates on their financial statements (CFS), in accordance with the schedule, threshold and conditions set out in the Data Sheet.

The coordinator must submit them as part of the periodic report (see Article 21).

The certificates must be drawn up using the template published on the Portal, cover the costs declared on the basis of actual costs and costs according to usual cost accounting practices (if any), and fulfil the following conditions:

(a) be provided by a qualified approved external auditor which is independent and complies with Directive 2006/43/EC[21] (or for public bodies: by a competent independent public officer)

(b) the verification must be carried out according to the highest professional standards to ensure that the financial statements comply with the provisions under the Agreement and that the costs declared are eligible.

The certificates will not affect the granting authority's right to carry out its own checks, reviews or audits, nor preclude the European Court of Auditors (ECA), the European Public Prosecutor's Office (EPPO) or the European Anti-Fraud Office (OLAF) from using their prerogatives for audits and investigations under the Agreement (see Article 25).

If the costs (or a part of them) were already audited by the granting authority, these costs do not need to be covered by the certificate and will not be counted for calculating the threshold (if any).

24.3 Certificate on the compliance of usual cost accounting practices (CoMUC)

Not applicable

24.4 Systems and process audit (SPA)

Beneficiaries which:

- use unit, flat rate or lump sum costs or contributions according to documented (i.e. formally approved and in writing) usual costs accounting practices (if any) or

- have formalised documentation on the systems and processes for calculating their costs and contributions (i.e. formally approved and in writing), have participated in at least 150 actions under Horizon 2020 or the Euratom Research and Training Programme (2014-2018 or 2019-2020) and participate in at least 3 ongoing actions under Horizon Europe or the Euratom Research and Training Programme (2021-2025 or 2026-2027)

may apply to the granting authority for a systems and process audit (SPA).

This audit will be carried out as follows:

Step 1 – Application by the beneficiary.

Step 2 – If the application is accepted, the granting authority will carry out the systems and process audit, complemented by an audit of transactions (on a sample of the beneficiary's Horizon Europe or the Euratom Research and Training Programme financial statements).

Step 3 – The audit result will take the form of a risk assessment classification for the beneficiary: low, medium or high.

Low-risk beneficiaries will benefit from less (or less in-depth) ex-post audits (see Article 25) and a higher threshold for submitting certificates on the financial statements (CFS; see Articles 21 and 24.2 and Data Sheet, Point 4.3).

[21] Directive 2006/43/EC of the European Parliament and of the Council of 17 May 2006 on statutory audits of annual accounts and consolidated accounts (OJ L 157, 9.6.2006, p. 87).

24.5 Consequences of non-compliance

If a beneficiary does not submit a certificate on the financial statements (CFS) or the certificate is rejected, the accepted EU contribution to costs will be capped to reflect the CFS threshold.

If a beneficiary breaches any of its other obligations under this Article, the granting authority may apply the measures described in Chapter 5.

ARTICLE 25 — CHECKS, REVIEWS, AUDITS AND INVESTIGATIONS — EXTENSION OF FINDINGS

25.1 Granting authority checks, reviews and audits

25.1.1 Internal checks

The granting authority may — during the action or afterwards — check the proper implementation of the action and compliance with the obligations under the Agreement, including assessing costs and contributions, deliverables and reports.

25.1.2 Project reviews

The granting authority may carry out reviews on the proper implementation of the action and compliance with the obligations under the Agreement (general project reviews or specific issues reviews).

Such project reviews may be started during the implementation of the action and until the time-limit set out in the Data Sheet (see Point 6). They will be formally notified to the coordinator or beneficiary concerned and will be considered to start on the date of the notification.

If needed, the granting authority may be assisted by independent, outside experts. If it uses outside experts, the coordinator or beneficiary concerned will be informed and have the right to object on grounds of commercial confidentiality or conflict of interest.

The coordinator or beneficiary concerned must cooperate diligently and provide — within the deadline requested — any information and data in addition to deliverables and reports already submitted (including information on the use of resources). The granting authority may request beneficiaries to provide such information to it directly. Sensitive information and documents will be treated in accordance with Article 13.

The coordinator or beneficiary concerned may be requested to participate in meetings, including with the outside experts.

For **on-the-spot visits**, the beneficiary concerned must allow access to sites and premises (including to the outside experts) and must ensure that information requested is readily available.

Information provided must be accurate, precise and complete and in the format requested, including electronic format.

On the basis of the review findings, a **project review report** will be drawn up.

The granting authority will formally notify the project review report to the coordinator or beneficiary concerned, which has 30 days from receiving notification to make observations.

Project reviews (including project review reports) will be in the language of the Agreement, unless otherwise agreed with the granting authority (see Data Sheet, Point 4.2).

25.1.3 Audits

The granting authority may carry out audits on the proper implementation of the action and compliance with the obligations under the Agreement.

Such audits may be started during the implementation of the action and until the time-limit set out in the Data Sheet (see Point 6). They will be formally notified to the beneficiary concerned and will be considered to start on the date of the notification.

The granting authority may use its own audit service, delegate audits to a centralised service or use external audit firms. If it uses an external firm, the beneficiary concerned will be informed and have the right to object on grounds of commercial confidentiality or conflict of interest.

The beneficiary concerned must cooperate diligently and provide — within the deadline requested — any information (including complete accounts, individual salary statements or other personal data) to verify compliance with the Agreement. Sensitive information and documents will be treated in accordance with Article 13.

For **on-the-spot** visits, the beneficiary concerned must allow access to sites and premises (including for the external audit firm) and must ensure that information requested is readily available.

Information provided must be accurate, precise and complete and in the format requested, including electronic format.

On the basis of the audit findings, a **draft audit report** will be drawn up.

The auditors will formally notify the draft audit report to the beneficiary concerned, which has 30 days from receiving notification to make observations (contradictory audit procedure).

The **final audit report** will take into account observations by the beneficiary concerned and will be formally notified to them.

Audits (including audit reports) will be in the language of the Agreement, unless otherwise agreed with the granting authority (see Data Sheet, Point 4.2).

25.2 European Commission checks, reviews and audits in grants of other granting authorities

Where the granting authority is not the European Commission, the latter has the same rights of checks, reviews and audits as the granting authority.

25.3 Access to records for assessing simplified forms of funding

The beneficiaries must give the European Commission access to their statutory records for the periodic assessment of simplified forms of funding which are used in EU programmes.

25.4 OLAF, EPPO and ECA audits and investigations

The following bodies may also carry out checks, reviews, audits and investigations — during the action or afterwards:

- the European Anti-Fraud Office (OLAF) under Regulations No 883/2013[22] and No 2185/96[23]
- the European Public Prosecutor's Office (EPPO) under Regulation 2017/1939
- the European Court of Auditors (ECA) under Article 287 of the Treaty on the Functioning of the EU (TFEU) and Article 263 of EU Financial Regulation 2024/2509.

If requested by these bodies, the beneficiary concerned must provide full, accurate and complete information in the format requested (including complete accounts, individual salary statements or other personal data, including in electronic format) and allow access to sites and premises for on-the-spot visits or inspections — as provided for under these Regulations.

To this end, the beneficiary concerned must keep all relevant information relating to the action, at least until the time-limit set out in the Data Sheet (Point 6) and, in any case, until any ongoing checks, reviews, audits, investigations, litigation or other pursuits of claims have been concluded.

25.5 Consequences of checks, reviews, audits and investigations — Extension of results of reviews, audits or investigations

25.5.1 Consequences of checks, reviews, audits and investigations in this grant

Findings in checks, reviews, audits or investigations carried out in the context of this grant may lead to rejections (see Article 27), grant reduction (see Article 28) or other measures described in Chapter 5.

Rejections or grant reductions after the final payment will lead to a revised final grant amount (see Article 22).

Findings in checks, reviews, audits or investigations during the action implementation may lead to a request for amendment (see Article 39), to change the description of the action set out in Annex 1.

Checks, reviews, audits or investigations that find systemic or recurrent errors, irregularities, fraud or breach of obligations in any EU grant may also lead to consequences in other EU grants awarded under similar conditions ('extension to other grants').

Moreover, findings arising from an OLAF or EPPO investigation may lead to criminal prosecution under national law.

25.5.2 Extension from other grants

Results of checks, reviews, audits or investigations in other grants may be extended to this grant, if:

(a) the beneficiary concerned is found, in other EU grants awarded under similar conditions, to

[22] Regulation (EU, Euratom) No 883/2013 of the European Parliament and of the Council of 11 September 2013 concerning investigations conducted by the European Anti-Fraud Office (OLAF) and repealing Regulation (EC) No 1073/1999 of the European Parliament and of the Council and Council Regulation (Euratom) No 1074/1999 (OJ L 248, 18/09/2013, p. 1).

[23] Council Regulation (Euratom, EC) No 2185/96 of 11 November 1996 concerning on-the-spot checks and inspections carried out by the Commission in order to protect the European Communities' financial interests against fraud and other irregularities (OJ L 292, 15/11/1996, p. 2).

have committed systemic or recurrent errors, irregularities, fraud or breach of obligations that have a material impact on this grant and

(b) those findings are formally notified to the beneficiary concerned — together with the list of grants affected by the findings — within the time-limit for audits set out in the Data Sheet (see Point 6).

The granting authority will formally notify the beneficiary concerned of the intention to extend the findings and the list of grants affected.

If the extension concerns **rejections of costs or contributions**: the notification will include:

(a) an invitation to submit observations on the list of grants affected by the findings

(b) the request to submit revised financial statements for all grants affected

(c) the correction rate for extrapolation, established on the basis of the systemic or recurrent errors, to calculate the amounts to be rejected, if the beneficiary concerned:

(i) considers that the submission of revised financial statements is not possible or practicable or

(ii) does not submit revised financial statements.

If the extension concerns **grant reductions**: the notification will include:

(a) an invitation to submit observations on the list of grants affected by the findings and

(b) the **correction rate for extrapolation**, established on the basis of the systemic or recurrent errors and the principle of proportionality.

The beneficiary concerned has **60 days** from receiving notification to submit observations, revised financial statements or to propose a duly substantiated **alternative correction method/rate**.

On the basis of this, the granting authority will analyse the impact and decide on the implementation (i.e. start rejection or grant reduction procedures, either on the basis of the revised financial statements or the announced/alternative method/rate or a mix of those; see Articles 27 and 28).

25.6 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, costs or contributions insufficiently substantiated will be ineligible (see Article 6) and will be rejected (see Article 27), and the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 26 — IMPACT EVALUATIONS

26.1 Impact evaluation

The granting authority may carry out impact evaluations of the action, measured against the objectives and indicators of the EU programme funding the grant.

Such evaluations may be started during implementation of the action and until the time-limit set out in the Data Sheet (see Point 6). They will be formally notified to the coordinator or beneficiaries and will be considered to start on the date of the notification.

If needed, the granting authority may be assisted by independent outside experts.

The coordinator or beneficiaries must provide any information relevant to evaluate the impact of the action, including information in electronic format.

26.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the granting authority may apply the measures described in Chapter 5.

CHAPTER 5 CONSEQUENCES OF NON-COMPLIANCE

SECTION 1 REJECTIONS AND GRANT REDUCTION

ARTICLE 27 — REJECTION OF COSTS AND CONTRIBUTIONS

27.1 Conditions

The granting authority will — at beneficiary termination, interim payment, final payment or afterwards — reject any costs or contributions which are ineligible (see Article 6), in particular following checks, reviews, audits or investigations (see Article 25).

The rejection may also be based on the extension of findings from other grants to this grant (see Article 25).

Ineligible costs or contributions will be rejected.

27.2 Procedure

If the rejection does not lead to a recovery, the granting authority will formally notify the coordinator or beneficiary concerned of the rejection, the amounts and the reasons why. The coordinator or beneficiary concerned may — within 30 days of receiving notification — submit observations if it disagrees with the rejection (payment review procedure).

If the rejection leads to a recovery, the granting authority will follow the contradictory procedure with pre-information letter set out in Article 22.

27.3 Effects

If the granting authority rejects costs or contributions, it will deduct them from the costs or contributions declared and then calculate the amount due (and, if needed, make a recovery; see Article 22).

ARTICLE 28 — GRANT REDUCTION

28.1 Conditions

The granting authority may — at beneficiary termination, final payment or afterwards — reduce the grant for a beneficiary, if:

(a) the beneficiary (or a person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed:

(i) substantial errors, irregularities or fraud or

(ii) serious breach of obligations under this Agreement or during its award (including improper implementation of the action, non-compliance with the call conditions, submission of false information, failure to provide required information, breach of ethics or security rules (if applicable), failure to cooperate with checks, reviews, audits and investigations, etc.), or

(b) the beneficiary (or a person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed — in other EU grants awarded to it under similar conditions — systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant (see Article 25).

The amount of the reduction will be calculated for each beneficiary concerned and proportionate to the seriousness and the duration of the errors, irregularities or fraud or breach of obligations, by applying an individual reduction rate to their accepted EU contribution.

28.2 Procedure

If the grant reduction does not lead to a recovery, the granting authority will formally notify the coordinator or beneficiary concerned of the reduction, the amount to be reduced and the reasons why. The coordinator or beneficiary concerned may — within 30 days of receiving notification — submit observations if it disagrees with the reduction (payment review procedure).

If the grant reduction leads to a recovery, the granting authority will follow the contradictory procedure with pre-information letter set out in Article 22.

28.3 Effects

If the granting authority reduces the grant, it will deduct the reduction and then calculate the amount due (and, if needed, make a recovery; see Article 22).

SECTION 2 SUSPENSION AND TERMINATION

ARTICLE 29 — PAYMENT DEADLINE SUSPENSION

29.1 Conditions

The granting authority may — at any moment — suspend the payment deadline if a payment cannot be processed because:

(a) the required report (see Article 21) has not been submitted or is not complete or additional information is needed

(b) there are doubts about the amount to be paid (e.g. ongoing audit extension procedure, queries about eligibility, need for a grant reduction, etc.) and additional checks, reviews, audits or investigations are necessary, or

(c) there are other issues affecting the EU financial interests.

29.2 Procedure

The granting authority will formally notify the coordinator of the suspension and the reasons why.

The suspension will **take effect** the day the notification is sent.

If the conditions for suspending the payment deadline are no longer met, the suspension will be **lifted** — and the remaining time to pay (see Data Sheet, Point 4.2) will resume.

If the suspension exceeds two months, the coordinator may request the granting authority to confirm if the suspension will continue.

If the payment deadline has been suspended due to the non-compliance of the report and the revised report is not submitted (or was submitted but is also rejected), the granting authority may also terminate the grant or the participation of the coordinator (see Article 32).

ARTICLE 30 — PAYMENT SUSPENSION

30.1 Conditions

The granting authority may — at any moment — suspend payments, in whole or in part for one or more beneficiaries, if:

(a) a beneficiary (or a person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed or is suspected of having committed:

(i) substantial errors, irregularities or fraud or

(ii) serious breach of obligations under this Agreement or during its award (including improper implementation of the action, non-compliance with the call conditions, submission of false information, failure to provide required information, breach of ethics or security rules (if applicable), failure to cooperate with checks, reviews, audits and investigations, etc.), or

(b) a beneficiary (or a person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed — in other EU grants awarded to it under similar conditions — systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant.

If payments are suspended for one or more beneficiaries, the granting authority will make partial payment(s) for the part(s) not suspended. If suspension concerns the final payment, the payment (or recovery) of the remaining amount after suspension is lifted will be considered to be the payment that closes the action.

30.2 Procedure

Before suspending payments, the granting authority will send a **pre-information letter** to the beneficiary concerned:

- formally notifying the intention to suspend payments and the reasons why and
- requesting observations within 30 days of receiving notification.

If the granting authority does not receive observations or decides to pursue the procedure despite the observations it has received, it will confirm the suspension (**confirmation letter**). Otherwise, it will formally notify that the procedure is discontinued.

At the end of the suspension procedure, the granting authority will also inform the coordinator.

The suspension will **take effect** the day after the confirmation notification is sent.

If the conditions for resuming payments are met, the suspension will be **lifted**. The granting authority will formally notify the beneficiary concerned (and the coordinator) and set the suspension end date.

During the suspension, no prefinancing will be paid to the beneficiaries concerned. For interim payments, the periodic reports for all reporting periods except the last one (see Article 21) must not contain any financial statements from the beneficiary concerned (or its affiliated entities). The coordinator must include them in the next periodic report after the suspension is lifted or — if suspension is not lifted before the end of the action — in the last periodic report.

ARTICLE 31 — GRANT AGREEMENT SUSPENSION

31.1 Consortium-requested GA suspension

31.1.1 Conditions and procedure

The beneficiaries may request the suspension of the grant or any part of it, if exceptional circumstances — in particular *force majeure* (see Article 35) — make implementation impossible or excessively difficult.

The coordinator must submit a request for **amendment** (see Article 39), with:

- the reasons why
- the date the suspension takes effect; this date may be before the date of the submission of the amendment request and
- the expected date of resumption.

The suspension will **take effect** on the day specified in the amendment.

Once circumstances allow for implementation to resume, the coordinator must immediately request another **amendment** of the Agreement to set the suspension end date, the resumption date (one day after suspension end date), extend the duration and make other changes necessary to adapt the action to the new situation (see Article 39) — unless the grant has been terminated (see Article 32). The suspension will be **lifted** with effect from the suspension end date set out in the amendment. This date may be before the date of the submission of the amendment request.

During the suspension, no prefinancing will be paid. Costs incurred or contributions for activities implemented during grant suspension are not eligible (see Article 6.3).

31.2 EU-initiated GA suspension

31.2.1 Conditions

The granting authority may suspend the grant or any part of it, if:

(a) a beneficiary (or a person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed or is suspected of having committed:

(i) substantial errors, irregularities or fraud or

(ii) serious breach of obligations under this Agreement or during its award (including improper implementation of the action, non-compliance with the call conditions, submission of false information, failure to provide required information, breach of ethics or security rules (if applicable), failure to cooperate with checks, reviews, audits and investigations, etc.), or

(b) a beneficiary (or a person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed — in other EU grants awarded to it under similar conditions — systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant

(c) other:

(i) linked action issues: not applicable

(ii) the action has lost its scientific or technological relevance, for EIC Accelerator actions: the action has lost its economic relevance, for challenge-based EIC Pathfinder actions and Horizon Europe Missions: the action has lost its relevance as part of the Portfolio for which it has been initially selected

31.2.2 Procedure

Before suspending the grant, the granting authority will send a **pre-information letter** to the coordinator:

- formally notifying the intention to suspend the grant and the reasons why and
- requesting observations within 30 days of receiving notification.

If the granting authority does not receive observations or decides to pursue the procedure despite the observations it has received, it will confirm the suspension (**confirmation letter**). Otherwise, it will formally notify that the procedure is discontinued.

The suspension will **take effect** the day after the confirmation notification is sent (or on a later date specified in the notification).

Once the conditions for resuming implementation of the action are met, the granting authority will formally notify the coordinator a **lifting of suspension letter**, in which it will set the suspension

end date and invite the coordinator to request an amendment of the Agreement to set the resumption date (one day after suspension end date), extend the duration and make other changes necessary to adapt the action to the new situation (see Article 39) — unless the grant has been terminated (see Article 32). The suspension will be **lifted** with effect from the suspension end date set out in the lifting of suspension letter. This date may be before the date on which the letter is sent.

During the suspension, no prefinancing will be paid. Costs incurred or contributions for activities implemented during suspension are not eligible (see Article 6.3).

The beneficiaries may not claim damages due to suspension by the granting authority (see Article 33).

Grant suspension does not affect the granting authority's right to terminate the grant or a beneficiary (see Article 32) or reduce the grant (see Article 28).

ARTICLE 32 — GRANT AGREEMENT OR BENEFICIARY TERMINATION

32.1 Consortium-requested GA termination

32.1.1 Conditions and procedure

The beneficiaries may request the termination of the grant.

The coordinator must submit a request for **amendment** (see Article 39), with:

- the reasons why
- the date the consortium ends work on the action ('end of work date') and
- the date the termination takes effect ('termination date'); this date must be after the date of the submission of the amendment request.

The termination will **take effect** on the termination date specified in the amendment.

If no reasons are given or if the granting authority considers the reasons do not justify termination, it may consider the grant terminated improperly.

32.1.2 Effects

The coordinator must — within 60 days from when termination takes effect — submit a **periodic report** (for the open reporting period until termination).

The granting authority will calculate the final grant amount and final payment on the basis of the report submitted and taking into account the costs incurred and contributions for activities implemented before the end of work date (see Article 22). Costs relating to contracts due for execution only after the end of work are not eligible.

If the granting authority does not receive the report within the deadline, only costs and contributions which are included in an approved periodic report will be taken into account (no costs/contributions if no periodic report was ever approved).

Improper termination may lead to a grant reduction (see Article 28).

After termination, the beneficiaries' obligations (in particular Articles 13 (confidentiality and

security), 16 (IPR), 17 (communication, dissemination and visibility), 21 (reporting), 25 (checks, reviews, audits and investigations), 26 (impact evaluation), 27 (rejections), 28 (grant reduction) and 42 (assignment of claims)) continue to apply.

32.2 Consortium-requested beneficiary termination

32.2.1 Conditions and procedure

The coordinator may request the termination of the participation of one or more beneficiaries, on request of the beneficiary concerned or on behalf of the other beneficiaries.

The coordinator must submit a request for **amendment** (see Article 39), with:

- the reasons why
- the opinion of the beneficiary concerned (or proof that this opinion has been requested in writing)
- the date the beneficiary ends work on the action ('end of work date')
- the date the termination takes effect ('termination date'); this date must be after the date of the submission of the amendment request.

If the termination concerns the coordinator and is done without its agreement, the amendment request must be submitted by another beneficiary (acting on behalf of the consortium).

The termination will **take effect** on the termination date specified in the amendment.

If no information is given or if the granting authority considers that the reasons do not justify termination, it may consider the beneficiary to have been terminated improperly.

32.2.2 Effects

The coordinator must — within 60 days from when termination takes effect — submit:

(i) a **report on the distribution of payments** to the beneficiary concerned

(ii) a **termination report** from the beneficiary concerned, for the open reporting period until termination, containing an overview of the progress of the work, the financial statement, the explanation on the use of resources, and, if applicable, the certificate on the financial statement (CFS; see Articles 21 and 24.2 and Data Sheet, Point 4.3)

(iii) a second **request for amendment** (see Article 39) with other amendments needed (e.g. reallocation of the tasks and the estimated budget of the terminated beneficiary; addition of a new beneficiary to replace the terminated beneficiary; change of coordinator, etc.).

The granting authority will calculate the amount due to the beneficiary on the basis of the report submitted and taking into account the costs incurred and contributions for activities implemented before the end of work date (see Article 22). Costs relating to contracts due for execution only after the end of work are not eligible.

The information in the termination report must also be included in the periodic report for the next reporting period (see Article 21).

If the granting authority does not receive the termination report within the deadline, only costs and contributions which are included in an approved periodic report will be taken into account (no costs/ contributions if no periodic report was ever approved).

If the granting authority does not receive the report on the distribution of payments within the deadline, it will consider that:

- the coordinator did not distribute any payment to the beneficiary concerned and that
- the beneficiary concerned must not repay any amount to the coordinator.

If the second request for amendment is accepted by the granting authority, the Agreement is **amended** to introduce the necessary changes (see Article 39).

If the second request for amendment is rejected by the granting authority (because it calls into question the decision awarding the grant or breaches the principle of equal treatment of applicants), the grant may be terminated (see Article 32).

Improper termination may lead to a reduction of the grant (see Article 31) or grant termination (see Article 32).

After termination, the concerned beneficiary's obligations (in particular Articles 13 (confidentiality and security), 16 (IPR), 17 (communication, dissemination and visibility), 21 (reporting), 25 (checks, reviews, audits and investigations), 26 (impact evaluation), 27 (rejections), 28 (grant reduction) and 42 (assignment of claims)) continue to apply.

32.3 EU-initiated GA or beneficiary termination

32.3.1 Conditions

The granting authority may terminate the grant or the participation of one or more beneficiaries, if:

(a) one or more beneficiaries do not accede to the Agreement (see Article 40)

(b) a change to the action or the legal, financial, technical, organisational or ownership situation of a beneficiary is likely to substantially affect the implementation of the action or calls into question the decision to award the grant (including changes linked to one of the exclusion grounds listed in the declaration of honour)

(c) following termination of one or more beneficiaries, the necessary changes to the Agreement (and their impact on the action) would call into question the decision awarding the grant or breach the principle of equal treatment of applicants

(d) implementation of the action has become impossible or the changes necessary for its continuation would call into question the decision awarding the grant or breach the principle of equal treatment of applicants

(e) a beneficiary (or person with unlimited liability for its debts) is subject to bankruptcy proceedings or similar (including insolvency, winding-up, administration by a liquidator or court, arrangement with creditors, suspension of business activities, etc.)

(f) a beneficiary (or person with unlimited liability for its debts) is in breach of social security or tax obligations

(g) a beneficiary (or person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has been found guilty of grave professional misconduct

(h) a beneficiary (or person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed fraud, corruption, or is involved in a criminal organisation, money laundering, terrorism-related crimes (including terrorism financing), child labour or human trafficking

(i) a beneficiary (or person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) was created under a different jurisdiction with the intent to circumvent fiscal, social or other legal obligations in the country of origin (or created another entity with this purpose)

(j) a beneficiary (or person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed:

  (i) substantial errors, irregularities or fraud or

  (ii) serious breach of obligations under this Agreement or during its award (including improper implementation of the action, non-compliance with the call conditions, submission of false information, failure to provide required information, breach of ethics or security rules (if applicable), failure to cooperate with checks, reviews, audits and investigations, etc.)

(k) a beneficiary (or person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed — in other EU grants awarded to it under similar conditions — systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant (extension of findings from other grants to this grant; see Article 25)

(l) despite a specific request by the granting authority, a beneficiary does not request — through the coordinator — an amendment to the Agreement to end the participation of one of its affiliated entities or associated partners that is in one of the situations under points (d), (f), (e), (g), (h), (i) or (j) and to reallocate its tasks, or

(m) other:

  (i) linked action issues: not applicable

  (ii) the action has lost its scientific or technological relevance, for EIC Accelerator actions: the action has lost its economic relevance, for challenge-based EIC Pathfinder actions and Horizon Europe Missions: the action has lost its relevance as part of the Portfolio for which it has been initially selected

32.3.2 Procedure

Before terminating the grant or participation of one or more beneficiaries, the granting authority will send **a pre-information letter** to the coordinator or beneficiary concerned:

- formally notifying the intention to terminate and the reasons why and
- requesting observations within 30 days of receiving notification.

If the granting authority does not receive observations or decides to pursue the procedure despite the observations it has received, it will confirm the termination and the date it will take effect (**confirmation letter**). Otherwise, it will formally notify that the procedure is discontinued.

For beneficiary terminations, the granting authority will — at the end of the procedure — also inform the coordinator.

The termination will **take effect** the day after the confirmation notification is sent (or on a later date specified in the notification; 'termination date').

32.3.3 Effects

(a) for **GA termination**:

The coordinator must — within 60 days from when termination takes effect — submit a **periodic report** (for the last open reporting period until termination).

The granting authority will calculate the final grant amount and final payment on the basis of the report submitted and taking into account the costs incurred and contributions for activities implemented before termination takes effect (see Article 22). Costs relating to contracts due for execution only after termination are not eligible.

If the grant is terminated for breach of the obligation to submit reports, the coordinator may not submit any report after termination.

If the granting authority does not receive the report within the deadline, only costs and contributions which are included in an approved periodic report will be taken into account (no costs/contributions if no periodic report was ever approved).

Termination does not affect the granting authority's right to reduce the grant (see Article 28) or to impose administrative sanctions (see Article 34).

The beneficiaries may not claim damages due to termination by the granting authority (see Article 33).

After termination, the beneficiaries' obligations (in particular Articles 13 (confidentiality and security), 16 (IPR), 17 (communication, dissemination and visibility), 21 (reporting), 25 (checks, reviews, audits and investigations), 26 (impact evaluation), 27 (rejections), 28 (grant reduction) and 42 (assignment of claims)) continue to apply.

(b) for **beneficiary termination**:

The coordinator must — within 60 days from when termination takes effect — submit:

(i) a **report on the distribution of payments** to the beneficiary concerned

(ii) a **termination report** from the beneficiary concerned, for the open reporting period until termination, containing an overview of the progress of the work, the financial

statement, the explanation on the use of resources, and, if applicable, the certificate on the financial statement (CFS; see Articles 21 and 24.2 and Data Sheet, Point 4.3)

(iii) a **request for amendment** (see Article 39) with any amendments needed (e.g. reallocation of the tasks and the estimated budget of the terminated beneficiary; addition of a new beneficiary to replace the terminated beneficiary; change of coordinator, etc.).

The granting authority will calculate the amount due to the beneficiary on the basis of the report submitted and taking into account the costs incurred and contributions for activities implemented before termination takes effect (see Article 22). Costs relating to contracts due for execution only after termination are not eligible.

The information in the termination report must also be included in the periodic report for the next reporting period (see Article 21).

If the granting authority does not receive the termination report within the deadline, only costs and contributions included in an approved periodic report will be taken into account (no costs/ contributions if no periodic report was ever approved).

If the granting authority does not receive the report on the distribution of payments within the deadline, it will consider that:

- the coordinator did not distribute any payment to the beneficiary concerned and that
- the beneficiary concerned must not repay any amount to the coordinator.

If the request for amendment is accepted by the granting authority, the Agreement is **amended** to introduce the necessary changes (see Article 39).

If the request for amendment is rejected by the granting authority (because it calls into question the decision awarding the grant or breaches the principle of equal treatment of applicants), the grant may be terminated (see Article 32).

After termination, the concerned beneficiary's obligations (in particular Articles 13 (confidentiality and security), 16 (IPR), 17 (communication, dissemination and visibility), 21 (reporting), 25 (checks, reviews, audits and investigations), 26 (impact evaluation), 27 (rejections), 28 (grant reduction) and 42 (assignment of claims)) continue to apply.

SECTION 3 OTHER CONSEQUENCES: DAMAGES AND ADMINISTRATIVE SANCTIONS

ARTICLE 33 — DAMAGES

33.1 Liability of the granting authority

The granting authority cannot be held liable for any damage caused to the beneficiaries or to third parties as a consequence of the implementation of the Agreement, including for gross negligence.

The granting authority cannot be held liable for any damage caused by any of the beneficiaries or other participants involved in the action, as a consequence of the implementation of the Agreement.

33.2 Liability of the beneficiaries

The beneficiaries must compensate the granting authority for any damage it sustains as a result of the implementation of the action or because the action was not implemented in full compliance with the Agreement, provided that it was caused by gross negligence or wilful act.

The liability does not extend to indirect or consequential losses or similar damage (such as loss of profit, loss of revenue or loss of contracts), provided such damage was not caused by wilful act or by a breach of confidentiality.

ARTICLE 34 — ADMINISTRATIVE SANCTIONS AND OTHER MEASURES

Nothing in this Agreement may be construed as preventing the adoption of administrative sanctions (i.e. exclusion from EU award procedures and/or financial penalties) or other public law measures, in addition or as an alternative to the contractual measures provided under this Agreement (see, for instance, Articles 137 to 148 EU Financial Regulation 2024/2509 and Articles 4 and 7 of Regulation 2988/95[24]).

SECTION 4 FORCE MAJEURE

ARTICLE 35 — FORCE MAJEURE

A party prevented by force majeure from fulfilling its obligations under the Agreement cannot be considered in breach of them.

'Force majeure' means any situation or event that:

- prevents either party from fulfilling their obligations under the Agreement
- was unforeseeable, exceptional situation and beyond the parties' control
- was not due to error or negligence on their part (or on the part of other participants involved in the action) and
- proves to be inevitable in spite of exercising all due diligence.

Any situation constituting force majeure must be formally notified to the other party without delay, stating the nature, likely duration and foreseeable effects.

The parties must immediately take all the necessary steps to limit any damage due to force majeure and do their best to resume implementation of the action as soon as possible.

CHAPTER 6 FINAL PROVISIONS

ARTICLE 36 — COMMUNICATION BETWEEN THE PARTIES

36.1 Forms and means of communication — Electronic management

[24] Council Regulation (EC, Euratom) No 2988/95 of 18 December 1995 on the protection of the European Communities financial interests (OJ L 312, 23.12.1995, p. 1).

EU grants are managed fully electronically through the EU Funding & Tenders Portal ('Portal').

All communications must be made electronically through the Portal, in accordance with the Portal Terms and Conditions and using the forms and templates provided there (except if explicitly instructed otherwise by the granting authority).

Communications must be made in writing and clearly identify the grant agreement (project number and acronym).

Communications must be made by persons authorised according to the Portal Terms and Conditions. For naming the authorised persons, each beneficiary must have designated — before the signature of this Agreement — a 'legal entity appointed representative (LEAR)'. The role and tasks of the LEAR are stipulated in their appointment letter (see Portal Terms and Conditions).

If the electronic exchange system is temporarily unavailable, instructions will be given on the Portal.

36.2 Date of communication

The sending date for communications made through the Portal will be the date and time of sending, as indicated by the time logs.

The receiving date for communications made through the Portal will be the date and time the communication is accessed, as indicated by the time logs. Formal notifications that have not been accessed within 10 days after sending, will be considered to have been accessed (see Portal Terms and Conditions).

If a communication is exceptionally made on paper (by e-mail or postal service), general principles apply (i.e. date of sending/receipt). Formal notifications by registered post with proof of delivery will be considered to have been received either on the delivery date registered by the postal service or the deadline for collection at the post office.

If the electronic exchange system is temporarily unavailable, the sending party cannot be considered in breach of its obligation to send a communication within a specified deadline.

36.3 Addresses for communication

The Portal can be accessed via the Europa website.

The address for paper communications to the granting authority (if exceptionally allowed) is the official mailing address indicated on its website.

For beneficiaries, it is the legal address specified in the Portal Participant Register.

ARTICLE 37 — INTERPRETATION OF THE AGREEMENT

The provisions in the Data Sheet take precedence over the rest of the Terms and Conditions of the Agreement.

Annex 5 takes precedence over the Terms and Conditions; the Terms and Conditions take precedence over the Annexes other than Annex 5.

Annex 2 takes precedence over Annex 1.

ARTICLE 38 — CALCULATION OF PERIODS AND DEADLINES

In accordance with Regulation No 1182/71[25], periods expressed in days, months or years are calculated from the moment the triggering event occurs.

The day during which that event occurs is not considered as falling within the period.

'Days' means calendar days, not working days.

ARTICLE 39 — AMENDMENTS

39.1 Conditions

The Agreement may be amended, unless the amendment entails changes to the Agreement which would call into question the decision awarding the grant or breach the principle of equal treatment of applicants.

Amendments may be requested by any of the parties.

39.2 Procedure

The party requesting an amendment must submit a request for amendment signed directly in the Portal Amendment tool.

The coordinator submits and receives requests for amendment on behalf of the beneficiaries (see Annex 3). If a change of coordinator is requested without its agreement, the submission must be done by another beneficiary (acting on behalf of the other beneficiaries).

The request for amendment must include:

- the reasons why
- the appropriate supporting documents and
- for a change of coordinator without its agreement: the opinion of the coordinator (or proof that this opinion has been requested in writing).

The granting authority may request additional information.

If the party receiving the request agrees, it must sign the amendment in the tool within 45 days of receiving notification (or any additional information the granting authority has requested). If it does not agree, it must formally notify its disagreement within the same deadline. The deadline may be extended, if necessary for the assessment of the request. If no notification is received within the deadline, the request is considered to have been rejected.

An amendment **enters into force** on the day of the signature of the receiving party.

An amendment **takes effect** on the date of entry into force or other date specified in the amendment.

[25] Regulation (EEC, Euratom) No 1182/71 of the Council of 3 June 1971 determining the rules applicable to periods, dates and time-limits (OJ L 124, 8/6/1971, p. 1).

ARTICLE 40 — ACCESSION AND ADDITION OF NEW BENEFICIARIES

40.1 Accession of the beneficiaries mentioned in the Preamble

The beneficiaries which are not coordinator must accede to the grant by signing the accession form (see Annex 3) directly in the Portal Grant Preparation tool, within 30 days after the entry into force of the Agreement (see Article 44).

They will assume the rights and obligations under the Agreement with effect from the date of its entry into force (see Article 44).

If a beneficiary does not accede to the grant within the above deadline, the coordinator must — within 30 days — request an amendment (see Article 39) to terminate the beneficiary and make any changes necessary to ensure proper implementation of the action. This does not affect the granting authority's right to terminate the grant (see Article 32).

40.2 Addition of new beneficiaries

In justified cases, the beneficiaries may request the addition of a new beneficiary.

For this purpose, the coordinator must submit a request for amendment in accordance with Article 39. It must include an accession form (see Annex 3) signed by the new beneficiary directly in the Portal Amendment tool.

New beneficiaries will assume the rights and obligations under the Agreement with effect from the date of their accession specified in the accession form (see Annex 3).

Additions are also possible in mono-beneficiary grants.

ARTICLE 41 — TRANSFER OF THE AGREEMENT

In justified cases, the beneficiary of a mono-beneficiary grant may request the transfer of the grant to a new beneficiary, provided that this would not call into question the decision awarding the grant or breach the principle of equal treatment of applicants.

The beneficiary must submit a request for **amendment** (see Article 39), with

- the reasons why
- the accession form (see Annex 3) signed by the new beneficiary directly in the Portal Amendment tool and
- additional supporting documents (if required by the granting authority).

The new beneficiary will assume the rights and obligations under the Agreement with effect from the date of accession specified in the accession form (see Annex 3).

ARTICLE 42 — ASSIGNMENTS OF CLAIMS FOR PAYMENT AGAINST THE GRANTING AUTHORITY

The beneficiaries may not assign any of their claims for payment against the granting authority to

any third party, except if expressly approved in writing by the granting authority on the basis of a reasoned, written request by the coordinator (on behalf of the beneficiary concerned).

If the granting authority has not accepted the assignment or if the terms of it are not observed, the assignment will have no effect on it.

In no circumstances will an assignment release the beneficiaries from their obligations towards the granting authority.

ARTICLE 43 — APPLICABLE LAW AND SETTLEMENT OF DISPUTES

43.1 Applicable law

The Agreement is governed by the applicable EU law, supplemented if necessary by the law of Belgium.

Special rules may apply for beneficiaries which are international organisations (if any; see Data Sheet, Point 5).

43.2 Dispute settlement

If a dispute concerns the interpretation, application or validity of the Agreement, the parties must bring action before the EU General Court — or, on appeal, the EU Court of Justice — under Article 272 of the Treaty on the Functioning of the EU (TFEU).

For non-EU beneficiaries (if any), such disputes must be brought before the courts of Brussels, Belgium — unless an international agreement provides for the enforceability of EU court judgements.

For beneficiaries with arbitration as special dispute settlement forum (if any; see Data Sheet, Point 5), the dispute will — in the absence of an amicable settlement — be settled in accordance with the Rules for Arbitration published on the Portal.

If a dispute concerns administrative sanctions, offsetting or an enforceable decision under Article 299 TFEU (see Articles 22 and 34), the beneficiaries must bring action before the General Court — or, on appeal, the Court of Justice — under Article 263 TFEU.

For grants where the granting authority is an EU executive agency (see Preamble), actions against offsetting and enforceable decisions must be brought against the European Commission (not against the granting authority; see also Article 22).

ARTICLE 44 — ENTRY INTO FORCE

The Agreement will enter into force on the day of signature by the granting authority or the coordinator, depending on which is later.

SIGNATURES

For the coordinator

David OSIMO with ECAS id noimodav signed in the Participant Portal on 10/10/2025 at 16:19:06 (transaction id SigId-16616-xza140rRdr0e4cWAyOwEJzqIOcyr8dMx7bqG6AoxlbSNNBuw48Pb8zXaJAMT8nQ7n4qIwzzxMzal1sVwzzsBQjOT-R2zIpfT8xjM5V8d9R1Id1q-bFTW6xFy87yrIPKzrAamGS1V0Z6co0UzrpdjziZFjkavlrMRExwYe1lHVlLf0TGJNpklrmA3zUy9xX6I6fy9y4q). Timestamp by third party at 2025.10.10 16:19:10 CEST

For the granting authority

Signed by Pablo PEREZ-ILLANA with ECAS id perezpb as an authorised representative on 12-10-2025 15:13:25 (transaction id SigId-18788-6zQsmdDoZy0ISsZVj0E85Bu9BzloQRyPXVzSIOZsq5v1fl99WssHhDUQ7RU38NTKxELA0v2mrugV7ywaG1pmSr0-R2zIpfT8xjM5V8d9R1Id1q-41zi1Jopq6cIBDPVfdAWOq45EdGUQztCi1UziNAe9tlXHTd6zkgMrqvERqnuzimHpRnlzuF4zzKRUxWwwAmNT5QE) 2025.10.12 15:13:28 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 1

Horizon Europe (HORIZON)

Description of the action (DoA)

Part A

Part B

 Associated with document Ref. Ares(2025)8627308 - 10/10/2025

DESCRIPTION OF THE ACTION (PART A)

COVER PAGE

Part A of the Description of the Action (DoA) must be completed directly on the Portal Grant Preparation screens.

PROJECT *Grant Preparation (General Information screen) — Enter the info.*	
Project number:	101239472
Project name:	Enhancing Liveable Cities with Smart Public Space Management and Sustainable Mobility for climate neutrality in urban areas: the URBAN-FLOW Approach
Project acronym:	URBAN-FLOW
Call:	HORIZON-MISS-2024-CIT-01
Topic:	HORIZON-MISS-2024-CIT-01-01
Type of action:	HORIZON-IA
Service:	CINEA/C/03
Project starting date:	fixed date: 1 January 2026
Project duration:	48 months

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PROJECT SUMMARY

Project summary

Grant Preparation (General Information screen) — Provide an overall description of your project (including context and overall objectives, planned activities and main achievements, and expected results and impacts (on target groups, change procedures, capacities, innovation etc)). This summary should give readers a clear idea of what your project is about.

Use the project summary from your proposal.

URBAN-FLOW is a groundbreaking initiative designed to reshape urban spaces into sustainable, climate-neutral, and resilient environments. The project addresses key urban challenges such as limited public space, inefficient mobility and land use planning, suburban connectivity gaps, fragmented energy and mobility systems, and the need for inclusive, liveable urban areas. By integrating Local Digital Twins (LDTs) and Mobility Data Spaces (MDS), URBAN-FLOW enhances data-driven decision-making, enabling dynamic space management and participatory urban regeneration towards climate-neutral mobility, integrated energy, and resilient design.

The project is demonstrated in three Lead Cities: Valencia (Spain), Florence (Italy), and Tampere (Finland), where innovative urban solutions will be tested. These solutions include dynamic curb-side management, multimodal transport optimization, and green infrastructure integration. The project also involves three Replicant Cities: Edinburgh (United Kingdom), Brussels (Belgium), and Pilsen (Czech Republic), ensuring the scalability and adaptability of the proposed measures across diverse urban contexts.

URBAN-FLOW employs a systemic co-creation approach through City Living Labs (CLLs), engaging policymakers, citizens, and businesses in collaborative urban transformation. The project aligns with the European Green Deal and the Mission 100 Climate-Neutral Cities, driving policy-driven replication across European cities. By combining advanced digital tools, participatory governance, and climate resilience strategies, URBAN-FLOW seeks to create urban environments that enhance accessibility, reduce greenhouse gas emissions, and improve the overall quality of life for residents.
To maximise its footprint and its results uptake, the project leverages several city and climate related EU networks: ClimateKIC, EIT Urban Mobility, Open and Agile Smart Cities, Urban Technologies Alliance.

LIST OF PARTICIPANTS

PARTICIPANTS

Grant Preparation (Beneficiaries screen) — Enter the info.

Number	Role	Short name	Legal name	Country	PIC
1	COO	LC	THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL	BE	997420543
2	BEN	IMEC	INTERUNIVERSITAIR MICRO-ELECTRONICA CENTRUM	BE	999981149
3	BEN	VTT	TEKNOLOGIAN TUTKIMUSKESKUS VTT OY	FI	932760440
4	BEN	TEC	FUNDACION TECNALIA RESEARCH & INNOVATION	ES	999604110
5	BEN	UPV	UNIVERSITAT POLITECNICA DE VALENCIA	ES	999864846
6	BEN	UEDIN	THE UNIVERSITY OF EDINBURGH	UK	999974941
7	BEN	VIC	FUNDACION DE LA COMUNITAT VALENCIANA PARA LA PROMOCION ESTRATEGICA EL DESARROLLO Y LA INNOVACION URBANA	ES	953813514

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PARTICIPANTS

Grant Preparation (Beneficiaries screen) — Enter the info.

Number	Role	Short name	Legal name	Country	PIC
8	BEN	EMT	EMPRESA MUNICIPAL DE TRANSPORTES DE VALENCIA SA	ES	965524324
9	BEN	VCE	FUNDACIO DE LA COMUNITAT VALENCIANA VALENCIA CLIMA I ENERGIA	ES	935397773
10	BEN	APRE	AGENZIA PER LA PROMOZIONE DELLA RICERCA EUROPEA	IT	999514191
11	BEN	ENG	ENGINEERING - INGEGNERIA INFORMATICA SPA	IT	999960488
12	BEN	MUN	MUNICIPIA SPA	IT	899334143
13	BEN	ETRA	ETRA INVESTIGACION Y DESARROLLO SA	ES	999926441
14	BEN	CEF	CEFRIEL SOCIETA CONSORTILE A RESPONSABILITA LIMITATA SOCIETA BENEFIT	IT	999647178
15	BEN	KENT	KENTYOU	FR	894317400
16	BEN	SAS	SERVIZI ALLA STRADA SPA	IT	904144567
17	BEN	SPES	SPES CONSULTING SRL	IT	953750464
18	BEN	REM	REMOTED OY	FI	885139066
19	BEN	DBC	DIADIKASIA BUSINESS CONSULTING SYMVOULOI EPICHEIRISEON AE	EL	983764495
20	BEN	LAT	LATITUDO 40 SRL	IT	910401164
21	BEN	PV	PLUSVALUE ITALY SRL SOCIETA BENEFIT	IT	888902181
22	BEN	OASC	OPEN & AGILE SMART CITIES	BE	914842115
23	BEN	CKIC	STICHTING CLIMATE-KIC INTERNATIONAL FOUNDATION	NL	878875582
24	BEN	EIT UM	EIT URBAN MOBILITY FOUNDATION	ES	882621237
25	BEN	CSCC	Czech Smart City Cluster, z.s.	CZ	907068826
26	BEN	VLC	AYUNTAMIENTO DE VALENCIA	ES	984507903
27	BEN	FLO	COMUNE DI FIRENZE	IT	969024472
28	BEN	BT	TAMPEREEN KAUPUNKISEUDUN ELINKEINOJA KEHITYSYHTIO BUSINESS TAMPERE OY	FI	897506372
29	BEN	CEC	THE CITY OF EDINBURGH COUNCIL	UK	953520671
30	BEN	BRU	VILLE DE BRUXELLES	BE	950386407
31	AP	UTA	URBAN TECHNOLOGY ALLIANCE ASSOCIATION	CH	894313229
32	AP	D4P	DIGITAL FOR PLANET-D4P	CH	897171237

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LIST OF WORK PACKAGES

Work packages

Grant Preparation (Work Packages screen) — Enter the info.

Work Package No	Work Package name	Lead Beneficiary	Effort (Person-Months)	Start Month	End Month	Deliverables
WP1	Project coordination and technical management	1 - LC	91.00	1	48	D1.1 – Project management handbook D1.2 – Data management plan and research ethics - V1 D1.3 – Data management plan and research ethics - V2 D1.4 – Data management plan and research ethics - V4 D1.5 – URBAN-FLOW contribution to the Mission Platform - V1 D1.6 – URBAN-FLOW contribution to the Mission Platform - V2 D1.7 – Data management plan - V3
WP2	URBAN-FLOW systemic approach for co-creating urban regeneration measures for climate neutrality	10 - APRE	280.00	1	40	D2.1 – URBAN FLOW Engagement Strategy and City Living Lab Methodology and coordination framework V1 D2.2 – URBAN FLOW Engagement Strategy and City Living Lab Methodology and coordination framework V2 D2.3 – City Living Labs context and Reference Scenarios D2.4 – URBAN FLOW Impact Assessment Framework V1 D2.5 – URBAN FLOW Impact Assessment Framework V2 D2.6 – URBAN FLOW Impact Assessment Framework V3 D2.7 – Principles and tools for mobility data

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

Work packages

Grant Preparation (Work Packages screen) — Enter the info.

Work Package No	Work Package name	Lead Beneficiary	Effort (Person-Months)	Start Month	End Month	Deliverables
						governance and alignment with Mobility Data Spaces - V1 D2.8 – Principles and tools for mobility data governance and alignment with Mobility Data Spaces - V2 D2.9 – Principles and tools for mobility data governance and alignment with Mobility Data Spaces - V3 D2.10 – Common procurement rules and demonstration plans of interventions V1 D2.11 – Common procurement rules and demonstration plans of interventions V2
WP3	URBAN-FLOW Local Digital Twin and Data Management foundation	11 - ENG	223.00	1	42	D3.1 – URBAN-FLOW platform specifications - V1 D3.2 – URBAN-FLOW platform specifications - V2 D3.3 – Data management tools and Online collaboration platform V1 D3.4 – Data management tools and Online collaboration platform V2 D3.5 – Data management tools and Online collaboration platform V3 D3.6 – URBAN-FLOW platform - V1 D3.7 – URBAN-FLOW platform - V2 D3.8 – URBAN-FLOW platform - V3 D3.9 – Solutions for Health Impact Assessment and CN Composite Index - V1 D3.10 – Solutions for Health Impact Assessment and CN Composite Index - V2

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

Work packages

Grant Preparation (Work Packages screen) — Enter the info.

Work Package No	Work Package name	Lead Beneficiary	Effort (Person-Months)	Start Month	End Month	Deliverables
						D3.11 – Solutions for Health Impact Assessment and CN Composite Index - V3
WP4	Public spaces redesign and dynamic management	13 - ETRA	147.00	1	42	D4.1 – Digitally Assisted Urban Planning and Design Toolkit - V1 D4.2 – Digitally Assisted Urban Planning and Design Toolkit - V2 D4.3 – Digitally Assisted Urban Planning and Design Toolkit - V3 D4.4 – Optimized EV Charging Infrastructure - V1 D4.5 – Optimized EV Charging Infrastructure - V2 D4.6 – Optimized EV Charging Infrastructure - V3 D4.7 – Dynamic Curb-Side and Urban Space Management System V1 D4.8 – Dynamic Curb-Side and Urban Space Management System V2 D4.9 – Dynamic Curb-Side and Urban Space Management System V3
WP5	Climate neutrality via better transport use and smart energy systems in cities	4 - TEC	153.00	1	42	D5.1 – Multimodal and on-demand last-first-mile services based on CCAVs V1 D5.2 – Multimodal and on-demand last-first-mile services based on CCAVs V2 D5.3 – Multimodal and on-demand last-first-mile services based on CCAVs V3 D5.4 – Solutions for coordinated energy management - V1 D5.5 – Solutions for coordinated energy management - V2

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Work packages

Grant Preparation (Work Packages screen) — Enter the info.

Work Package No	Work Package name	Lead Beneficiary	Effort (Person-Months)	Start Month	End Month	Deliverables
						D5.6 – Solutions for coordinated energy management - V3 D5.7 – Innovative charging solutions - V1 D5.8 – Innovative charging solutions - V2 D5.9 – Innovative charging solutions - V3 D5.10 – Tools for footprint compensation and reducing recommendations - V1 D5.11 – Tools for footprint compensation and reducing recommendations - V2 D5.12 – Tools for footprint compensation and reducing recommendations - V3
WP6	City Living Labs	7 - VIC	435.00	3	40	D6.1 – City Living Labs logbook - V1 D6.2 – City Living Labs logbook - V2 D6.3 – Valencia pilot implementation - V1 D6.4 – Valencia pilot implementation - V2 D6.5 – Florence pilot implementation - V1 D6.6 – Florence pilot implementation - V2 D6.7 – Tampere pilot implementation - V1 D6.8 – Tampere pilot implementation - V2
WP7	Scale Up and Replication	24 - EIT UM	308.00	10	48	D7.1 – Mutual Learning and Capacity Building - V1 D7.2 – Mutual Learning and Capacity Building - V2 D7.3 – Climate-Neutral Replication Plans D7.4 – Overall Impact Assessment D7.5 – Transferability Guidelines
WP8	Communication, Dissemination and Exploitation	32 - D4P	229.00	1	48	D8.1 – URBAN-FLOW Plan for dissemination and exploitation including communication activities - V1

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Work packages

Grant Preparation (Work Packages screen) — Enter the info.

Work Package No	Work Package name	Lead Beneficiary	Effort (Person-Months)	Start Month	End Month	Deliverables
						D8.2 – URBAN-FLOW Plan for dissemination and exploitation including communication activities - V2 D8.3 – URBAN-FLOW Plan for dissemination and exploitation including communication activities - V3 D8.4 – URBAN-FLOW Plan for dissemination and exploitation including communication activities - V4 D8.5 – Validation workshops and policy dialogues - V1 D8.6 – Validation workshops and policy dialogues - V2 D8.7 – Data interoperability and standardization - V1 D8.8 – Data interoperability and standardization - V2 D8.9 – Business Models for services and Cities Mission Canvas - V1 D8.10 – Business Models for services and Cities Mission Canvas - V2

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Work package WP1 – Project coordination and technical management

Work Package Number	WP1	Lead Beneficiary	1 - LC
Work Package Name	Project coordination and technical management		
Start Month	1	End Month	48

Objectives
WP1 ensures that the project is effectively managed and coordinated, and that all activities are carried out on time, with the highest quality standards and in compliance with relevant ethical and legal requirements.

Description
T1.1 Project Management & Coordination (M1-M48) [Lead: LC Participant: WP leaders] T1.1 manages and coordinates the project, ensuring that all activities are conducted according to the project plan, and on-time deliverables submission. LC oversees T1.1, collaborating with WP leaders for effective project implementation. T1.2 Scientific and Technological Coordination (M1-M48) [Lead: ENG, Participants: LC, TEC, ETRA] T1.2 is responsible for the scientific and technological coordination of the project. It ensures that all partners are aware of the latest developments in the field and that project activities are aligned with the latest scientific and technological advancements. T1.3 Quality Control, Risk Management and Contingency Planning (M1-M48) [Lead: LC, Participants: ENG] T1.3 ensures that the project meets highest quality standards, and a quality control plan to ensure that all deliverables meet the project's requirements. T1.3 also identifies and manages project risks and develops contingency plans to mitigate the impact of any unforeseen events. T1.4 Data management, Ethics, Legal and Safeguarding Protocols (M1-M48) [Lead: DBC, Participants: ENG, IMEC, DFP, all cities, PV] T1.4 ensures that all project activities comply with relevant ethical, legal and safeguarding protocols, requirements, guidelines and regulations, such as data protection regulations. It develops data management protocols to ensure the safe storage and sharing of project data. T1.5 Collaboration and synchronisation with Mission Platform (M1-M48) [Lead: EIT UM, Participants: LC, CKIC, TEC, UTA, all cities] T1.5 ensures alignment between URBAN-FLOW and the Cities Mission Platform, fostering knowledge exchange and replication. Key activities include formalising collaboration through a Memorandum of Understanding (MoU) and detailed collaboration agreement, integrating URBAN-FLOW tools with Mission Platform's digital ecosystem, leveraging opportunities for joint capacity building activities and best practice sharing (T7.2), policy alignment and innovation activities (T8.2), and best practice sharing, and disseminating project outcomes and tools to accelerate replication in Mission Cities.

Work package WP2 – URBAN-FLOW systemic approach for co-creating urban regeneration measures for climate neutrality

Work Package Number	WP2	Lead Beneficiary	10 - APRE
Work Package Name	URBAN-FLOW systemic approach for co-creating urban regeneration measures for climate neutrality		
Start Month	1	End Month	40

Objectives
WP2 develops a framework for co-creating and replicating sustainable urban regeneration measures. Key goals include engaging stakeholders in LEADCs and REPCs through City Living Labs (CLs), identifying challenges, opportunities, and pilots' scenarios in mobility, energy, and public space, co-creating urban regeneration scenarios, defining an impact assessment framework, considering aspects concerning Mobility Data Space and creating strategies and procurement guidelines for reconfiguring public spaces and mobility flows.

Description

T2.1: Definition of the URBAN-FLOW Engagement strategy and CLs methodology (Lead: APRE; Participants: LC, ENG, MUN, CKIC, OASC, UTA, EIT UM, VIC, CEF, IMEC, DFP, all cities, PV) (M1-M12) T2.1 develops the Engagement Strategy and City Living Lab Methodology (D2.1-M12) to support co-creation, demonstration, and replication of urban regeneration measures and climate resilient solutions through the CLs (T2.2). It includes a benchmark analysis to identify best practices and tools for multi-stakeholder participation, as well as stakeholder mapping in the LEADCs and REP Cities to identify an enlarged Stakeholder Community. Based on this, the methodology defines tools and timelines for stakeholder collaboration in CLs, covering pilot priority analysis (with community representatives, etc.); solutions co-design (with experts, local public authorities, NGOs, etc.); participatory validation (with local communities); evaluation and feedback templates.
T2.2: City Living Labs establishment and coordination (Lead: APRE; Participants: LC, UTA, VIC, CEF, IMEC, DFP, all cities, CSCC) (M3-M40) Based on T2.1 results, T2.2 guides and coordinates LEAD and REP cities in establishing and running local CLS, ensuring alignment and consistency in methodology. A periodic rotation (every 6 months) involves 25% of participants to maintain active involvement. T2.2 includes: (i) biannual online feedback loops with key stakeholders and pilot partners; (ii) quarterly online coordination meetings with pilot partners; (iii) online Annual Mutual Learning workshops (in cooperation with T9.1); (iv) semi-annual rotation of CLS members. Results will contribute to the Coordination Framework for City Living Labs (D2.2-M40).
T2.3: Map of the challenges, drivers, enablers, and future scenarios with stakeholders' community (Lead: CEF Participants: LC, MUN, CKIC, UTA, EIT UM, VIC, UPV, UEDIN, IMEC, DFP, all cities, SPES, CSCC, APRE, PV) (M1-M18) Leveraging CLs (T2.2), T2.3 develops the URBAN-FLOW CLs context and Reference Scenarios (i.e. "as is" and "to be" scenarios), identifying challenges, drivers, barriers, and potential solutions across all the project cities. A survey targeting key stakeholders (policymakers, urban planners, energy and mobility providers, local communities, NGOs, and grassroots organizations) collects data to form the basis for CLS engagement in T2.2. The Task analyses the socio-economic context, urban environment, spatial quality and accessibility, mobility, energy use, environmental risks perception, and public spaces quality through interviews, focus groups, and consensus workshops. T2.3 conducts ≥10 direct interviews, 3 focus groups, 2 consensus workshops in each LEADCs and 10 direct interviews, 1 focus group, and 1 consensus workshop in each REPCs. Findings informs D2.2, providing a set of Reference Scenarios for the measures and solutions to be further developed in WP6 by applying the "User Journey methodology" (§1.2.1.1), shaping tailored interventions in CLs.
T2.4: URBAN-FLOW impact assessment framework (Lead: PV Participants: LC, MUN, CKIC, UTA, VTT, EIT UM, UPV, UEDIN, IMEC, DFP, all cities, VCE, SAS, SPES, APRE) (M1-M40). T2.4 develops an Impact Assessment Framework to evaluate co-created and implemented solutions (T2.2 and WP6) across social, population health, economic, and environmental dimensions. Aligned with global standards like the Global Reporting Initiative and the Sustainability Accounting Standards Board, it supports evaluations in LEADCs and REPCs (T7.2), integrating urban and PUR needs. The IAF draws on models developed in WP3, WP4 and WP5, and defining composite indexes, such as GHG metrics. It provides KPIs for each use-case scenario, populating KPI catalogue (T3.2) and LDTs dashboards (T3.5). These tools support decision-making processes and the lifecycle management, ensuring alignment with project objectives and long-term sustainability goals.
T2.5: Strategic fit & Collaboration in Mobility Data Spaces (Lead: IMEC Participants: ENG, OASC, VTT, EIT UM, CEF, DFP, VLC) (M1-M40) T2.5 aims to align and ensure interoperability in the Mobility Data Spaces across participants cities by mapping the existing mobility-related databases, environmental data, use of urban spaces, energy use, and other relevant domains according to the scenarios defined in T2.3. In collaboration with the stakeholders' community (T2.2), task governance principles and a tool enabling strategic alignment for the urban mobility ecosystem are co-developed through workshops and interviews. These principles support the implementation of technological building blocks enabling interoperability with current and future Mobility Data Spaces (T3.3) and the Local Digital Twin in LEADCs (T6.4, T6.7, T6.10), as well as synergies with data interoperability and standardization initiatives (T8.4) and the definition of business models (T8.5).
T2.6 Development of Common Procurement Guidelines and Demonstration Plan for co-created interventions (Lead: LC Participants: OASC, UTA, VIC, DFP, all cities, SPES, APRE, PV) (M1-M24) This task develops common procurement guidelines and processes for co-created interventions across project cities. Workshops with policymakers from LEADCs and REPCs gathers insights on existing legislative frameworks to identify a unified, simplified procurement approach. The workshops' results include demonstration plan to guide the implementation, testing, and evaluation of interventions, ensuring efficient scaling and replication.

Work package WP3 – URBAN-FLOW Local Digital Twin and Data Management foundation

Work Package Number	WP3	**Lead Beneficiary**	11 - ENG

Work Package Name	URBAN-FLOW Local Digital Twin and Data Management foundation		
Start Month	1	End Month	42

Objectives

WP3 establishes the foundation of the URBAN-FLOW Local Digital Twins (LDTs) providing its technical design and the baseline components for data and KPI management, interoperability with the Mobility Data Spaces, online collaboration, and LDTs modelling and advanced visualisations. It also develops the HIA model and toolbox as well as the CN composite index derived from the IAF designed in T2.4.

Description

T3.1: URBAN-FLOW LDTs technical guidelines, architecture and specification (Lead: ENG Participants: MUN, TEC, ETRA, OASC, UTA, VIC, IMEC, DFP, VLC, FLO, KENT, REM, PV, DBC, LAT) (M1-M42) Starting from the findings of T2.3 and T2.4, T3.1 provides the procedures and guidelines based on DevOps practices to ensure seamless operation of the URBAN-FLOW LDTs that will be made available at LEADCs level during the demonstration (WP6) and for properly define replicability plans and future actions at REPCs level (WP7), as well as technical design for the reference URBAN-FLOW LDT as data-driven decision support system, linking the various components (e.g. the data and KPIs management, online collaboration platform, data visualisation tools, and data analytics and support tools related to redesign/management, transport optimisation and energy management) into a coherent technical solution, enhancing interoperability and data flow (i.e. WP3, WP4 and WP5 related tasks). The specifications will also focus on the conceptual use and practical adoption of the Minimal Interoperability Mechanisms Plus (MIMs Plus) as well as further European and international standards such as ETSI NGSI-LD, DCAT-AP, INSPIRE, SensorML, and OGC SensorThings, to facilitate future replication of solutions in REPCs and beyond, towards a no-vendor lock-in approach.
T3.2: Data & KPI Management tools (Lead: ENG Participants: MUN, UTA, VIC, DFP, KENT, REM, PV, DBC, LAT) (M1-M42) T3.2 provides the building blocks for implementing the Data Connectors, Data management, KPI Management & Monitoring (i.e. KPI Catalogue), and Data Process Orchestration capabilities of the URBAN-FLOW LDTs, as well as for the management of the urban regeneration measures catalogue. Provided building blocks will be derived from previously developed ENG assets (part of the Digital Enabler suite), which will be consolidated/extended with respect to features and functionalities to meet the project's needs, to support putting into operation the technical solutions provided by WP4 and WP5, and helping stakeholders to manage and compare KPIs (e.g. for the identification of hidden issues and potential improvements and interventions). T3.2 also considers components capable to identify data gaps and to provide related recommendations (e.g. new sensors installation), and/or mitigation strategies via synthetic dataset generation, leveraging AI models and advanced predictive techniques.
T3.3: Interoperability with Mobility and SSCC Data Spaces (Lead: OASC Participants: ENG, VTT, VIC, CEF, IMEC, DFP, FLO, KENT) (M1-M42) T3.3 provides technological building blocks and guidelines enabling interoperability with current and future Mobility Data Spaces. The work is based on the blueprint of relevant projects such as the DSSC, deploy EMDS, DS4SSCC, DS4SSCC-DEP, and boost EDIC M&L, and will reuse their data space building blocks. The provided solutions will ensure the interconnection with the relevant common European data spaces, including the European Mobility Data Space (EMDS) by using the advanced Simple middleware, data discoverable using, amongst others, standards such as mobility DCAT-AP. Interoperability will be provided by drawing on the MIMs Plus and related standards and URBAN-FLOW learnings will be fed back into the MIMs Working Groups and linked standards activities). In addition, As Urban Flow is a data-driven decision support system, its interoperability will also be assessed in the policy-making process, focusing on how it integrates and interacts with other data instruments used in decision-making.
T3.4: Online collaboration platform URBAN-FLOW co-creation activities (Lead: ENG Participants: EIT UM, VIC) (M1-M42) T3.4 provides a digital tool to enhance the stakeholders' engagement and participation in the co-definition activities of solutions (e.g. policies, design) to improve management and liveability of public spaces, more efficient transport, and energy management, as well as feedback collection for the evaluation for their evaluation and acceptance assessment. For this purpose, the tool will offer discussion forums, interactive maps, and geolocation features, and integrate capabilities of other components of the URBAN-FLOW LDTs (e.g. KPI management, advanced visualisations of the digital twins, etc.), enabling broader stakeholder participation. The tool will be based on consolidated open-source solutions (such as Decidim) to increase replication opportunities.
T3.5: URBAN-FLOW platform for planning, management and optimization of urban spaces (Lead: TEC Participants: ENG, MUN, ETRA, IMEC, FLO, KENT, SPES, DBC, LAT) (M1-M42) T3.5 provides the LDTs and the technical solutions for advanced visualisations and dashboards, following LDT Toolbox and CityVerse solutions. The LDTs will integrate real-time data from various sources by leveraging the building blocks from T3.2 and T3.3 and will be closely linked with tools provided by WP4 and WP5. It will be implemented to allow a bidirectional integration and interaction with the online collaboration platform (T3.4) to allow the LDTs to integrate collaboration capabilities, and

the latter to incorporate advanced visualisations for both policy cycle management processes (i.e. ex-ante, ongoing, ex-post evaluation) of co-created CN solutions for rethinking urban spaces, for urban mobility management (i.e. traffic optimization, improved mobility services, etc), and for smart energy systems in cities of the co-defined solutions based on the two areas of intervention defined in the call (see also sub-§1.2.1.4), providing the cities with of a holistic solution.
T3.6: Health Impact Assessment (HIA) and CN Composite Index (Lead: PV Participants: LC, EIT UM, DFP) (M1-M42) T3.6 has a double objective, on one side it integrates predictive environmental simulations and HIA tools to assess health outcomes from air pollution, using advanced models like ADMS-Urban to predict exposure with high spatial and temporal resolution. Data from emissions, meteorology, and urban structures ensure precise exposure estimates, while HIA models quantify health impacts, such as premature mortality and respiratory diseases, through exposure-response functions (ERFs). Probabilistic modelling with Monte Carlo simulations manages uncertainties, and results - including YLLs, DALYs, and economic valuations via the Value of Statistical Life (VSL) - feed into the IAF under T2.4 for policy evaluation. On the other side, T3.6 builds on the achievements of the IAF, the CN Composite Index which aggregates key metrics from mobility, energy, and health impacts. The index merges data streams, including environmental and public health indicators, and is validated through two expert workshops, one consultation with CLs, and demonstration activities in WP6. It is then used in T8.5 to attract impact investors by showcasing measurable benefits and guiding CN investment decisions.

Work package WP4 – Public spaces redesign and dynamic management

Work Package Number	WP4	**Lead Beneficiary**	13 - ETRA
Work Package Name	Public spaces redesign and dynamic management		
Start Month	1	**End Month**	42

Objectives
Based on the technical specification provided in T3.1, WP4 develops tools to support innovative, sustainable, and efficient urban planning (T4.1, T4.2) and dynamic use of public space (T4.3 and T4.4), in line with the two areas of intervention defined in the call (see also sub-§1.2.1.2). The developed tools will be part of the URBAN-FLOW solution fine-tuned in T3.5, and the Key objectives of WP4 are: support innovative and sustainable urban planning (T4.1, T4.2), enhance multi-purpose public space design (T4.1), optimize EV charging infrastructure (T4.2), enable dynamic curb-side management (T4.3), and develop dynamic urban space management tools (T4.4).

Description
T4.1 Digitally assisted planning and design of multi-purpose public space (Lead: TEC Participants: MUN, ETRA, VIC, UPV, FLO, KENT, SAS, REM, DBC, LAT) (M1-M42). T4.1 tackles 4 different areas of actuation: Optimized Public Space Allocation and Curb-Side Management. (Area of intervention #2 of the call). Development of tools and methods to enhance the planning and management of public spaces to support integrated and sustainable urban transport systems, in alignment with the city SUMP. This toolset will include a collaborative tool for planning curb-side use that incorporates historical data analysis and real-time citizen feedback to optimize public space utilization. Moreover, it has modelling and simulation capabilities, enabling the comparison of multiple scenarios, the analysis of their effects, and the recommendation of the most suitable ones based on historical and forecast data, managing different temporal scales. Accessibility Analysis in Line with the 15-Minute City Concept. (Area of intervention #1, point 1 of the call). Creation of an accessibility analysis tool that evaluates proximity to essential services and infrastructure to align urban planning with the principles of the 15-minute city. Based on the pedestrian flows, inspect the best candidates' streets for traffic calming, or other strategies aligned with the superblock philosophy. Dynamic Thermal Planning of Public Places. (Area of intervention #1, point 7 of the call). Apply thermal mapping under various CN scenarios to design adaptable public spaces that mitigate the impacts of heat waves, proposing actionable measures for heat-resilient public areas. Green infrastructures for Public Space Redesign. (Area of intervention #1, points 5 and 8 of the call). Design and implementation of sustainable green infrastructures (e.g. urban drainage systems), monitoring the effectiveness of solutions through sensor networks and microscale modelling under diverse climate conditions to assess replication potential, improve positive effects on human well-being, urban climate and energy neutrality. T4.2 Optimised use of EV charging infrastructure (Lead: ETRA Participants: ENG, MUN, VTT, UPV, FLO, KENT, SAS) (M1-M42). (Area of intervention #1, point 2 of the call). T4.2 optimises the distribution and utilization of EV charging infrastructure, enhancing the adaptability of charging stations to serve multiple vehicle types and functionalities, such as bi-directional charging points, and including large charge infrastructure in public bus depots. T4.2 investigates

strategies for reallocating public transport infrastructure to support diverse electromobility needs (as chargers connected to interactive bus stops kiosks), and the distribution of EV charging points to maximize efficiency and coverage, in combination with the 15-minute accessibility analysis tool (T4.1).
T4.3 Dynamic curb side management (Lead: ETRA Participants: MUN, UPV, REM, DBC, LAT) (M1-M42) (Area of intervention #2 of the call). Complementing T4.1, T4.3 focuses on dynamically allocating curbside spaces to balance diverse and competing urban needs, such as pick-up/drop-off zones for tourists, commercial unloading areas, evening outdoor dining spaces, and private vehicle parking for residents. The tool for dynamic curbside management that URBANFLOW proposes will interact with local digital twins and mobility data spaces to optimize space usage in response to real-time parameters like commuting patterns, deliveries, market days, and nightlife activities. The tool will serve as support to implement SUMPs considering dynamic use of curb sides. The task will explore Urban Vehicle Access Regulation (UVAR), also including adaptive pricing schemes based on several criteria like trip purpose, vehicle size and emission class, and demand, aiming to support climate neutrality policy goals. A key innovation will be incorporating dynamic curbside adaptations also to extreme weather conditions, ensuring functionality and resilience during events like heat waves or storms.
T4.4 Dynamic urban space management (Lead: ETRA Participants: MUN, TEC, VIC, UPV, KENT, DBC, LAT) (M1-M42). (Area of intervention #2 of the call). Complementing T4.1, T4.4 develops a dynamic urban space management tool to adapt city infrastructure to evolving needs (e.g. market days and festivals, zone inaccessibility due to climate hazard forecast or effects). Inspired by past experiences with temporary urban space reallocation during COVID-19, the tool enables cities to dynamically implement temporary regulations and reallocate space based on real-time data and contextual demands. Key functionalities include dynamic parking policies for temporal and seasonal modifications (e.g. transforming parking areas into bike lanes, pedestrian zones, or event spaces). It addresses the reconfiguration of road lanes, enabling the prioritization of public transport during peak hours or the designation of emergency lanes during disruptive events. T4.2 explores the integration of geofences and the management of Low-Emission Zone regulations to respond to environmental, climate and health concerns (e.g. applying dynamic fees according to the actual route of polluting vehicles).

Work package WP5 – Climate neutrality via better transport use and smart energy systems in cities

Work Package Number	WP5	**Lead Beneficiary**	4 - TEC
Work Package Name	Climate neutrality via better transport use and smart energy systems in cities		
Start Month	1	**End Month**	42

Objectives
Based on the technical specification provided in T3.1, WP5 identifies and analyses existing approaches and technical solutions, based on key thematic areas of intervention (transport systems [T5.1], energy-related interventions [T5.2, T5.3] and transversal climate-proofing aspects [T5.4]), providing: 1) identification of relevant interventions, their potential impact and adequacy to the project and co-benefits; (2) Identification, adaptation and tailoring of methods, applications and systems, supporting the deployment of climate neutral city actions. The developed tools will be part of the URBAN-FLOW solution fine-tuned in T3.5.

Description
T5.1 Optimisation Transportation Systems enabling multimodal mobility ecosystems (Lead: REM Participants: MUN, ETRA, VTT, VIC, UPV, KENT, SAS, SPES) (M1-M42). (Area of intervention #2 of the call). T5.1 explores new concept and tools which dynamically manage the mobility and transportation according to user needs with a shared automated dedicated fleet. Specifically, it will focus on the opportunity of multimodal and on-demand/call-based/assisted first/last-mile mobility services with Connected and AV fleets. T5.2 Coordinated energy management towards climate neutrality. (Lead: TEC Participants: MUN, ETRA, UPV, DFP, KENT, VCE, DBC, LAT) (M1-M42) T5.2 tackles different areas of interventions: Energy-communities related one-stop shop (Area of intervention #1, point 6 of the call), a virtual and/or physical place where homeowners can find all information and services, offering integrated renovation solutions with the main intention of simplifying the decision process for homeowners. Considering the need for user-friendly interactions, AI-based and user-oriented interfaces (e.g. chatbot) are proposed that allow the integration of the various technical and management tools and provide support and recommendations around the communities of data and information associated with them. Energy-communities

planning and operational optimization (Area of intervention #1, point 6 of the call). Analysis and optimisation of collective renewable energy self-consumption through batteries integration, dynamic coefficients, demand-side control, grid flexibility, etc., at both urban and single-facility level. Includes multi-criteria dynamic optimization of each PS to which collective self-consumption installation to assign and with what distribution; additionally, real-time generation data facilitates day-to-day operation, and the optimization of coefficients. Algorithms and virtual assistants (Area of intervention #1, point 6 of the call), to guide involved entities towards the sustainable practices in the signed commitments and compensation strategies and estimations engines for carbon footprint reduction fostering of companies like reforestation initiatives. Approach for the foundations for urban Heating and Cooling decarbonization actions (Area of intervention #1, pint 7 of the call). Definition of an approach for urban energy infrastructures analysis and decarbonization strategies definition, considering the activities of housing and industry renovations, enabling an evidence-based decision making during later development of actions such as an Energy Master Plan or Heating and Cooling Plan.
T5.3 Innovative charging solutions (Lead: VTT Participants: MUN, ETRA, DFP, KENT, REM) (M1-M42). (Area of intervention #1, point 6 of the call). As the AV proposed for this solution are electric-powered and have a limited operating range, energy requirements must be considered in the concept design. This can be achieved by modelling the vehicle's operation during a day of service and estimating the corresponding energy needs. With these estimations, charging requirements can be identified, and the modelling of optimal charging cycles can be carried out. In addition, the use of EV car fleet as a temporary energy storage and source of energy, based on the current needs in the local energy system, is also be developed and piloted. One of the interesting concepts is bi-directional charging (V2G) optimization i.e., the use of AV batteries as energy storage for green electricity. This task develops a dynamic EV fleet management concept which handles the fleet orchestration to wireless charging on route charging points and/or in depot/garage with automated park & charge functionality.
T5.4 Climate-proofing of sustainable mobility and energy planning (Lead: TEC Participants: MUN, ETRA, DFP, FLO, KENT, VCE, SPES, DBC, LAT) (M1-M42). (Area of intervention #1, point 7 of the call). In this area, mobility and energy are analysed, that is, the perspective of adaptation to the climate change. The provision of a software tool for route identification is proposed, applying AI techniques in relation to thermal stress with the decarbonized mobility framework to avoid seasonality, specifically, considering schoolchildren and vulnerable people, as well as the potential existence of climate refugee camps. On the other hand, based on a specific scenario, analyse the incorporation of the climate protection perspective into the methodological proposal in the preparation of the Heating and Cooling Plan (T5.2), getting conclusions for the future deployment in Europe.

Work package WP6 – City Living Labs

Work Package Number	WP6	**Lead Beneficiary**	7 - VIC
Work Package Name	City Living Labs		
Start Month	3	**End Month**	40

Objectives
WP6 manages the whole local life cycle of the URBAN-FLOW CLs in the 3 pilot cities, and the related activities. It establishes the CL in the pilot cities, manages the local activities. It engages the local stakeholders participating in the CL activities, define the local baseline, co-designs and e perform ex-ante evaluation of possible interventions, co-defines the selected interventions to be implemented and deployed, as well as manages and implements the concrete interventions. Finally, it performs the local impact assessment generated by implemented solutions. The work carried out by WP6 is in coordination with T2.2 for what concern the CLs and T2.3 and concern the scenarios to be implemented; achieved results will be assessed in WP7.

Description
T6.1 City Living Labs coordination and synchronisation (Lead: VIC Participants: LC, ENG, MUN, CKIC, EIT UM, CEF, VLC, FLO, BT, APRE, PV) (M3-M40) T6.1 ensures the proper coordination and synchronisation of the activities of the three URBAN-FLOW CLs in the cities of València, Florence and Tampere (which specific activities are carried out in the other tasks of this WP). T6.1 implements a continuous collaboration with T2.2 where the CLs are established (to guarantee coherence with the overall URBAN-FLOW methodology) and T7.4 to provide the latter with needed information for the impact assessment at the local level. T6.2 Urban interventions preparation and management in València (Lead: VIC Participants: TEC, ETRA, EMT, VLC,

VCE) (M12-M40) Based on the “as is and to be scenarios” (WP2), T6.2 manages administrative procedures and procurements needed at local level for the implementation of València pilot. It synchronises continuously with T6.3 and T6.4 to steer the implementation and deployment activities of both local urban intervention and the setting of the URBAN-FLOW LDT in València. In T6.2 possible modifications of the pilot configuration are done based on the stakeholder feedback and monitoring KPIs.
T6.3 Implementation of urban interventions in València (Lead: VIC Participants: TEC, ETRA, EMT, UPV, VLC, VCE) (M12-M40) T6.3 involves the implementation and deployment of the selected intervention and policies into the city of València, under the direction of T6.2. T6.3 performs a continuous monitoring of the progress and aligns with T6.2 to inform it about potential delays, administrative issues, etc. to be managed. València will focus on the implementation of proposed interventions summarized in §1.2.1.2.
T6.4 Setting of URBAN-FLOW LDT in València (Lead: TEC Participants: ETRA, UTA, VIC, EMT, UPV, IMEC, VLC, KENT, VCE, LAT) (M12-M40) T6.4 manages for València of the reference URBAN-FLOW LDT and its integration with the local IT infrastructures and services. To this aim, T6.4 identifies available data sources and local IT systems and in cooperation with T2.5, T6.2 and T6.3 ensures that these can be accessed and connected to the local implementation of the URBAN-FLOW LDT. T6.4 also selects and customises the tools provided by WP3, WP4 and WP5 according to specific local needs of València (§1.2.1.4).
T6.5 Urban interventions preparation and management in Florence (Lead: FLO Participants: MUN, SAS, SPES) (M12-M40) Based on the “as is and to be scenarios” (WP2), T6.5 manages administrative procedures and procurements needed at local level for the implementation of Florence pilot. It synchronises continuously with T6.6 and T6.7 to steer the implementation and deployment activities of both local urban intervention and the setting of the URBAN-FLOW LDT in Florence. In T.5, possible changes to the pilot configuration are also done based on the stakeholder feedback and monitoring KPIs.
T6.6 Implementation of urban interventions in Florence (Lead: SAS Participants: MUN, FLO, SPES) (M12-M40) T6.6 involves the implementation and deployment of the selected intervention and policies into the city of Florence, under the direction of T6.5. T6.6 performs a continuous monitoring of the progress and aligns with T6.2 to inform it about potential delays, administrative issues, etc. to be managed. Florence will focus on the implementation of proposed interventions summarized in §1.2.1.2.
T6.7 Setting of URBAN-FLOW LDT in Florence (Lead: MUN Participants: UTA, IMEC, FLO, KENT, SAS, SPES, LAT) (M12-M40) T6.7 manages the customization for Florence of the reference URBAN-FLOW LDT and its integration with the local IT infrastructures and services. To this aim, T6.7 identifies available data sources and local IT systems and in cooperation with T2.5, T6.5 and T6.6 ensures that these can be accessed and connected to the local implementation of the URBAN-FLOW LDT. T6.7 also selects and customises the tools provided by WP3, WP4 and WP5 according to specific local needs of Florence (§1.2.1.4).
T6.8 Urban interventions preparation and management in Tampere (Lead: BT Participants: VTT, REM) (M12-M40) Based on the “as is and to be scenarios” (WP2), T6.8 manages administrative procedures and procurements needed at local level for the implementation of Tampere pilot. It synchronises continuously with T6.9 and T6.10 to steer the implementation and deployment activities of both local urban intervention and the setting of the URBAN-FLOW LDT in Tampere. In T6.8, possible changes to the pilot configuration are also done based on the stakeholder feedback and monitoring KPIs.
T6.9 Implementation of urban interventions in Tampere (Lead: REM; Participants: VTT, BT) (M12-M40) T6.9 involves the implementation and deployment of the selected intervention and policies into the city of Tampere, under the direction of T6.8. T6.9 performs a continuous monitoring of the progress and aligns with T6.9 to inform it about potential delays, administrative issues, etc. to be managed. Tampere will focus on the implementation of proposed interventions summarized in §1.2.1.2.
T6.10 Setting of URBAN-FLOW LDT in Tampere (Lead: BT Participants: UTA, VTT, IMEC, KENT, REM, LAT) (M12-M40) T6.10 manages the customization for Tampere of the reference URBAN-FLOW LDT and its integration with the local IT infrastructures and services. To this aim, T6.10 identifies available data sources and local IT systems and in cooperation with T2.5, T6.8 and T6.9 ensures that these can be accessed and connected to the local implementation of the URBAN-FLOW LDT. T6.10 also selects and customises the tools provided by WP3, WP4 and WP5 according to specific local needs of Tampere (§1.2.1.4).

Work package WP7 – Scale Up and Replication

Work Package Number	WP7	**Lead Beneficiary**	24 - EIT UM
Work Package Name	Scale Up and Replication		
Start Month	10	**End Month**	48

Objectives
WP7 will create mechanisms for the replication of URBAN-FLOW solutions and bridge cities' capacity gaps through a Community of Practice knowledge transfer programme between LEADCs and REPCs (T7.1) and a Transversal Capacity Building Programme (T7.2) for LEADC's and REPC's stakeholders. REPCs will translate project solutions to their local context through individual replication roadmaps (T7.3), which together with the overall impact assessment (T7.4) will inform the URBAN-FLOW Transferability Guidelines (T7.5) that enable the replication of project solutions in other European cities.

Description
T7.1 Mutual learning and practices exchange among URBAN-FLOW cities and beyond (Lead: EIT UM Participants: LC, CKIC, OASC, UTA, VIC, CEF, UPV, UEDIN, DFP, all cities, SPES, CSCC, APRE, PV) (M10-M42). T7.1 establishes a Community of Practice knowledge transfer programme to foster collaboration and peer-to-peer learning between LEADs and REPCs. Cities' needs and expectations regarding collaboration processes and topical areas are discussed to co-create this programme. The EU Cities Mission Portal is used as learning platform for the cities to gather lessons learnt and inform the replication of URBAN-FLOW solutions with the potential to connect to other Mission and non-Mission Cities. Joint sessions are organised to build on existing NetZeroCities' peer-to-peer learning activities as identified in T1.5. T7.2 Transversal capacity building programme (Lead: CKIC Participants: LC, OASC, UTA, EIT UM, VIC, DFP, all cities, APRE) (M10-M42). T7.2 implements a city-needs driven Capacity Building programme across LEADCs and REPCs activities, training activities and interactive webinars across a range of transversal topics (systems and social innovation, governance, policy, citizen engagement, behavioural change, financing opportunities), building on and leveraging synergies with the NetZeroCities' Capacity Building Programme. T7.2 assists the stakeholders' community to create a common readiness level to define challenges, drivers and needs, recognising the varied needs among city governments, regional governments, and national enabling conditions. Training sessions in LEADC and REPC supports stakeholders' participation to the phases of the demonstration activities, and NetZeroCities; it integrates trainings in the Mission portal for wider accessibility. 3 capacity building workshops are organized with representatives of other cities with WP8. T7.3 Climate-Neutral Replication plans of REPCs (Lead: EIT UM Participants: LC, MUN, TEC, ETRA, CKIC, OASC, UTA, VTT, CEF, UEDIN, DFP, all RPCs, KENT, SPES, CSCC, APRE, PV) (M24-M48). In T7.3, REPCs develop a tailored Climate-Neutral Replication Plan to adapt the URBAN-FLOW solutions to their specific local context through a participatory peer-to-peer mentoring process. Through online workshops and site visits, REPCs analyses local conditions, value proposition, and identify key enablers and barriers for replication of project measures, leveraging learnings from the knowledge exchange (T7.1) and capacity building (T7.2). The replication plans serve as a critical step toward the URBAN-FLOW Transferability Guidelines (T7.5). T7.4 Overall project impact assessment (Lead: DFP Participants: LC, CKIC, UTA, VTT, EIT UM, VIC, UPV, all cities, VCE, SAS, SPES, APRE, PV) (M24-M48). T7.4 assesses the overall impact of the project at both local (i.e. pilot) and global levels, based on the pathways, the scale and significance and the barriers and conditions described in §2.1, covering and considering all the three social, economic, and environmental dimensions, updating pathways where needed. KPIs are periodically revised to incorporate feedback from demonstration and stakeholder's engagement activities. Towards this, T7.4 conducts desktop research and organises workshops (M30, M42) coupled with interviews of selected key stakeholders representing the target groups (e.g. experts from the field of liaised initiatives at the EU level and other research and innovation projects A survey (from M40 to M42) will collect input on specific project impacts. T7.5 URBAN-FLOW results transferability guidelines and recommendations (Lead: EIT UM Participants: LC, MUN, TEC, ETRA, CKIC, OASC, UTA, VIC, CEF, DFP, all cities, VCE, SAS, SPES, APRE, PV) (M24-M48). This task will bolster conditions and requirements to ensure that the project solutions are transferable and scalable. The outcomes of T7.1, T7.3 and T7.4 will form the basis of the URBAN-FLOW Transferability Guidelines and cover the context conditions, barriers, prerequisites and steps for replicating the project solutions for reallocation of public space, dynamic curb-side management, mobility services integration and re-design of infrastructure, as well as smart energy systems. They will include targeted deployment and policy recommendations based on the outcomes of the validation workshops and policy dialogues in T8.2, data interoperability and standardisation (T8.4) and guide future tender specifications.

Work package WP8 – Communication, Dissemination and Exploitation

Work Package Number	WP8	Lead Beneficiary	32 - D4P
Work Package Name	Communication, Dissemination and Exploitation		

Start Month	1	End Month	48

Objectives
The objectives are as follows: 1) Communicate project results towards the scientific, academic, technical and industry audience.; 2) Foster project's findings and results towards public, policy makers, scientific, technical and industrial audience; 3) Boost wider uptake of URBAN FLOW solutions in European cities through engagement of Observer Cities; 4) Maximise impact through standardisation activities; 5) Ensure long-lasting exploitation of project results. The project will contribute, upon invitation by the CINEA, to common information and dissemination activities to increase the visibility and synergies between HE/H2020 supported actions.

Description
T8.1: Communication and Dissemination plan and activities (Lead: DFP Participants: LC, ENG, MUN, TEC, ETRA, CKIC, OASC, UTA, VTT, EIT UM, VIC, CEF, UPV, UEDIN, IMEC, all cities, KENT, REM, CSCC, APRE, PV, DBC, LAT) (M1-M48). T8.1 promotes the URBAN-FLOW project to key audiences and aligning all partners around shared objectives for maximum outreach. It develops a unified strategy and roadmap for communication and dissemination and implements the related activities. It establishes the project's website, social media channels, and offline materials. T8.1 disseminates project results and best practices, by targeting relevant stakeholders, organising events, and publishing of project results. T8.2: Boost wider uptake of URBAN-FLOW solutions through policy dialogues and engagement of Mission cities (Lead: LC Participants: CKIC, OASC, UTA, VTT, EIT UM, DFP, APRE) (M12-M48). T8.2 builds upon the URBAN-FLOW findings and key issues to inform policy dialogues and wider engagement of policymakers and local government across Europe. This will be done through policy dialogues with policy makers, industry representatives and key stakeholders to inform the policy recommendations to boost the replication and large-scale uptake of URBAN-FLOW solutions (T7.5). Furthermore, T8.2 will focus on the broader exchange potential considering URBAN-FLOW solutions beyond the project consortium and across Europe. 10-15 Mission cities will be selected through and EoI to participate in a series of highly focused workshops that set the scene, present cases and learnings, and validate the draft URBAN-FLOW Transferability Guidelines. T8.3 Networking and collaboration with relevant initiatives (Lead: DFP Participants: LC, MUN, CKIC, OASC, UTA, EIT UM, VIC, CEF, UEDIN, IMEC, DFP, KENT, CSCC, APRE, PV) (M1-M48). T8.3 leads networking and collaboration activities to stimulate strategic alliances with relevant projects and initiatives in coordination with T1.5. It fosters synergies with other EU R&I activities and the growth of the community, knowledge exchange, networking and best practices promotion. Based on stakeholders' mapping, an action plan details how to build meaningful results out of the partnerships established and to make best use of the exchange knowledge and community ecosystem. T8.3 organises workshops and events, seeks participation in external events and jointly organised activities with other initiatives with special focus on the projects funded under similar topics. T8.4 Synergies with data interoperability and standardization initiatives (Lead: OASC Participants: LC, ENG, MUN, OASC, UTA, EIT UM, CEF, IMEC, DFP, KENT, APRE, DBC, LAT) (M1-M48) T8.4 links the existing work, especially in WP3, to relevant technical initiatives and activities, such as the European Data Space activities, the Living-in.EU Tech Working Group, MIMs working groups, and standardization forums (CEN-CENELEC/ETSI; ITU), as well as standardisation initiatives in the mobility domain related to standards such as NeTEx, SIRI, DATEXII, and mobility DCAT-AP. The goal is to ensure close alignment with ongoing developments throughout the project's timeline and to generate impact by endorsing or expanding existing work through the URBAN-FLOW research findings. Contributing data interoperability lessons, also linked to policy recommendations developed in T7.5 and to initiatives and projects in the domain of technologies for smart communities further adds to the priority of bolstering overall (technical- and non-technical) interoperability and shared standards. T8.5 Exploitation of project results (Lead: EIT UM Participants: LC, MUN, TEC, ETRA, UTA, VTT, IMEC, DFP, KENT, SAS, SPES, REM, PV, DBC, LAT) (M1-M48). T8.5 focuses on developing an exploitation strategy (D8.1) and Business Models and City Mission Canvases (D8.4) to maximize the impact and scalability of URBAN-FLOW solutions. T8.5 will assess the commercial and non-commercial exploitation of KERs, ensuring a comprehensive approach to the project's sustainability and impact. A key objective is to co-design sustainable BM guidelines incorporating quantitative and qualitative metrics that address fair value distribution, stakeholder trust, and governance. T8.5 will develop adaptable and transferable Business Models for services and City Mission Canvases for cities. These models will balance economic viability with equitable value sharing, ensuring long-term data availability and fostering transparent, scalable data ecosystems. Additionally, the task will establish sustainable BM for data ecosystems, including BM scenarios that support long-term collaboration within data spaces (T3.3, T8.4). Thanks to the CN Composite index (T3.6), it organises

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at least 2 workshops with impact investors potentially interested in co-funding the project KERs and/or the CN measures implemented in LEADCs.

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STAFF EFFORT

Staff effort per participant

Grant Preparation (Work packages - Effort screen) — Enter the info.

Participant	WP1	WP2	WP3	WP4	WP5	WP6	WP7	WP8	Total Person-Months
1 - LC	42.00	18.00	6.00			3.00	14.00	26.00	109.00
2 - IMEC	1.00	23.00	12.00			9.00		12.00	57.00
3 - VTT		3.00	3.00	3.00	15.00	12.00	5.00	3.00	44.00
4 - TEC	2.00		18.00	15.00	22.00	32.00	3.00	3.00	95.00
5 - UPV		6.00		17.00	5.00	20.00	5.00	2.00	55.00
6 - UEDIN		4.00					7.00	3.00	14.00
7 - VIC	1.00	10.00	2.00	1.00	1.00	39.00	12.00	8.00	74.00
8 - EMT						14.00			14.00
9 - VCE		3.00			19.00	26.00	6.00		54.00
10 - APRE	1.00	41.00				6.00	13.00	11.00	72.00
11 - ENG	12.00	5.00	41.00			2.00		3.00	63.00
12 - MUN		7.00	22.00	28.00	4.00	37.00	8.00	9.00	115.00
13 - ETRA	2.00		8.00	35.00	19.00	31.00	3.00	6.00	104.00
14 - CEF		25.00	4.00			3.00	6.00	6.00	44.00
15 - KENT			22.00	12.00	12.00	6.00	2.00	12.00	66.00
16 - SAS		3.00		4.00	9.00	29.00	6.00	2.00	53.00
17 - SPES		14.00	2.00		12.00	30.00	17.00	2.00	77.00
18 - REM			3.00	9.00	16.00	32.00		6.00	66.00
19 - DBC	8.00		6.00	6.00	4.00			4.00	28.00

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Staff effort per participant

Grant Preparation (Work packages - Effort screen) — Enter the info.

Participant	WP1	WP2	WP3	WP4	WP5	WP6	WP7	WP8	Total Person-Months
20 - LAT			10.00	12.00	8.00	6.00		4.00	40.00
21 - PV	1.00	14.00	16.00			6.00	18.00	5.00	60.00
22 - OASC		8.00	12.00				8.00	12.00	40.00
23 - CKIC	1.00	6.00				3.00	16.00	2.00	28.00
24 - EIT UM	5.00	8.00	4.00			2.00	31.00	21.00	71.00
25 - CSCC	2.00	14.00					30.00	6.00	52.00
26 - VLC	2.00	6.00	1.00			4.00	4.00	1.00	18.00
27 - FLO	2.00	14.00	3.00	5.00	1.00	44.00	19.00	3.00	91.00
28 - BT	2.00	12.00				33.00	8.00	2.00	57.00
29 - CEC	2.00	7.00					13.00	1.00	23.00
30 - BRU	2.00	7.00					13.00	2.00	24.00
31 - UTA	1.00	11.00	4.00			6.00	14.00	14.00	50.00
32 - D4P	2.00	11.00	24.00		6.00		27.00	38.00	108.00
Total Person-Months	91.00	280.00	223.00	147.00	153.00	435.00	308.00	229.00	1866.00

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LIST OF DELIVERABLES

Deliverables

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Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
D1.1	Project management handbook	WP1	1 - LC	R — Document, report	SEN - Sensitive	3
D1.2	Data management plan and research ethics - V1	WP1	1 - LC	DMP — Data Management Plan	SEN - Sensitive	6
D1.3	Data management plan and research ethics - V2	WP1	1 - LC	DMP — Data Management Plan	SEN - Sensitive	18
D1.4	Data management plan and research ethics - V4	WP1	1 - LC	DMP — Data Management Plan	SEN - Sensitive	48
D1.5	URBAN-FLOW contribution to the Mission Platform - V1	WP1	24 - EIT UM	R — Document, report	PU - Public	24
D1.6	URBAN-FLOW contribution to the Mission Platform - V2	WP1	24 - EIT UM	R — Document, report	PU - Public	48
D1.7	Data management plan - V3	WP1	1 - LC	DMP — Data Management Plan	SEN - Sensitive	36
D2.1	URBAN FLOW Engagement Strategy and City Living Lab Methodology and coordination framework V1	WP2	10 - APRE	R — Document, report	PU - Public	12
D2.2	URBAN FLOW Engagement Strategy	WP2	10 - APRE	R — Document, report	PU - Public	40

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Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
	and City Living Lab Methodology and coordination framework V2					
D2.3	City Living Labs context and Reference Scenarios	WP2	14 - CEF	R — Document, report	PU - Public	18
D2.4	URBAN FLOW Impact Assessment Framework V1	WP2	21 - PV	R — Document, report	PU - Public	12
D2.5	URBAN FLOW Impact Assessment Framework V2	WP2	21 - PV	R — Document, report	PU - Public	24
D2.6	URBAN FLOW Impact Assessment Framework V3	WP2	21 - PV	R — Document, report	PU - Public	40
D2.7	Principles and tools for mobility data governance and alignment with Mobility Data Spaces - V1	WP2	2 - IMEC	R — Document, report	PU - Public	12
D2.8	Principles and tools for mobility data governance and alignment with Mobility Data Spaces - V2	WP2	2 - IMEC	R — Document, report	PU - Public	24
D2.9	Principles and tools for mobility data governance and alignment with Mobility Data Spaces - V3	WP2	2 - IMEC	R — Document, report	PU - Public	40
D2.10	Common procurement rules and demonstration plans of interventions V1	WP2	1 - LC	R — Document, report	PU - Public	12

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Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
D2.11	Common procurement rules and demonstration plans of interventions V2	WP2	1 - LC	R — Document, report	PU - Public	24
D3.1	URBAN-FLOW platform specifications - V1	WP3	11 - ENG	R — Document, report	PU - Public	8
D3.2	URBAN-FLOW platform specifications - V2	WP3	11 - ENG	R — Document, report	PU - Public	42
D3.3	Data management tools and Online collaboration platform V1	WP3	11 - ENG	DEM — Demonstrator, pilot, prototype	PU - Public	12
D3.4	Data management tools and Online collaboration platform V2	WP3	11 - ENG	DEM — Demonstrator, pilot, prototype	PU - Public	24
D3.5	Data management tools and Online collaboration platform V3	WP3	11 - ENG	DEM — Demonstrator, pilot, prototype	PU - Public	42
D3.6	URBAN-FLOW platform - V1	WP3	4 - TEC	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	18
D3.7	URBAN-FLOW platform - V2	WP3	4 - TEC	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	30
D3.8	URBAN-FLOW platform - V3	WP3	4 - TEC	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	42
D3.9	Solutions for Health Impact Assessment and CN Composite Index - V1	WP3	21 - PV	DEM — Demonstrator, pilot, prototype	PU - Public	12

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Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
D3.10	Solutions for Health Impact Assessment and CN Composite Index - V2	WP3	21 - PV	DEM — Demonstrator, pilot, prototype	PU - Public	24
D3.11	Solutions for Health Impact Assessment and CN Composite Index - V3	WP3	21 - PV	DEM — Demonstrator, pilot, prototype	PU - Public	42
D4.1	Digitally Assisted Urban Planning and Design Toolkit - V1	WP4	4 - TEC	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	12
D4.2	Digitally Assisted Urban Planning and Design Toolkit - V2	WP4	4 - TEC	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	24
D4.3	Digitally Assisted Urban Planning and Design Toolkit - V3	WP4	4 - TEC	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	42
D4.4	Optimized EV Charging Infrastructure - V1	WP4	13 - ETRA	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	12
D4.5	Optimized EV Charging Infrastructure - V2	WP4	13 - ETRA	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	24
D4.6	Optimized EV Charging Infrastructure - V3	WP4	13 - ETRA	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	42
D4.7	Dynamic Curb-Side and Urban Space Management System V1	WP4	13 - ETRA	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	12
D4.8	Dynamic Curb-Side and Urban Space Management System V2	WP4	13 - ETRA	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	24

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Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
D4.9	Dynamic Curb-Side and Urban Space Management System V3	WP4	13 - ETRA	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	42
D5.1	Multimodal and on-demand last-first-mile services based on CCAVs V1	WP5	18 - REM	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	12
D5.2	Multimodal and on-demand last-first-mile services based on CCAVs V2	WP5	18 - REM	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	24
D5.3	Multimodal and on-demand last-first-mile services based on CCAVs V3	WP5	18 - REM	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	42
D5.4	Solutions for coordinated energy management - V1	WP5	4 - TEC	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	12
D5.5	Solutions for coordinated energy management - V2	WP5	4 - TEC	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	24
D5.6	Solutions for coordinated energy management - V3	WP5	4 - TEC	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	42
D5.7	Innovative charging solutions - V1	WP5	3 - VTT	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	12
D5.8	Innovative charging solutions - V2	WP5	3 - VTT	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	24
D5.9	Innovative charging solutions - V3	WP5	3 - VTT	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	42

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

Deliverables

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Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
D5.10	Tools for footprint compensation and reducing recommendations - V1	WP5	5 - UPV	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	12
D5.11	Tools for footprint compensation and reducing recommendations - V2	WP5	5 - UPV	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	24
D5.12	Tools for footprint compensation and reducing recommendations - V3	WP5	3 - VTT	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	42
D6.1	City Living Labs logbook - V1	WP6	7 - VIC	R — Document, report	PU - Public	28
D6.2	City Living Labs logbook - V2	WP6	7 - VIC	R — Document, report	PU - Public	40
D6.3	Valencia pilot implementation - V1	WP6	7 - VIC	R — Document, report	SEN - Sensitive	28
D6.4	Valencia pilot implementation - V2	WP6	7 - VIC	R — Document, report	SEN - Sensitive	40
D6.5	Florence pilot implementation - V1	WP6	27 - FLO	R — Document, report	SEN - Sensitive	28
D6.6	Florence pilot implementation - V2	WP6	27 - FLO	R — Document, report	SEN - Sensitive	40
D6.7	Tampere pilot implementation - V1	WP6	28 - BT	R — Document, report	SEN - Sensitive	28
D6.8	Tampere pilot implementation - V2	WP6	28 - BT	R — Document, report	SEN - Sensitive	40
D7.1	Mutual Learning and Capacity Building - V1	WP7	24 - EIT UM	R — Document, report	PU - Public	26
D7.2	Mutual Learning and Capacity Building - V2	WP7	24 - EIT UM	R — Document, report	PU - Public	42
D7.3	Climate-Neutral Replication Plans	WP7	24 - EIT UM	R — Document, report	PU - Public	48
D7.4	Overall Impact Assessment	WP7	1 - LC	R — Document, report	PU - Public	48

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Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
D7.5	Transferability Guidelines	WP7	24 - EIT UM	R — Document, report	PU - Public	48
D8.1	URBAN-FLOW Plan for dissemination and exploitation including communication activities - V1	WP8	32 - D4P	R — Document, report	SEN - Sensitive	6
D8.2	URBAN-FLOW Plan for dissemination and exploitation including communication activities - V2	WP8	32 - D4P	R — Document, report	SEN - Sensitive	24
D8.3	URBAN-FLOW Plan for dissemination and exploitation including communication activities - V3	WP8	32 - D4P	R — Document, report	SEN - Sensitive	36
D8.4	URBAN-FLOW Plan for dissemination and exploitation including communication activities - V4	WP8	32 - D4P	R — Document, report	SEN - Sensitive	48
D8.5	Validation workshops and policy dialogues - V1	WP8	23 - CKIC	R — Document, report	PU - Public	24
D8.6	Validation workshops and policy dialogues - V2	WP8	23 - CKIC	R — Document, report	PU - Public	48
D8.7	Data interoperability and standardization - V1	WP8	22 - OASC	R — Document, report	PU - Public	24
D8.8	Data interoperability and standardization - V2	WP8	22 - OASC	R — Document, report	PU - Public	48

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Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
D8.9	Business Models for services and Cities Mission Canvas - V1	WP8	24 - EIT UM	R — Document, report	SEN - Sensitive	24
D8.10	Business Models for services and Cities Mission Canvas - V2	WP8	24 - EIT UM	R — Document, report	SEN - Sensitive	48

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Deliverable D1.1 – Project management handbook

Deliverable Number	D1.1	Lead Beneficiary	1 - LC
Deliverable Name	Project management handbook		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	3	Work Package No	WP1

Description
Provides the operational and procedural framework for project coordination, quality assurance, risk management, ethics and internal communication protocols.

Deliverable D1.2 – Data management plan and research ethics - V1

Deliverable Number	D1.2	Lead Beneficiary	1 - LC
Deliverable Name	Data management plan and research ethics - V1		
Type	DMP — Data Management Plan	Dissemination Level	SEN - Sensitive
Due Date (month)	6	Work Package No	WP1

Description
Data management and research ethics plans to improve and maximise access and reuse of data and knowledge generated by the project, and ensure compliance with ethical requirements. Version 1

Deliverable D1.3 – Data management plan and research ethics - V2

Deliverable Number	D1.3	Lead Beneficiary	1 - LC
Deliverable Name	Data management plan and research ethics - V2		
Type	DMP — Data Management Plan	Dissemination Level	SEN - Sensitive
Due Date (month)	18	Work Package No	WP1

Description
Data management and research ethics plans to improve and maximise access and reuse of data and knowledge generated by the project, and ensure compliance with ethical requirements. Version 2

Deliverable D1.4 – Data management plan and research ethics - V4

Deliverable Number	D1.4	Lead Beneficiary	1 - LC
Deliverable Name	Data management plan and research ethics - V4		
Type	DMP — Data Management Plan	Dissemination Level	SEN - Sensitive
Due Date (month)	48	Work Package No	WP1

Description
Data management and research ethics plans to improve and maximise access and reuse of data and knowledge generated by the project, and ensure compliance with ethical requirements. Version 4

Deliverable D1.5 – URBAN-FLOW contribution to the Mission Platform - V1

Deliverable Number	D1.5	**Lead Beneficiary**	24 - EIT UM
Deliverable Name	URBAN-FLOW contribution to the Mission Platform - V1		
Type	R — Document, report	**Dissemination Level**	PU - Public
Due Date (month)	24	**Work Package No**	WP1

Description
Reports that showcase how project outcomes and insights contribute to the European Mission Platform, aligning with the 112 Climate-Neutral Cities initiative. Version 1.

Deliverable D1.6 – URBAN-FLOW contribution to the Mission Platform - V2

Deliverable Number	D1.6	**Lead Beneficiary**	24 - EIT UM
Deliverable Name	URBAN-FLOW contribution to the Mission Platform - V2		
Type	R — Document, report	**Dissemination Level**	PU - Public
Due Date (month)	48	**Work Package No**	WP1

Description
Reports that showcase how project outcomes and insights contribute to the European Mission Platform, aligning with the 112 Climate-Neutral Cities initiative. Version 2

Deliverable D1.7 – Data management plan - V3

Deliverable Number	D1.7	**Lead Beneficiary**	1 - LC
Deliverable Name	Data management plan - V3		
Type	DMP — Data Management Plan	**Dissemination Level**	SEN - Sensitive
Due Date (month)	36	**Work Package No**	WP1

Description
Data management and research ethics plans to improve and maximise access and reuse of data and knowledge generated by the project, and ensure compliance with ethical requirements. Version 3

Deliverable D2.1 – URBAN FLOW Engagement Strategy and City Living Lab Methodology and coordination framework V1

Deliverable Number	D2.1	**Lead Beneficiary**	10 - APRE

Deliverable Name	URBAN FLOW Engagement Strategy and City Living Lab Methodology and coordination framework V1		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	12	Work Package No	WP2

Description
Defines the citizen and stakeholder engagement roadmap, Living Lab setup, and coordination mechanisms across demonstration sites and partners. Version 1

Deliverable D2.2 – URBAN FLOW Engagement Strategy and City Living Lab Methodology and coordination framework V2

Deliverable Number	D2.2	Lead Beneficiary	10 - APRE
Deliverable Name	URBAN FLOW Engagement Strategy and City Living Lab Methodology and coordination framework V2		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	40	Work Package No	WP2

Description
Defines the citizen and stakeholder engagement roadmap, Living Lab setup, and coordination mechanisms across demonstration sites and partners. Version 2

Deliverable D2.3 – City Living Labs context and Reference Scenarios

Deliverable Number	D2.3	Lead Beneficiary	14 - CEF
Deliverable Name	City Living Labs context and Reference Scenarios		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	18	Work Package No	WP2

Description
Describes each Living Lab’s local context and develops forward-looking scenarios to guide interventions and assessment: challenges, drivers, enablers and references “as is” and “to be” scenarios in LEADCs and REPCs.

Deliverable D2.4 – URBAN FLOW Impact Assessment Framework V1

Deliverable Number	D2.4	Lead Beneficiary	21 - PV
Deliverable Name	URBAN FLOW Impact Assessment Framework V1		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	12	Work Package No	WP2

Description
Provides a structured methodology to assess social, environmental, economic, and governance impacts of interventions and co-created solutions over time. Version 1

 Associated with document Ref. Ares(2025)8627308 - 10/10/2025

Deliverable D2.5 – URBAN FLOW Impact Assessment Framework V2

Deliverable Number	D2.5	Lead Beneficiary	21 - PV
Deliverable Name	URBAN FLOW Impact Assessment Framework V2		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	24	Work Package No	WP2

Description
Provides a structured methodology to assess social, environmental, economic, and governance impacts of interventions and co-created solutions over time. Version 2

Deliverable D2.6 – URBAN FLOW Impact Assessment Framework V3

Deliverable Number	D2.6	Lead Beneficiary	21 - PV
Deliverable Name	URBAN FLOW Impact Assessment Framework V3		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	40	Work Package No	WP2

Description
Provides a structured methodology to assess social, environmental, economic, and governance impacts of interventions and co-created solutions over time. Version 3

Deliverable D2.7 – Principles and tools for mobility data governance and alignment with Mobility Data Spaces - V1

Deliverable Number	D2.7	Lead Beneficiary	2 - IMEC
Deliverable Name	Principles and tools for mobility data governance and alignment with Mobility Data Spaces - V1		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	12	Work Package No	WP2

Description
Delivers tools and frameworks to ensure secure, interoperable, and ethical sharing of mobility data, aligned with European data spaces and governance principles within the pilot cities. Version 1

Deliverable D2.8 – Principles and tools for mobility data governance and alignment with Mobility Data Spaces - V2

Deliverable Number	D2.8	Lead Beneficiary	2 - IMEC
Deliverable Name	Principles and tools for mobility data governance and alignment with Mobility Data Spaces - V2		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	24	Work Package No	WP2

Description
Delivers tools and frameworks to ensure secure, interoperable, and ethical sharing of mobility data, aligned with European data spaces and governance principles within the pilot cities. Version 2

Deliverable D2.9 – Principles and tools for mobility data governance and alignment with Mobility Data Spaces - V3

Deliverable Number	D2.9	**Lead Beneficiary**	2 - IMEC
Deliverable Name	Principles and tools for mobility data governance and alignment with Mobility Data Spaces - V3		
Type	R — Document, report	**Dissemination Level**	PU - Public
Due Date (month)	40	**Work Package No**	WP2

Description
Delivers tools and frameworks to ensure secure, interoperable, and ethical sharing of mobility data, aligned with European data spaces and governance principles within the pilot cities. Version 3

Deliverable D2.10 – Common procurement rules and demonstration plans of interventions V1

Deliverable Number	D2.10	**Lead Beneficiary**	1 - LC
Deliverable Name	Common procurement rules and demonstration plans of interventions V1		
Type	R — Document, report	**Dissemination Level**	PU - Public
Due Date (month)	12	**Work Package No**	WP2

Description
Unified procurement guidelines and demonstration plans for co-created interventions, to ensures scalability, regulatory compliance, and streamlined management in CLs. Version 1

Deliverable D2.11 – Common procurement rules and demonstration plans of interventions V2

Deliverable Number	D2.11	**Lead Beneficiary**	1 - LC
Deliverable Name	Common procurement rules and demonstration plans of interventions V2		
Type	R — Document, report	**Dissemination Level**	PU - Public
Due Date (month)	24	**Work Package No**	WP2

Description
Unified procurement guidelines and demonstration plans for co-created interventions, to ensures scalability, regulatory compliance, and streamlined management in CLs. Version 2

Deliverable D3.1 – URBAN-FLOW platform specifications - V1

Deliverable Number	D3.1	**Lead Beneficiary**	11 - ENG
Deliverable Name	URBAN-FLOW platform specifications - V1		

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

Type	R — Document, report	**Dissemination Level**	PU - Public
Due Date (month)	8	**Work Package No**	WP3

Description
Defines the architecture and functional specifications for the project's core digital platform: technical specifications and reference IT architecture of the URBAN-FLOW LDT. Version 1

Deliverable D3.2 – URBAN-FLOW platform specifications - V2

Deliverable Number	D3.2	**Lead Beneficiary**	11 - ENG
Deliverable Name	URBAN-FLOW platform specifications - V2		
Type	R — Document, report	**Dissemination Level**	PU - Public
Due Date (month)	42	**Work Package No**	WP3

Description
Defines the architecture and functional specifications for the project's core digital platform: technical specifications and reference IT architecture of the URBAN-FLOW LDT. Version 2

Deliverable D3.3 – Data management tools and Online collaboration platform V1

Deliverable Number	D3.3	**Lead Beneficiary**	11 - ENG
Deliverable Name	Data management tools and Online collaboration platform V1		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	PU - Public
Due Date (month)	12	**Work Package No**	WP3

Description
Technical building blocks for data management and interoperability with data spaces, data processing orchestration, and KPI management. It includes also the platform for stakeholders' participation in the co-definition activities. Version 1

Deliverable D3.4 – Data management tools and Online collaboration platform V2

Deliverable Number	D3.4	**Lead Beneficiary**	11 - ENG
Deliverable Name	Data management tools and Online collaboration platform V2		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	PU - Public
Due Date (month)	24	**Work Package No**	WP3

Description
Technical building blocks for data management and interoperability with data spaces, data processing orchestration, and KPI management. It includes also the platform for stakeholders' participation in the co-definition activities. Version 2

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

Deliverable D3.5 – Data management tools and Online collaboration platform V3

Deliverable Number	D3.5	Lead Beneficiary	11 - ENG
Deliverable Name	Data management tools and Online collaboration platform V3		
Type	DEM — Demonstrator, pilot, prototype	Dissemination Level	PU - Public
Due Date (month)	42	Work Package No	WP3

Description
Technical building blocks for data management and interoperability with data spaces, data processing orchestration, and KPI management. It includes also the platform for stakeholders' participation in the co-definition activities. Version 3

Deliverable D3.6 – URBAN-FLOW platform - V1

Deliverable Number	D3.6	Lead Beneficiary	4 - TEC
Deliverable Name	URBAN-FLOW platform - V1		
Type	DEM — Demonstrator, pilot, prototype	Dissemination Level	SEN - Sensitive
Due Date (month)	18	Work Package No	WP3

Description
Delivers iterative versions of the digital platform, integrating services, models, dashboards, and decision-support tools for cities. Version 1

Deliverable D3.7 – URBAN-FLOW platform - V2

Deliverable Number	D3.7	Lead Beneficiary	4 - TEC
Deliverable Name	URBAN-FLOW platform - V2		
Type	DEM — Demonstrator, pilot, prototype	Dissemination Level	SEN - Sensitive
Due Date (month)	30	Work Package No	WP3

Description
Delivers iterative versions of the digital platform, integrating services, models, dashboards, and decision-support tools for cities. Version 2

Deliverable D3.8 – URBAN-FLOW platform - V3

Deliverable Number	D3.8	Lead Beneficiary	4 - TEC
Deliverable Name	URBAN-FLOW platform - V3		
Type	DEM — Demonstrator, pilot, prototype	Dissemination Level	SEN - Sensitive
Due Date (month)	42	Work Package No	WP3

Description
Delivers iterative versions of the digital platform, integrating services, models, dashboards, and decision-support tools for cities. Version 3

Deliverable D3.9 – Solutions for Health Impact Assessment and CN Composite Index - V1

Deliverable Number	D3.9	**Lead Beneficiary**	21 - PV
Deliverable Name	Solutions for Health Impact Assessment and CN Composite Index - V1		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	PU - Public
Due Date (month)	12	**Work Package No**	WP3

Description
Predictive environmental simulations and HIA tools, and the CN Composite Index. Develops tools to measure the health and well-being impacts of urban interventions and aggregates metrics into a composite index supporting Cities Mission objectives. Version 1

Deliverable D3.10 – Solutions for Health Impact Assessment and CN Composite Index - V2

Deliverable Number	D3.10	**Lead Beneficiary**	21 - PV
Deliverable Name	Solutions for Health Impact Assessment and CN Composite Index - V2		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	PU - Public
Due Date (month)	24	**Work Package No**	WP3

Description
Predictive environmental simulations and HIA tools, and the CN Composite Index. Develops tools to measure the health and well-being impacts of urban interventions and aggregates metrics into a composite index supporting Cities Mission objectives. Version 2

Deliverable D3.11 – Solutions for Health Impact Assessment and CN Composite Index - V3

Deliverable Number	D3.11	**Lead Beneficiary**	21 - PV
Deliverable Name	Solutions for Health Impact Assessment and CN Composite Index - V3		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	PU - Public
Due Date (month)	42	**Work Package No**	WP3

Description
Predictive environmental simulations and HIA tools, and the CN Composite Index. Develops tools to measure the health and well-being impacts of urban interventions and aggregates metrics into a composite index supporting Cities Mission objectives. Version 3

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

Deliverable D4.1 – Digitally Assisted Urban Planning and Design Toolkit - V1

Deliverable Number	D4.1	**Lead Beneficiary**	4 - TEC
Deliverable Name	Digitally Assisted Urban Planning and Design Toolkit - V1		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	SEN - Sensitive
Due Date (month)	12	**Work Package No**	WP4

Description
Toolset with the four areas of actuation tackled in T4.1. Provides digital solutions for participatory, data-informed planning and design, supporting municipalities in scenario building, spatial analysis, and co-creation. Version 1

Deliverable D4.2 – Digitally Assisted Urban Planning and Design Toolkit - V2

Deliverable Number	D4.2	**Lead Beneficiary**	4 - TEC
Deliverable Name	Digitally Assisted Urban Planning and Design Toolkit - V2		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	SEN - Sensitive
Due Date (month)	24	**Work Package No**	WP4

Description
Toolset with the four areas of actuation tackled in T4.1. Provides digital solutions for participatory, data-informed planning and design, supporting municipalities in scenario building, spatial analysis, and co-creation. Version 2

Deliverable D4.3 – Digitally Assisted Urban Planning and Design Toolkit - V3

Deliverable Number	D4.3	**Lead Beneficiary**	4 - TEC
Deliverable Name	Digitally Assisted Urban Planning and Design Toolkit - V3		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	SEN - Sensitive
Due Date (month)	42	**Work Package No**	WP4

Description
Toolset with the four areas of actuation tackled in T4.1. Provides digital solutions for participatory, data-informed planning and design, supporting municipalities in scenario building, spatial analysis, and co-creation. Version 3

Deliverable D4.4 – Optimized EV Charging Infrastructure - V1

Deliverable Number	D4.4	**Lead Beneficiary**	13 - ETRA
Deliverable Name	Optimized EV Charging Infrastructure - V1		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	SEN - Sensitive
Due Date (month)	12	**Work Package No**	WP4

Description
Designs and validates intelligent planning and operation tools for electric vehicle charging, optimized for user demand, energy grid constraints, and city goals. Version 1

Deliverable D4.5 – Optimized EV Charging Infrastructure - V2

Deliverable Number	D4.5	**Lead Beneficiary**	13 - ETRA
Deliverable Name	Optimized EV Charging Infrastructure - V2		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	SEN - Sensitive
Due Date (month)	24	**Work Package No**	WP4

Description
Designs and validates intelligent planning and operation tools for electric vehicle charging, optimized for user demand, energy grid constraints, and city goals. Version 2

Deliverable D4.6 – Optimized EV Charging Infrastructure - V3

Deliverable Number	D4.6	**Lead Beneficiary**	13 - ETRA
Deliverable Name	Optimized EV Charging Infrastructure - V3		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	SEN - Sensitive
Due Date (month)	42	**Work Package No**	WP4

Description
Designs and validates intelligent planning and operation tools for electric vehicle charging, optimized for user demand, energy grid constraints, and city goals. Version 3

Deliverable D4.7 – Dynamic Curb-Side and Urban Space Management System V1

Deliverable Number	D4.7	**Lead Beneficiary**	13 - ETRA
Deliverable Name	Dynamic Curb-Side and Urban Space Management System V1		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	SEN - Sensitive
Due Date (month)	12	**Work Package No**	WP4

Description
Tool to dynamically manage curb-side and adapt urban space to diverse needs and events. Offers a data-driven system to reallocate and optimize use of urban public space in real time, adapting to mobility needs and sustainability priorities. Version 1

 Associated with document Ref. Ares(2025)8627308 - 10/10/2025

Deliverable D4.8 – Dynamic Curb-Side and Urban Space Management System V2

Deliverable Number	D4.8	**Lead Beneficiary**	13 - ETRA
Deliverable Name	Dynamic Curb-Side and Urban Space Management System V2		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	SEN - Sensitive
Due Date (month)	24	**Work Package No**	WP4

Description
Tool to dynamically manage curb-side and adapt urban space to diverse needs and events. Offers a data-driven system to reallocate and optimize use of urban public space in real time, adapting to mobility needs and sustainability priorities. Version 2

Deliverable D4.9 – Dynamic Curb-Side and Urban Space Management System V3

Deliverable Number	D4.9	**Lead Beneficiary**	13 - ETRA
Deliverable Name	Dynamic Curb-Side and Urban Space Management System V3		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	SEN - Sensitive
Due Date (month)	42	**Work Package No**	WP4

Description
Tool to dynamically manage curb-side and adapt urban space to diverse needs and events. Offers a data-driven system to reallocate and optimize use of urban public space in real time, adapting to mobility needs and sustainability priorities. Version 3

Deliverable D5.1 – Multimodal and on-demand last-first-mile services based on CCAVs V1

Deliverable Number	D5.1	**Lead Beneficiary**	18 - REM
Deliverable Name	Multimodal and on-demand last-first-mile services based on CCAVs V1		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	SEN - Sensitive
Due Date (month)	12	**Work Package No**	WP5

Description
Demonstrates cooperative connected automated vehicle (CCAV) solutions that enhance accessibility, reduce emissions, and provide inclusive last-mile mobility options. Version 1

Deliverable D5.2 – Multimodal and on-demand last-first-mile services based on CCAVs V2

Deliverable Number	D5.2	**Lead Beneficiary**	18 - REM
Deliverable Name	Multimodal and on-demand last-first-mile services based on CCAVs V2		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	SEN - Sensitive

Due Date (month)	24	Work Package No	WP5

Description
Demonstrates cooperative connected automated vehicle (CCAV) solutions that enhance accessibility, reduce emissions, and provide inclusive last-mile mobility options. Version 2

Deliverable D5.3 – Multimodal and on-demand last-first-mile services based on CCAVs V3

Deliverable Number	D5.3	Lead Beneficiary	18 - REM
Deliverable Name	Multimodal and on-demand last-first-mile services based on CCAVs V3		
Type	DEM — Demonstrator, pilot, prototype	Dissemination Level	SEN - Sensitive
Due Date (month)	42	Work Package No	WP5

Description
Demonstrates cooperative connected automated vehicle (CCAV) solutions that enhance accessibility, reduce emissions, and provide inclusive last-mile mobility options. Version 3

Deliverable D5.4 – Solutions for coordinated energy management - V1

Deliverable Number	D5.4	Lead Beneficiary	4 - TEC
Deliverable Name	Solutions for coordinated energy management - V1		
Type	DEM — Demonstrator, pilot, prototype	Dissemination Level	SEN - Sensitive
Due Date (month)	12	Work Package No	WP5

Description
Delivers tools and strategies to integrate renewable energy, optimize building and mobility energy use, and support climate-neutrality goals. Version 1

Deliverable D5.5 – Solutions for coordinated energy management - V2

Deliverable Number	D5.5	Lead Beneficiary	4 - TEC
Deliverable Name	Solutions for coordinated energy management - V2		
Type	DEM — Demonstrator, pilot, prototype	Dissemination Level	SEN - Sensitive
Due Date (month)	24	Work Package No	WP5

Description
Delivers tools and strategies to integrate renewable energy, optimize building and mobility energy use, and support climate-neutrality goals. Version 2

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

Deliverable D5.6 – Solutions for coordinated energy management - V3

Deliverable Number	D5.6	**Lead Beneficiary**	4 - TEC
Deliverable Name	Solutions for coordinated energy management - V3		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	SEN - Sensitive
Due Date (month)	42	**Work Package No**	WP5

Description
Delivers tools and strategies to integrate renewable energy, optimize building and mobility energy use, and support climate-neutrality goals. Version 3

Deliverable D5.7 – Innovative charging solutions - V1

Deliverable Number	D5.7	**Lead Beneficiary**	3 - VTT
Deliverable Name	Innovative charging solutions - V1		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	SEN - Sensitive
Due Date (month)	12	**Work Package No**	WP5

Description
Explores and tests next-generation charging technologies (e.g. wireless, bidirectional) integrated with smart mobility and energy systems. Version 1

Deliverable D5.8 – Innovative charging solutions - V2

Deliverable Number	D5.8	**Lead Beneficiary**	3 - VTT
Deliverable Name	Innovative charging solutions - V2		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	SEN - Sensitive
Due Date (month)	24	**Work Package No**	WP5

Description
Explores and tests next-generation charging technologies (e.g. wireless, bidirectional) integrated with smart mobility and energy systems. Version 2

Deliverable D5.9 – Innovative charging solutions - V3

Deliverable Number	D5.9	**Lead Beneficiary**	3 - VTT
Deliverable Name	Innovative charging solutions - V3		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	SEN - Sensitive
Due Date (month)	42	**Work Package No**	WP5

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

Description
Explores and tests next-generation charging technologies (e.g. wireless, bidirectional) integrated with smart mobility and energy systems. Version 3

Deliverable D5.10 – Tools for footprint compensation and reducing recommendations - V1

Deliverable Number	D5.10	**Lead Beneficiary**	5 - UPV
Deliverable Name	Tools for footprint compensation and reducing recommendations - V1		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	SEN - Sensitive
Due Date (month)	12	**Work Package No**	WP5

Description
Develops digital tools for tracking emissions and recommending compensatory or preventive actions tailored to urban stakeholders and citizens. Version 1

Deliverable D5.11 – Tools for footprint compensation and reducing recommendations - V2

Deliverable Number	D5.11	**Lead Beneficiary**	5 - UPV
Deliverable Name	Tools for footprint compensation and reducing recommendations - V2		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	SEN - Sensitive
Due Date (month)	24	**Work Package No**	WP5

Description
Develops digital tools for tracking emissions and recommending compensatory or preventive actions tailored to urban stakeholders and citizens. Version 2

Deliverable D5.12 – Tools for footprint compensation and reducing recommendations - V3

Deliverable Number	D5.12	**Lead Beneficiary**	3 - VTT
Deliverable Name	Tools for footprint compensation and reducing recommendations - V3		
Type	DEM — Demonstrator, pilot, prototype	**Dissemination Level**	SEN - Sensitive
Due Date (month)	42	**Work Package No**	WP5

Description
Develops digital tools for tracking emissions and recommending compensatory or preventive actions tailored to urban stakeholders and citizens. Version 3

Deliverable D6.1 – City Living Labs logbook - V1

Deliverable Number	D6.1	**Lead Beneficiary**	7 - VIC

Deliverable Name	City Living Labs logbook - V1		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	28	Work Package No	WP6

Description
Report on the activities and results of T6.1: collects structured records of activities, decisions, challenges, and learning within each Living Lab, enabling iterative co-creation and knowledge sharing. Version 1

Deliverable D6.2 – City Living Labs logbook - V2

Deliverable Number	D6.2	Lead Beneficiary	7 - VIC
Deliverable Name	City Living Labs logbook - V2		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	40	Work Package No	WP6

Description
Report on the activities and results of T6.1: collects structured records of activities, decisions, challenges, and learning within each Living Lab, enabling iterative co-creation and knowledge sharing. Version 2

Deliverable D6.3 – Valencia pilot implementation - V1

Deliverable Number	D6.3	Lead Beneficiary	7 - VIC
Deliverable Name	Valencia pilot implementation - V1		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	28	Work Package No	WP6

Description
Report on the activities and result of T6.2, T6.3 and T6.4. Report detailing the deployment, monitoring, and iterative adaptation of interventions in each lead city, tracking both process and impact. Version 1

Deliverable D6.4 – Valencia pilot implementation - V2

Deliverable Number	D6.4	Lead Beneficiary	7 - VIC
Deliverable Name	Valencia pilot implementation - V2		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	40	Work Package No	WP6

Description
Report on the activities and result of T6.2, T6.3 and T6.4. Report detailing the deployment, monitoring, and iterative adaptation of interventions in each lead city, tracking both process and impact. Version 2

Deliverable D6.5 – Florence pilot implementation - V1

Deliverable Number	D6.5	Lead Beneficiary	27 - FLO
Deliverable Name	Florence pilot implementation - V1		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	28	Work Package No	WP6

Description
Report on the activities and result of T6.5, T6.7 and T6.7. Report detailing the deployment, monitoring, and iterative adaptation of interventions in each lead city, tracking both process and impact. Version 1

Deliverable D6.6 – Florence pilot implementation - V2

Deliverable Number	D6.6	Lead Beneficiary	27 - FLO
Deliverable Name	Florence pilot implementation - V2		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	40	Work Package No	WP6

Description
Report on the activities and result of T6.5, T6.7 and T6.7. Report detailing the deployment, monitoring, and iterative adaptation of interventions in each lead city, tracking both process and impact. Version 2

Deliverable D6.7 – Tampere pilot implementation - V1

Deliverable Number	D6.7	Lead Beneficiary	28 - BT
Deliverable Name	Tampere pilot implementation - V1		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	28	Work Package No	WP6

Description
Report on the activities and result of T6.8, T6.9 and T6.10. Report detailing the deployment, monitoring, and iterative adaptation of interventions in each lead city, tracking both process and impact. Version 1

Deliverable D6.8 – Tampere pilot implementation - V2

Deliverable Number	D6.8	Lead Beneficiary	28 - BT
Deliverable Name	Tampere pilot implementation - V2		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	40	Work Package No	WP6

Description
Report on the activities and result of T6.8, T6.9 and T6.10. Report detailing the deployment, monitoring, and iterative adaptation of interventions in each lead city, tracking both process and impact. Version 2

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Deliverable D7.1 – Mutual Learning and Capacity Building - V1

Deliverable Number	D7.1	Lead Beneficiary	24 - EIT UM
Deliverable Name	Mutual Learning and Capacity Building - V1		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	26	Work Package No	WP7

Description
Captures structured knowledge exchange, peer learning, and training across cities and stakeholders to strengthen governance and innovation capacities. Version 1

Deliverable D7.2 – Mutual Learning and Capacity Building - V2

Deliverable Number	D7.2	Lead Beneficiary	24 - EIT UM
Deliverable Name	Mutual Learning and Capacity Building - V2		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	42	Work Package No	WP7

Description
Captures structured knowledge exchange, peer learning, and training across cities and stakeholders to strengthen governance and innovation capacities. Version 2

Deliverable D7.3 – Climate-Neutral Replication Plans

Deliverable Number	D7.3	Lead Beneficiary	24 - EIT UM
Deliverable Name	Climate-Neutral Replication Plans		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	48	Work Package No	WP7

Description
Completion of Climate-Neutral Replication Roadmaps by REPCs. Provides strategic roadmaps for follower cities to replicate tested interventions, tailored to local contexts and climate targets.

Deliverable D7.4 – Overall Impact Assessment

Deliverable Number	D7.4	Lead Beneficiary	1 - LC
Deliverable Name	Overall Impact Assessment		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	48	Work Package No	WP7

Description
Report on the impact generated by the project. Specifically, a comprehensive evaluation of project-wide outcomes across environmental, social, economic, and governance dimensions.

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Deliverable D7.5 – Transferability Guidelines

Deliverable Number	D7.5	Lead Beneficiary	24 - EIT UM
Deliverable Name	Transferability Guidelines		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	48	Work Package No	WP7

Description
Contexts, barriers, prerequisites, and steps to replicate URBAN-FLOW solutions. Synthesizes lessons learned and conditions for successful replication of URBAN-FLOW solutions in other European cities.

Deliverable D8.1 – URBAN-FLOW Plan for dissemination and exploitation including communication activities - V1

Deliverable Number	D8.1	Lead Beneficiary	32 - D4P
Deliverable Name	URBAN-FLOW Plan for dissemination and exploitation including communication activities - V1		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	6	Work Package No	WP8

Description
Delivers the project’s strategic outreach, stakeholder engagement, exploitation planning, and visibility activities over the duration. Version 1

Deliverable D8.2 – URBAN-FLOW Plan for dissemination and exploitation including communication activities - V2

Deliverable Number	D8.2	Lead Beneficiary	32 - D4P
Deliverable Name	URBAN-FLOW Plan for dissemination and exploitation including communication activities - V2		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	24	Work Package No	WP8

Description
Delivers the project’s strategic outreach, stakeholder engagement, exploitation planning, and visibility activities over the duration. Version 2

Deliverable D8.3 – URBAN-FLOW Plan for dissemination and exploitation including communication activities - V3

Deliverable Number	D8.3	Lead Beneficiary	32 - D4P
Deliverable Name	URBAN-FLOW Plan for dissemination and exploitation including communication activities - V3		
Type	R — Document, report	Dissemination Level	SEN - Sensitive

Due Date (month)	36	Work Package No	WP8

Description
Delivers the project's strategic outreach, stakeholder engagement, exploitation planning, and visibility activities over the duration. Version 3

Deliverable D8.4 – URBAN-FLOW Plan for dissemination and exploitation including communication activities - V4

Deliverable Number	D8.4	Lead Beneficiary	32 - D4P
Deliverable Name	URBAN-FLOW Plan for dissemination and exploitation including communication activities - V4		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	48	Work Package No	WP8

Description
Delivers the project's strategic outreach, stakeholder engagement, exploitation planning, and visibility activities over the duration. Version 4

Deliverable D8.5 – Validation workshops and policy dialogues - V1

Deliverable Number	D8.5	Lead Beneficiary	23 - CKIC
Deliverable Name	Validation workshops and policy dialogues - V1		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	24	Work Package No	WP8

Description
Facilitates multi-level dialogues to validate project outcomes, align with policy frameworks, and inform strategic decision-making. Version 1

Deliverable D8.6 – Validation workshops and policy dialogues - V2

Deliverable Number	D8.6	Lead Beneficiary	23 - CKIC
Deliverable Name	Validation workshops and policy dialogues - V2		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	48	Work Package No	WP8

Description
Facilitates multi-level dialogues to validate project outcomes, align with policy frameworks, and inform strategic decision-making. Version 2

Deliverable D8.7 – Data interoperability and standardization - V1

Deliverable Number	D8.7	Lead Beneficiary	22 - OASC
Deliverable Name	Data interoperability and standardization - V1		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	24	Work Package No	WP8

Description
Synergies, collaborations and contributions to data interoperability. Ensures technical and semantic interoperability across datasets and systems within and beyond the project. Version 1

Deliverable D8.8 – Data interoperability and standardization - V2

Deliverable Number	D8.8	Lead Beneficiary	22 - OASC
Deliverable Name	Data interoperability and standardization - V2		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	48	Work Package No	WP8

Description
Synergies, collaborations and contributions to data interoperability. Ensures technical and semantic interoperability across datasets and systems within and beyond the project. Version 2

Deliverable D8.9 – Business Models for services and Cities Mission Canvas - V1

Deliverable Number	D8.9	Lead Beneficiary	24 - EIT UM
Deliverable Name	Business Models for services and Cities Mission Canvas - V1		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	24	Work Package No	WP8

Description
Provides viable, scalable business models for the services developed, and a Mission Canvas template to guide cities in operationalizing their transition pathways. Version 1

Deliverable D8.10 – Business Models for services and Cities Mission Canvas - V2

Deliverable Number	D8.10	Lead Beneficiary	24 - EIT UM
Deliverable Name	Business Models for services and Cities Mission Canvas - V2		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	48	Work Package No	WP8

Description
Provides viable, scalable business models for the services developed, and a Mission Canvas template to guide cities in operationalizing their transition pathways. Version 2

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LIST OF MILESTONES

Milestones

Grant Preparation (Milestones screen) — Enter the info.

Milestone No	Milestone Name	Work Package No	Lead Beneficiary	Means of Verification	Due Date (month)
1	URBAN-FLOW project definition and baseline	WP1	1 - LC	Project management handbook (D1.1) and Data management plan and research ethics (D1.2) released.	6
2	Initial As is and to be scenarios	WP2	14 - CEF	Early internal version of D2.2 ready for pilots	8
3	Logical Architecture of URBAN-FLOW LDT released	WP3	11 - ENG	Initial version of the technical specifications of the URBAN-FLOW LDT released (D3.1)	8
4	First version of the URBAN-FLOW integrated solution	WP3	4 - TEC	URBAN-FLOW LDT integrating early building blocks and tools (D3.3)	18
5	Local KPIs defined	WP2	21 - PV	First version of local KPIs for all cities (D2.3)	12
6	Interim LEADCs' pilot implementation	WP6	7 - VIC	LEADCs successfully completed the first implementation round of local intervention and URBAN-FLOW LDT (D6.2, D6.3, D6.4).	28
7	Final LEADCs' pilot implementation	WP6	7 - VIC	LEADCs successfully completed the implementation of local intervention and URBAN-FLOW LDT (D6.2, D6.3, D6.4)	40
8	Memorandum of understanding with the Mission Platform	WP1	1 - LC	Memorandum of understanding between the Mission Platform and URBAN-FLOW project signed	6

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LIST OF CRITICAL RISKS

Critical risks & risk management strategy

Grant Preparation (Critical Risks screen) — Enter the info.

Risk number	Description	Work Package No(s)	Proposed Mitigation Measures
1	Delays in obtaining Permits or Regulatory Approvals	WP6	The consortium has included the direct participation of the cities that are responsible for the permits to validate the project innovation. Some urban sand boxes would be also available to possibly overcome not ready regulation. (L, H)
2	Ethical and regulatory issues arise on the use of AI, data & models	WP1, WP4, WP3, WP5	URBAN-FLOW will perform a thorough analysis of ethical and regulatory issues related to the use of data, modelling and AI. An Ethics Review of the case studies will be performed including an assessment of data being collected and its use. URBAN-FLOW will appoint an Ethics and Data Manager in its management structure at M1. (M, M)
3	Delays in establishing active collaboration with Mission Platform	WP1	6 partners of URBAN-FLOW are connected with or involved in Mission Platform and will act to ensure a smooth dialogue; the project will work to establish a strong dialogue ad sign a with the Mission Platform from M1 and to sign a Memorandum with the Mission Platform by M6. (L, H)
4	Conflicts over ownership of project's generated outcome	WP8	Disagreements in the consortium over ownership may result in non-agreement on IPR. The Consortium Agreement (CA) will ensure a proper protection of generated and prior IPR. The CA signed by all partners will constitute a binding document, which will be referred in case of conflicts. (L, H)
5	The results of the project are not on the path to be considered sustainable after the project finishes	WP7, WP1, WP6, WP2, WP8, WP4, WP3, WP5	Early in the project URBAN-FLOW will set up an innovation strategy to handle the project outcomes. Feedback loops will be set towards development WPs to optimise the project solution according to the market conditions. Innovative business models will be analysed. (M, H)
6	Dissemination does not reach a significant number of people	WP8	URBAN-FLOW will adapt the dissemination strategy to increase its presence in the most relevant channels (e.g. web site, local newspaper, newsletter, social media). Events, e.g. workshops, will be organised several months in advance and announced through different media. (L, H)
7	As Is and To Be scenarios, related challenges, drivers, enablers, KPIs and impact assessment	WP2	URBAN-FLOW will develop co-creation guidelines and methodologies, and City living Labs for each city involved, which will act as a catalyst for stakeholders' engagement and participation into an extensive series of co-creation sessions and workshop used to investigate

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Critical risks & risk management strategy

Grant Preparation (Critical Risks screen) — Enter the info.

Risk number	Description	Work Package No(s)	Proposed Mitigation Measures
	framework are not aligned with real needs of local stakeholders		local needs challenges, enablers, drivers, and KPIs, as well as to obtain information to shape the impact assessment framework and adapt it to the specific context of each city to provide a realist impact evaluation case by case. (L, H)
8	Difficulty in integrating multiple urban systems due to lack of standardized data formats and interoperability.	WP3	Technical partners responsible for modelling tools and digital twins have extensive experience in similar initiatives, and their technical teams have already positively assessed the feasibility of the integration. Furthermore, the project will provide technological solutions (including data management, process orchestration, etc.), ensuring adherence to open standards (NGSI-LD, SensorThings API), and enabling cross-platform data exchange. (M, H)
9	The developed ICT tools and models may face scalability issues or technical failures in different urban contexts.	WP4, WP3, WP5	Conduct early-stage prototyping, iterative testing in multiple pilot cities, and ensure solutions are modular and adaptable for diverse urban environments. (L, H)
10	Resistance from citizens and businesses in transitioning to sustainable mobility solutions and adopting new public space allocation policies.	WP7, WP6, WP2	URBAN-FLOW will raise awareness both through marketing campaigns, and co-design activities and workshops concerning user-friendly mobility-as-a-service (MaaS) solutions. Co-design activities and workshops will be managed via the established City Living Labs, which will boost for stakeholders' engagement and participation into project activities. (L, H)
11	Solutions developed in LEADCs may not be easily replicable in REPCs due to differences in urban layouts, governance structures, or socio-economic conditions.	WP7, WP2, WP4, WP3, WP5	URBAN-FLOW foresees an active participation of REPCs in all the co-creation and co-design activities implemented by the project. CLs will be established also in REPCs and their local stakeholders actively engaged to collect their needs and challenges. Furthermore, URBAN-FLOW will provide customized training and mentoring for REPCs, and ensure proper monitoring and adjustment. (M, H)
12	Conflicting urban policies and slow regulatory adaptation may create obstacles for implementing local solutions.	WP7, WP6	URBAN-FLOW engages local and national policymakers, align project goals with EU urban and climate policies, and provides evidence-based recommendations for regulatory adaptations. (L, H)

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PROJECT REVIEWS

Project Reviews

Grant Preparation (Reviews screen) — Enter the info.

Review No	**Timing** (month)	**Location**	**Comments**
RV1	18	TBD	
RV2	36	TBD	
RV3	48	TBD	

History of changes

No	Page/section	Nature of change and reason / justification of change proposed (if applicable)
Part B		
1	**Page 1**	Removed the list of participants (6 June 2025).
2	**Page 1**	Added History of Changes table and table of contents (formatting headlines) (6 June 2025).
3	**Page 2**	Amended footer (6 June 2025).
4	**All document**	Changed DFP in D4P (6 June 2025).
5	**All document**	Erased the tags (6 June 2025).
6	**Pages 7-11, 1.1.4**	Added footnotes related to literature references in the Ambition part (6 June 2025).
7	**Page 22, 1.2.10**	Added a description on how the project will achieve technical robustness in AI algorithms (6 June 2025).
8	**Page 27, 2.1**	Added a table depicting specific baseline values for some of the KPIs (6 June 2025).
9	**Page 36, 2.2.4**	Added text as requested by comment Item # 4.12.
10	**Page 37, 2.2.5**	Added a table depicting key exploitation measures tailored to each specific KER (6 June 2025).
11	**Page 42, 3.1.2**	Removed tables 3.1.a 'List of work packages' and 3.1b 'Description of work packages', table 3.1c 'List of deliverables', table 3.1d 'List of milestones', table 3.1e 'List of critical risks', table 3.1f 'Staff effort'– as they are in Part A (6 June 2025).
12	**Page 42, 3.1.3**	Added reference to Articles 6.2 and 9.3 of GA & EU public procurement Directives 2004/18/EC and 2004/17/EC regarding subcontracting rules (6 June 2025).
13	**Page 43, 3.1.3**	Amended the description for the subcontracting of VTT (6 June 2025).
14	**Page 43, 3.1.3**	Amended the description for the subcontracting of UEDIN (6 June 2025).
15	**Page 44, 3.1.4**	Added reference to Article 6 and & Article 6.2.C regarding depreciation costs (6 June 2025).
16	**Page 46, 3.1.4**	Table 3.1h amended for FLO (5 August 2025).
17	**Page 47, 3.1.4**	Added Table 3.1i (5 August 2025).
18	**Pages 44-47, 3.1.4**	Amended the descriptions of Other Direct Costs for UPV, VIC, VCE, REM, FLO & BT (6 June 2025).
19	**Page 47, 3.1.4**	Added the lines "Table 3.1 i: 'Other costs categories' items (e.g. internally invoiced goods and services) – N/A", "Table 3.1 j: 'In kind contributions' provided by third parties – N/A" (6 June 2025).
20	**Page 48, 3.2.1**	Amended descriptions and roles for the associated partners UTA and D4P (6 June 2025).
21	**Page 49**	Added section 4 on ethics self-assessment (6 June 2025).
Part A		
22	Defined two versions for the deliverables D1.4, D2.1, D2.5, D3.1, D6.1, D6.2, D6.3, D6.4, D7.1, D8.2, D8.3, D8.4 (6 June 2025).	
23	Defined three versions for the deliverables D2.3, D2.4, D3.2, D3.3, D3.4, D4.1, D4.2, D4.3, D5.1, D5.2, D5.3, D5.4 (6 June 2025).	
24	Defined four versions for the deliverable D1.2, D8.1 (6 June 2025).	
25	Added the text "The project will contribute, upon invitation by the CINEA, to common information and dissemination activities to increase the visibility and synergies between HE/H2020 supported actions." in WP8 (6 June 2025).	

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26	Erased UKEP from the consortium and moved all the budget and effort to CSCC. Specifically, by a resolution of the city of Pilsen, UKEP will be officially dissolved by the end of October 2025, and therefore it is not in the position to fulfil the commitments and responsibilities it has undertaken as a part of the URBAN-FLOW project consortium. In response to this situation, UKEP has conducted discussions with its long-standing partner and fellow consortium member, CSCC, which has agreed to take over all UKEP's current responsibilities and project activities in URBAN-FLOW (31 August 2025).
27	Moved the budget for OASC from category A.1 Employees (or equivalent) to category A.2 Natural persons under direct contract (5 August 2025).
28	Purchase costs' items amended for FLO (5 August 2025).
29	Budget shift from CKIC to LC equal to 155.750 EURO. Specifically, LC takes the lead of T8.2 and increases its person months in WP3 from 4 to 6; in WP7 from 13 to 14; and in WP8 from 14 to 26; and it also increases its travel costs from 30.000 to 34.600 EURO. By contract, CKIC decreases its person months in WP3 from 2 to 0 and in WP8 from 14 to 2. Such changes are reflected in the workplan and the budget (5 September 2025).
30	Budget shift from ENG to MUN equal to 199.375 EURO. Specifically, MUN increases its person months in WP2 from 6 to 7; in WP3 from 15 to 22; in WP4 from 24 to 28; in WP5 from 0 to 4; in WP6 from 33 to 37; in WP7 from 0 to 8; and in WP8 from 0 to 9; and it also increases its travel costs from 15.000 to 17.000 EURO and its "Other goods, works and services" from 0 to 5.700 EURO (audit costs). By contract, ENG decreases its person months in WP1 from 13 to 12; in WP2 from 6 to 5; in WP3 from 49 to 41; in WP4 from 4 to 0; in WP5 from 4 to 0; in WP6 from 4 to 2; WP7 from 8 to 0; and in WP8 from 10 to 3; and it also decreases its travel costs from 25.000 to 23.000 EURO. There are no changes in WP or task leaderships. Such changes are reflected in the workplan and the budget (9 September 2025).

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Terminology

Term	Description	Term	Description
AI	Artificial Intelligence	KR	Key Results
AI/ DA	AI/Data Analysis	LDT	Local Digital Twin
CC	Climate Change	LEAD	Lead
CD	City Digitalization	LEADC	Lead Cities
CDES	Communication/Dissemination/Exploitation	NBS	Nature Based Solutions
CH	Challenges	MBS	Mobility Data Spaces
CL	City Living Lab	PH	Public Health
CM	Climate Modelling	REP	Replicant
CN	Climate Neutrality	REPC	Replicant Cities
CR	Climate resilience	SES	Smart Energy Systems

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DS	Dataspaces and Standards	SSI	System/Software Integration
DSS	Data Spaces and Standardization	STP	Systemic Transformation/Participative processes
IAEV	Impact Assessment and Evaluation	TMI	Transports Mode Innovation
IAF	Impact Assessment Framework	UB	Urban Space Design and Planning
HIA	Health Impact Assessment	UP	Transferability and upscaling
IoT	Internet of Things	WB	Wellbeing
KPI	Key Performance Indicator	WP	Work Package

*"**The sustainable city of tomorrow offers citizens access to essential services, green spaces, and cultural life within a short walk or bike ride, fostering social connection and reducing environmental impact**" Carlos Moreno 2020 - The 15-Minute City: For a New Chrono-urbanism. **URBAN-FLOW** aims to transform urban public spaces through dynamic management strategies that prioritize sustainable mobility, energy efficiency, and CR. Demonstrated in 3 Lead Cities (LEADCs) and 3 Replicant Cities (REPCs), the project optimizes limited urban space for multi-modal transport, integrate suburban areas, and enhance synergies between mobility networks, energy grids, and green infrastructure. Through co-creation with citizens, stakeholders, and policymakers, URBAN-FLOW helps create liveable, accessible, and CN cities, improving public health, air quality, and urban space efficiency.*

1. Excellence

1.1 Objectives and Ambition

1.1.1 Problem, Challenges and Vision

The problem: The **URBAN-FLOW** project addresses the strain on urban spaces driven by rapid urbanization, climate change, and the need for sustainable development. Key issues include limited urban space, where cities face challenges accommodating transport, public services, green areas, and energy infrastructure, leading to competition for land. In Europe, private vehicles occupy 50% of public space but account for less than 25% of trips, reflecting inefficient car-centric planning. This has caused congestion, with over 60% of residents facing traffic delays, and pollution, as transport contributes nearly 30% of urban greenhouse gas emissions. Fragmented infrastructure and inconsistent access to services hinder connectivity between urban and suburban areas, limiting cohesive growth. Urban layouts often lack the flexibility to support resilience strategies, and energy management is poorly integrated with transport and urban planning, with around 70% of urban energy consumption tied to transport and buildings. There is also a need for more inclusive and accessible urban spaces, especially in disadvantaged areas, as current designs often fail to meet diverse community needs.

The challenges URBAN-FLOW tackles these challenges through: **CH-a) Efficient Urban Space Allocation:** Balancing space needs for transport, public amenities, green areas, and energy infrastructure. **CH-b) Conflicting Mobility and Land Use:** Resolving conflicts between car-centric planning and sustainable transport modes to reduce congestion and pollution. **CH-c) Urban and Suburban Connectivity:** Enhancing infrastructure and access in peri-urban areas to promote cohesive integration and reduce inequalities. **CH-d) Integrated Energy and Mobility Management:** Aligning energy use with transport and urban design to reduce emissions and achieve Climate Neutrality (CN).**CH-e) Social Inclusiveness and Liveability:** Improving accessibility and social engagement in urban spaces, especially for disadvantaged groups, to foster equitable and resilient communities.

URBAN-FLOW envisions co-creating, demonstrating, and replicating urban regeneration measures focused on sustainable space management, climate-neutral mobility, integrated energy, and resilient design. By optimizing space use, enhancing urban-suburban connectivity, and promoting inclusivity, it seeks to transform public spaces into adaptable, climate-resilient environments. The project will validate these solutions across multiple cities, aligning with the MISS-2024-CIT-01-01 objectives to foster sustainable, climate-neutral urban living. Key intervention areas and research actions will be explored to address project challenges, with details on tested services and KPIs provided in sub-§1.2.1.2.

1.1.2 Project Objectives

The **URBAN-FLOW** Objectives (**OOs**) are divided into Key Results (**KRs**), and their measurable Key Performance Indicators (**KPIs**) are presented, along with the corresponding Work Packages (**WPs**) and

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addressed challenges (**CHs**) for co-creating sustainable regeneration measures (i.e. combination of transport, energy and green solutions for connecting suburban/peripheral & urban areas and better use of public spaces, including dynamic management of street profiles and electromobility) for **3 LEADCs** and **3 REPCs**. Meeting the objectives discussed below we aim to address the following areas of intervention and research actions of the call (see also sub-§s 1.2.1.2 for details).

Objectives	
Challenges and Work Packages	
Project Objective and KERs (see sub§2.2.3)	**Quantitative KPIs**
OO1. Establish a Network of City Living Labs (CLs) in LEADCs and REPCs. Identify end-users' needs and define requirements for sustainable regeneration measures, based on local baselines, needs, policy challenges and barriers for more resilient and climate neutrality urban space	
Challenges CH-a; CH-b; CH-c; CH-d; CH-e. WP2, WP6, WP7	
KR-1: Identify and engage key stakeholders; **KR-2**: Identify key challenges, needs, risk enablers and baselines for all LEADCs; **KR-3** Identify the key relevant climate change specific goals and objectives in long-term strategies for resilient enhancement of selected pilot area; **KR-4:** Compile a list of relevant and transferable planning policies and measures (e.g., pricing, space allocation, etc.); **KR-5:** Enable collaboration and governance on data sharing in the CLs	**KPI-1**: Identify ≥150 stakeholders in 3 LEADCs; **KPI-2:** Identify ≥100 stakeholders in 3 REPCs; **KPI-3**: Engage ≥200 community members; **KPI-4:** Involve at least 1 public transport and energy organization per LEADC and REPC; **KPI-5**: Identify ≥5 challenges per LEADC; **KPI-6**: Define ≥4 public space needs at the city or community level per LEADC; **KPI-7**: Establish baselines for energy demand, transport streams, and environmental conditions in all LEADCs within 6 months; **KPI-8**: Identify ≥4 spatial goals for pilot; **KPI-9:** Define ≥4 policies per LEADC, ≥10 across LEADCs and REPCs; **KPI-10:** Develop stakeholder decision toolkit for data collaboration in CLs.
OO2. Establish the necessary ICT tools, methods, and participatory processes for increased stakeholder participation and wider public (including residents/citizens) to participated decision making processes	
Challenges CH-e.WP3, WP4, WP5	
KR-6: Create a participatory tool for engaging diverse stakeholders in urban/regional planning and the wider public/residents (local communities)	**KPI-11**: List of user engagement strategies (3 ≥ strategies/target groups); **KPI-12**:1 e-participation tool for engagement and co-creation of urban regenerative measures completed and set-up in CLs before M12
OO3. Participated urban planning processes to co-create sustainable regeneration measures for better allocation of public spaces and smart mobility, enhancing suburban, peripheral, and, climate neutrality, resilience, and regeneration, including dynamic management of street profiles and electromobility	
Challenges CH-a; CH-b; CH-c; CH-e. all WPs	
KR-7: An URBAN-FLOW framework enabling the co-creation processes of urban regeneration measures; **KR-8:** A digital catalogue of urban regeneration measures defined by experts and decision makers in relation to LEADCs needs, challenges, objectives and pilot areas' baselines; **KR-9:** URBAN-FLOW as a data-driven decision support for local authorities	**KPI-13:** 1 URBAN-FLOW platform for the establishment of the co-creation processes of urban regeneration measures in CLs based on the "user-journey" of §1.2.1.1 fully adopted in CLs of LEADCs for the co-creation project implementation**; KPI-14:** 1 catalogue with 20 ≥ sustainable measures suitable for the pilot areas' needs, challenges, baselines and objectives co-designed by experts, urban planners, members of transport and energy organizations and decision makers engaged in CLs**; KPI-15:** Elements and functionalities of URBAN-FLOW as data-driven decision support system into different stages of the policy cycle identified and integrated in the solution; **KPI-16** - ≥ 4 of measures on public spaces generated through co-creation in LEADCs using urban flow
OO4. Accelerate the transformation of urban, energy, and transport with integrated tools combining novel and existing models to optimize performance. These tools support urban planning, real-time energy and transport management, dynamic street allocations, and optimized EM with recharging infrastructure.	

Challenges CH-a; CH-b; CH-c; CH-d; CH-e. WP3, WP4, WP5, WP6	
KR-10: Develop a mobility and transport planning tool integrated with the Sustainable Urban Mobility Plan (SUMP), optimizing electromobility services and simulating dynamic street and space allocation policies (e.g., road pricing, parking payments). **KR-11**: Create a load forecasting and energy flexibility planning tool. **KR-12**: Develop the URBAN-FLOW framework for integrated urban planning of sustainable regenerative measures. **KR-13**: Build a real/near-real-time tool for balancing renewable energy generation and electromobility demand.	**KPI-17:** Mobility and transport planning tool validated by all CLs in LEAD and REP Cities. **KPI-18:** Load forecasting and energy flexibility tool validated in demonstration pilots. **KPI-19:** All tools integrated into the URBAN-FLOW Framework as per the project milestones. **KPI-20:** Real/near-real-time energy management tool validated by all CLs in LEAD and REP Cities during pilots.
OO5. Develop and demonstrate integrated models and tools to assess the climate-energy-transport impacts of sustainable regeneration measures. These measures will link suburban, peripheral, and urban areas, optimize public spaces and energy use, and support dynamic street management and electromobility.	
Challenges CH-a; CH-b; CH-c; CH-d; CH-e. WP2, WP3, WP4, WP5, WP6	
KR-14: Delivery of proper modelling tools (including climate and air pollution ones) required for the holistic impact assessment of the **URBAN-FLOW** demonstration areas; **KR-15:** New Earth observation (EO) data services & seasonal forecasts to integrate climate adaptation into regular workflows; **KR-16**: Integration of the impact modelling tools into URBAN-FLOW framework for integrated urban planning of sustainable regenerative measures; **KR-17:** Integration of data driven decision making in local authorities' policy cycles	**KPI-21:** Specialization of ≥10 climate indicators connected with specific impacts**; KPI-22:** An Impact Assessment Framework (IAF) including **KPI-23** impact indicators and other impact indicators co-defined with CLs approved by CLs and widely used in Pilot demonstrators**; KPI-24:** Adoption of the URBAN-FLOW framework and its customisation for local climate conditions in the REP demo Pilots**; KPI-25:** Report on improvement of CC resilience, micro environmental conditions, habitat and biodiversity, including list of Regenerated ecosystem services (ES) and resulting effects; 30% improvement of ecological status at all case studies; Resilience measures and their expected results, € savings in case of weather extremes; Special impacts of green and energy efficiency solutions of the demonstrated sustainable regeneration measures**; KPI-26:** PH&WB indicators related to improvements of local conditions due to the co-created regeneration measures**; KPI-27:** Publish 3+ reports on impacts during the project period.**; KPI-28:** Report on data driven support tools integration in policy cycles in all pilots
OO6. Integrate existing and innovative monitoring tools for IAF impact indicators within a standardized data framework, providing a unified view of energy and transport data. This includes optimizing energy use, regeneration and transport management via Local Digital Twin and Mobility Data Spaces	
Challenges CH-b; CH-c; CH-d. WP2, WP3, WP6	
KR-18: A LDT; **KR-19:** Link to European mobility Data Spaces; **KR-20**: implement a unified data platform across all the LEAD and REP Cities; **KR-21**: Dedicated data governance framework for the mobility data space per site based on common guidelines; **KR-22**: HIA impacts indicators and toolbox; **KR-23**: IAF and CN Index	**KPI-29:** Demonstrative DT setup for each LEADCs pilot case (based on maturity**; KPI-30:** Implement a unified data platform**; KPI-31:** Promotion of a MDS for all CLs Pilots**; KPI-32:** Demonstration of URBAN-FLOW data management & governance framework enabling interoperability in pilot sites of LEADC**s; KPI-33:** HIA and IAF validated in Pilots cases
OO7. Co-create and Demonstrate the sustainability, and inclusivity of the regenerative approaches as well as of the participatory processes of decision making in 3 LEADCs	
Challenges CH-a; CH-b; CH-c; CH-e.WP2, WP6	
KR-23: Deploy and develop co-created sustainable regenerative approaches in Pilot sites; **KR-24:**	**KPI-34:** ≥ 5 sustainable regenerative approaches co-created in each pilot site**; KPI-35:** ≥ 2 sustainable regenerative approach demonstrated in each Pilot site out of those co-created**; KPI-**

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Activate a common procurement process across FRCs to deploy the selected solutions	**36:** ≥100 citizens and stakeholders participating to the demonstration action in each pilot site
OO8. Scaling up and replication of the URBAN-FLOW methodology and tools through a knowledge exchange and mentoring process between in LEADCs and REPCs	
Challenges CH-a; CH-b; CH-c; CH-e. WP2, WP 7, WP8	
KR-25: Knowledge transfer of **URBAN-FLOW** methodologies and tools and capacity building; **KR-26:** Replicability strategies and transferability guidelines	**KPI-37:** Establishment of Community of Practice (CoP) for peer-to-peer learning and knowledge exchange**; KPI-38:** ≥ 5 Transversal Capacity Building activities**; KPI-39:** 3 Climate-Neutral Replication Roadmaps for REPCs**; KPI-40:** URBAN-FLOW Transferability Guidelines to inspire and facilitate replicability of URBAN-FLOW solutions in different local contexts
OO9. Influence policies and support the adoption of the sustainable URBAN-FLOW solutions through policy advocacy and targeted engagement	
Challenges CH-a; CH-b; CH-c; CH-e. WP 7, WP8	
KR-27: Fostered dialogue with policymakers and local authorities; **KR-28:** Development of URBAN-FLOW guidelines	**KPI-41:** ≥ 2 policy dialogues with policymakers and relevant initiatives to stimulate change on local, national and EU level**; KPI-42:** ≥3 Networking activities organised to gather relevant inputs from ≥ 10 Mission Cities to feed and validate the URBAN-FLOW guidelines.
OO10. Develop novel business models and strategies for urban climate resilience enhancement and facilitate D&C&E, Networking and Community Engagement	
Challenges CH-a; CH-b; CH-c. WP2, WP7, WP8	
KR-31: Expended communication and public awareness activities **KER-32**: Scientific dissemination; **KR-33**: End users & stakeholders' disseminations	**KPI-43**: 1 common exploitation strategy; **KPI-44**: >4 transferable business models; **KPI-45**: 3 City Mission Canvases; **KPI-46**: Engage ≥30 external actors (regional authorities, policymakers, stakeholders, etc.); **KPI-47**: Engage ≥15 Mission Cities to validate URBAN-FLOW Transferability Guidelines; **KPI-48**: ≥6 exhibition presentations (including REPCs); **KPI-49**: ≥8 publications in conferences or journals; **KPI-50**: ≥2 sessions at international conferences; **KPI-51**: Collaboration with ≥3 relevant projects/initiatives; **KPI-52**: Transferability Guidelines to 120+ EU communities and regional authorities; **KPI-53**: Share results with stakeholders identified in KPIs 1, 2, and 3.

1.1.3 Relevance of the URBAN-FLOW objectives to the MISS-2024-CIT-01-01 topic

Call Requirements	What We Offer	Objectives and WPs
With overly cities, scarcity of public space demands design, management, and prioritization [...]. Focus includes reallocating public space for sustainable transport, energy, and improved integration […]	Urban areas face limited space, with cities needing solutions to balance transport, energy, and public use. URBAN-FLOW adopts participative approaches for space reallocation and integration of suburban areas through dynamic street management strategies in WP2, supporting sustainable transport and urban planning.	**OO1, OO2, OO3, OO5** WP2 (T2.1), WP4 (T4.2), WP6 (T6.1)
Concepts like the "15-minute city" and "superblocks" promote efficient mobility and proximity services, aligning with the EU Urban Mobility Framework [...].	URBAN-FLOW promotes proximity-based solutions and green mobility through participative processes described in WP3 and WP4. The implementation of proximity services in LEAD Cities ensures alignment with sustainability and urban mobility objectives.	**OO1, OO2, OO3, OO5** WP3 (T3.2), WP4 (T4.1), WP6
Address conflicting demands on limited public space between transport and other uses [...]. Emphasize decarbonization and energy-efficient transport modes.	URBAN-FLOW addresses conflicts between transport and land use by co-creating stakeholder-driven solutions. WP2 and WP5 optimize baselines, transport modes, and space allocation for environmental and social goals.	**OO1, OO2, OO3, OO5** WP2 (T2.4), WP5 (T5.1), WP6, WP7 (T7.4)

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Pilots must demonstrate co-designed solutions in at least three lead cities across different member states [...].	Through pilot activities in 3 LEADCs, URBAN-FLOW demonstrates co-created regenerative solutions tailored to diverse urban contexts.	**OO1, OO2, OO3, OO6, OO7** WP5 (T5.2), WP6, WP7 (T7.2)
Engage replication cities with local replication plans [...], including at least one mission city.	URBAN-FLOW supports replication plans in 3 REPCs with city-specific adjustments, scaling sustainable solutions and enhancing knowledge transfer.	**OO1, OO2, OO3, OO7, OO8, OO9** WP7 (T7.3), WP8 (T8.1)
Stakeholder co-design is required, involving energy, mobility, and industrial partners to create integrated, space-saving solutions [...].	A diverse network of stakeholders participates in co-design workshops to develop integrated solutions supported by public and private sectors.	**OO1, OO2, OO3, OO6, OO7, OO10** WP6, WP7 (T4.4)
Demonstrations should use Local Digital Twins and Mobility Data Spaces [...].	LDTs and Mobility Data Spaces optimize urban planning and real-time decision-making in demonstration pilots.	**OO5** WP3 (T3.6), WP5 (T5.3), WP6
Strategies should consider air quality and urban climate risks [...].	URBAN-FLOW embeds air quality improvement and climate risk mitigation into co-created regeneration measures and the HIA toolbox.	**OO1, OO2, OO3** WP4 (T4.1), WP3 (T3.3, T3.6), WP7 (T7.1)
Address space reallocation and dynamic curb-side management, fulfilling at least 4 of 8 research actions [...].	Research actions address space reallocation and dynamic curb-side management across LEADC Pilots	**OO1, OO2, OO3, OO4, OO5, OO6** WP5 (T5.2), WP3 (T3.4), WP6
Projects should collaborate with European initiatives (Living-In.EU, CIVITAS, Cities Mission Platform) [...].	URBAN-FLOW collaborates with major EU initiatives through agreements to ensure resource sharing and mission alignment.	**OO9, OO10,** WP7 (T7.5), WP8 (T8.2),)

1.1.4 Progress beyond the state of the art in technology and products

Ambition A – Customized solutions for urban public space design

SotA: The design and management of urban public spaces are increasingly influenced by the pressing need for climate resilience and inclusivity[1][2]. Advanced methods, including GIS-based tools and data-driven analytics, enable the mapping and assessment of accessibility in urban areas, identifying gaps and opportunities for sustainable mobility and efficient use of public space[3][4]. Optimization of mobility routes, for instance, leverages climate-proof planning to interconnect critical infrastructures such as climate shelters, cycling paths, pedestrian zones, public transport stops, schools, and recreational spaces. This has been demonstrated in projects as those tackled in UPPER[5] ensuring the creation of robust, adaptive networks that support sustainable and resilient urban living.

Innovation potential in URBAN-FLOW: The URBAN-FLOW project builds on research advancements like those in UPPER, focusing on integrating extended accessibility analysis into urban public space design and management. URBAN-FLOW will prioritize resilience planning by developing tools to optimize mobility networks, link climate shelters dynamically, and ensure equitable access to essential services. The project will incorporate accessibility tools within frameworks like the 15-minute city concept, supporting climate change adaptation through remote work, reconfigured mobility, and optimized space use. These innovations will deliver scalable, climate-resilient public space solutions aligned with the European Green Deal and Mission 100 Climate-Neutral Cities.

1 *The Role of Public Space in Building the Resilience of Cities: Analysis of Representative Projects from IFLA Europe Exhibitions* https://www.mdpi.com/2071-1050/16/12/5105
2 *Designing urban green spaces for climate adaptation: A critical review of research outputs*
3 Data-driven urban management: Mapping the landscape https://www.sciencedirect.com/science/article/pii/S2226585619301153
4 Achieving Sustainable Smart Cities through Geospatial Data-Driven Approaches https://www.mdpi.com/2071-1050/16/2/640
5 https://www.upperprojecteu.eu/

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Ambition B - Dynamic management of urban space

SotA: The dynamic management of urban space is a critical area of innovation to address challenges such as congestion, inefficient use of public spaces, and the need for greater adaptability in the face of climate-induced disruptions[6]. Advanced tools such as geofencing and real-time monitoring systems are increasingly employed to create geographically delineated zones with temporary regulations for specific uses, such as loading/unloading, pedestrian-only areas, low-emission zones (LEZ), and access control during extreme weather events[7]. These solutions enable cities to respond dynamically to changing conditions and optimize the allocation of urban spaces[8]. Projects such as UNCHAIN have demonstrated the potential of dynamic urban space management tools to foster efficient use of space. For instance, collaborative tools leveraging big data analysis and citizen/business feedback help identify congestion hotspots and opportunities for space reallocation, optimizing curb-side usage for parking, mobility, and other urban activities Dynamic curb-side management tools further enhance adaptability by integrating real-time monitoring, allowing for the efficient allocation of space and flexible regulation based on current demand. These innovations not only reduce congestion but also support sustainability goals by enabling better resource utilization and contributing to climate adaptation strategies.

Innovation potential in URBAN-FLOW: Based on the last results of UNCHAIN, URBAN-FLOW will introduce resilience against extreme weather conditions for the dynamic management of urban space. A key element of this work will be the design of a Dynamic Urban Space Management Tool (Geofences), enabling the geographical delineation of zones with temporary regulations tailored not only to diverse urban needs as pedestrianization or LEZ, but specially mobility access during disruptive climate events as floods, snowstorm and heat waves. The solution will combine big data analysis of historical mobility with feedback from local stakeholders to identify opportunities for more efficient space allocation. This will be further complemented by a Dynamic Curb-Side Management System, incorporating real-time monitoring to adapt space usage dynamically and efficiently. Special emphasis will be placed on districts prone to flooding, leveraging these tools to enhance their resilience.

Ambition C - Better use of transport modes

SotA: Optimizing transport modes and infrastructure in public spaces is essential for urban resilience and climate neutrality. Dynamic parking policies, supported by flexible management tools, have proven effective in reducing congestion, improving public health, and enhancing air quality. These policies include adjusting parking spaces seasonally or temporarily to provide charging stations for various vehicles. Sustainable urban mobility efforts have also adapted public space elements, like bus stops and metro stations, to ensure safety, addressing both gender and public health concerns (e.g., COVID-19). Initiatives such as municipal transport electrification and renewable energy integration, like solar panels in parking garages, showcase how dynamic space management supports broader climate goals, decarbonizing transport networks[9], and enhancing system resilience.

Innovation potential in URBAN-FLOW: The project will introduce innovative strategies to optimize transport infrastructure use within public spaces. A central focus is on flexible parking policies, enabling seasonal or temporary adjustments, and integrating photovoltaic systems to generate renewable energy for local applications, such as energy communities and vehicle charging. URBAN-FLOW will deploy advanced technologies, including automatic lighting adjustments and real-time incident detection. Multi-purpose parking spaces for businesses, schools, and shopping centres will be designed for maximum flexibility and efficiency. Additionally, the electrification of municipal transport depots, powered by photovoltaic systems and controlled by dedicated tools, will be a key element of URBAN-FLOW's sustainable urban mobility contributions.

6 Urban planning, design and management approaches to building resilience – an evidence review (WHO Eu Region) https://apps.who.int/iris/rest/bitstreams/1431915/retrieve
7 https://jpi-urbaneurope.eu/geofencing-is-reshaping-the-boundaries-of-urban-mobility/
8 https://unchainproject.eu
9 Full report: urban mobility strategies during COVID-19 https://www.eiturbanmobility.eu/wp-content/uploads/2021/03/Urban-mobility-strategies-during-COVID-19_long-1.pdf

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Ambition D - Smart energy systems

SotA: AI-based tools are driving innovation in smart energy systems by optimizing energy habits, reducing bills, and improving solar self-consumption management[10][11]. Energy One-Stop Shops, like València's example from the EBENTO project, empower citizens and institutions with insights for energy savings and renewable energy use. Collective renewable energy self-consumption has gained traction, with large-scale PV systems on public buildings enhancing efficiency and reducing grid dependency[12]. These systems employ demand-side management and predictive analytics, particularly benefiting vulnerable communities. However, fossil fuels remain the dominant energy source for air conditioning in Europe. Under the Energy Efficiency Directive, cities with over 45,000 residents must create energy plans to address decarbonized heating and cooling[13]. Projects like DecarbCityPipes2050[14] and MATCHUP[15], are developing transition roadmaps and district network solutions to decarbonize heating and cooling systems by 2050[16].

Innovation potential in URBAN-FLOW: URBAN-FLOW integrates AI-based tools into its energy management framework, focusing on user-friendly solutions for optimizing energy consumption and solar self-consumption. Building on EBENTO's Energy One-Stop Shop, the project incorporates advanced chatbots and tools for actionable energy-saving insights. It analyses and optimizes collective renewable energy self-consumption by leveraging MW-scale public PV installations connected to public buildings and vulnerable homes. URBAN-FLOW explores advanced battery integration, dynamic distribution coefficients, and flexible grid solutions to enhance energy resilience and optimize public space use. Additionally, it develops strategies for the decarbonization of heating and cooling networks through comprehensive Energy Master Plans, integrating climate-proofing to prepare for future environmental scenarios and ensure network reliability amid climate-related challenges[17].

Ambition E -City digitalisation

SotA: Cities worldwide are transforming rapidly due to advancements in AI, IoT, Digital Twins, and Big Data. These technologies help address climate change, mobility, and sustainability by enabling urban planners to simulate and visualize complex systems for data-driven decisions. Digital Twins, IoT, and AI have improved traffic and energy automation, reducing waste. However, gaps remain in applying digital twins for policymaking due to limited technical expertise and unclear value for policymakers[18]. Challenges also include limited citizen participation, insufficient data access, and interoperability issues. Privacy concerns arise from synthetic data generation, and integrating DT with governance frameworks requires addressing data access, control, and system compatibility.

Innovation potential in URBAN-FLOW: URBAN-FLOW will close these gaps by integrating digital tools with participatory governance models to create scalable solutions for climate-neutral cities aligned with the European Green Deal and Mission 100 Climate-Neutral Cities. The project will enhance data interoperability by building on standards like NGSI-LD and SensorThings API and extending them with AI-driven frameworks for seamless data exchange. Unified platforms will harmonize diverse data sources and enable real-time, high-resolution datasets for dynamic digital twins. Participatory tools will foster citizen co-creation and engagement, supported by AI-driven simulations for optimized urban planning. Immersive interaction tools, including CitiVerse, will enhance citizen involvement through augmented reality, allowing users to evaluate scenarios and enrich spatial data. The project will demonstrate digital twins' value to policymakers, integrate them into policy cycles, and establish robust data governance to ensure ethical, effective use.

10 Integrating artificial intelligence in energy transition: A comprehensive review https://www.sciencedirect.com/science/article/pii/S2211467X24003092
11 A Systematic Review on the Integration of Artificial Intelligence into Energy Management Systems for Electric Vehicles: Recent Advances and Future Perspectives https://www.mdpi.com/2032-6653/15/8/364
12 https://ebentoproject.eu/
13 https://www.europarl.europa.eu/RegData/etudes/BRIE/2023/754623/EPRS_BRI(2023)754623_EN.pdf
14 https://decarbcitypipes2050.eu/
15 https://www.matchup-project.eu/
16 https://www.tecnalia.com/estrategias-descarbonizacion-competitiva-economia-sociedad
17 https://jaspers.eib.org/LibraryNP/JASPERS%20Working%20Papers/2024/JASPERS_climate_resilience_sectoral_guidance_Nov2024.pdf
18 Ketzler, B., Naserentin, V., Latino, F., Zangelidis, C., Thuvander, L., & Logg, A. (2020). Digital twins for cities: A state of the art review. Built Environment, 46(4), 547-573.

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Ambition F – Better integration of NbS, Energy and Mobility Master Plans for enhancing Climate resilience

SotA: The New European Strategy on Adaptation to CC was recently published and represents a firm commitment to the climate resilience of European society and its territory by 2050[19]. The integration of climate resilience criteria into public policies and business strategies: urban planning and development, land use planning, infrastructures, energy and decarbonisation. Climate proofing is a term that refers to a process of mainstreaming climate change into mitigation and/or adaptation strategies and programmes, identifying two pillars of analysis that integrate (1) climate mitigation and (2) climate resilience/adaptation considerations into the development of infrastructure and urban planning projects[20]. In relation to resilience, NBS are conceived as interventions that use natural ecosystems or incorporate elements inspired by nature and its processes, to help society cope with climate change and to increase human restoration and wellbeing. This approach values multifunctionality and the environmental, social, and economic co-benefits of NBS being able to simultaneously respond to different urban challenges, as well as with good cost-effectiveness ratios. However, to successfully deploy NBS to address climate change, there exists specific challenges: the lack of integration of NBS in more general urban policies, impacts and supporting planning tools[21].

Innovation potential in URBAN-FLOW: URBAN-FLOW explores the climate-proofing approach (future scenarios to see future requirements and performance) along the different interventions of the project, specifically for the preparation of the Energy Master Plans and the analysis of the mobility networks, routes and itineraries. URBAN-FLOW proposes an operational system that integrates: i/ high resolution threat, dynamic vulnerability factors, ii/ risk and link with spatially explicit alert, customized for sectors and groups, that will feed the dynamic management related to public space, energy and mobility solutions. Additionally, the design of urban drainage systems (SUDS), based on NBS, with two purposes: reliability against rainfall events and the improvement of the urban green infrastructure linked with the dynamic public space planning aiming to increase human restoration and well-being. New knowledge, around the medium/long term of how these systems evolve over time will be generated.

Ambition G - Co-design platforms for regenerative planning

SotA: Co-creation has long been integral to urban planning and territorial development, both of which have historically been informed by participatory approaches involving citizens and multiple stakeholders. These processes seek to foster more inclusive and sustainable urban transformations and innovation. Consequently, there is broad recognition that public debates, consensus conferences, citizens' forums, co-creation workshops, deliberative initiatives, and even points of contention can lead to more responsible urban planning[22][23][24]. More recently, the growing complexity of urban-related issues, such as rapid urbanization, population growth, rising energy demands, as well as waste and water management, industrial transition, and renaturing, has prompted governments to encourage innovative participatory initiatives that involve citizens at an early stage[25]. Given their far-reaching implications for quality of life, cities are increasingly regarded as key laboratories for co-creation practices that can influence individual and organizational behaviours in areas like garbage collection, water treatment, infrastructure provision, and ecosystem restoration[26][27]. Some scholars explicitly invoke the concept of open-innovation ecosystems, such as living labs, to illustrate how co-creation unfolds within cities or urban areas[28].

Innovation potential in URBAN-FLOW: The project will enhance participatory urban transformation processes by establishing its city living labs as co-design platforms for regenerative planning, introducing two key innovations: 1) Expanding the role of citizens and stakeholders and fostering deeper interactions among citizens, stakeholders, and experts. URBAN-FLOW will employ co-creation methods and tools to redistribute decision-making power at the local level, thereby narrowing the gap between specialists and laypeople in addressing public issues. Traditional stakeholder management, primarily designed to

19 https://ec.europa.eu/commission/presscorner/detail/en/qanda_21_664
20 https://ec.europa.eu/commission/presscorner/detail/en/ip_21_3943
21 https://www.mdpi.com/2075-5309/13/5/1317
22 https://www.jstor.org/stable/27715071
23 https://www.researchgate.net/publication/233440414_Visualization_Tools_and_Methods_for_Participatory_Planning_and_Design
24 https://www.researchgate.net/publication/282785919_Participatory_e-planning_Bridging_theory_and_practice_through_improvements_in_technology
25https://www.researchgate.net/publication/228930536_Public_Participation_and_Local_Environmental_Planning_The_collective_action_problem_and_the_potential_of_social_capital
26 https://mariandoerk.de/urbancocreation/hpc2011.pdf
27 https://www.sciencedirect.com/science/article/abs/pii/S0959652612006452
28 https://www.sciencedirect.com/science/article/abs/pii/S0959652612006452

mitigate risks arising from divergent interests, will be enriched with more active involvement in planning and design, ensuring participants remain well-informed about the process and outcomes; 2) Integrating technologies to support co-creation. URBAN-FLOW will advance city local digital twins through various tools, dashboards, and enhanced visualization techniques, leveraging these resources to facilitate co-creation. This approach enables experimentation with digital twins and related visualization methods in participatory urban planning, benefiting not only professionals and decision-makers but also citizens and other stakeholders, and marking a significant step forward in urban living lab practices.

Ambition H – Enhancing integrated data and models for urban regeneration spatio-temporal mapping

SotA: Integrating data and models for urban regeneration, especially spatio-temporal mapping, remains limited in scope and impact. Current urban planning tools often work in isolated domains, focusing separately on transport, energy, or environmental systems without the interoperability needed to capture the complex interactions among them. These tools primarily rely on static data or short-term projections, failing to provide dynamic, real-time insights into evolving urban conditions. Data sharing within mobility ecosystems faces challenges due to privacy concerns and limited trust among stakeholders[29], with organizations hesitant to share data freely. Data spaces aim to address these issues by establishing governance mechanisms to manage data ownership, control, and access rights, fostering trust and collaboration[30]. However, the lack of standardized frameworks across cities hinders the scalability and replication of successful models. Existing systems also lack the capability to detect subtle yet critical changes in urban conditions that could enhance decision-making and regeneration efforts.

Innovation potential in URBAN-FLOW: URBAN-FLOW will advance beyond static tools by developing dynamic spatio-temporal models that integrate diverse data streams, such as energy use, transport, and environmental monitoring, into a holistic, multi-scale framework. This approach will enable real-time monitoring of urban conditions, more accurate baseline detection, and continuous assessment of regeneration efforts across different scales, from neighbourhoods to entire cities. The project will develop Local Digital Twins to simulate regeneration scenarios and monitor outcomes in real time, enhancing stakeholder engagement through accessible visualizations. By implementing a standardized data framework based on data spaces, URBAN-FLOW will create scalable, replicable solutions for diverse urban contexts. Key innovations include a strategic-fit tool to foster collaborative data ecosystems by aligning stakeholders and addressing privacy and competitive concerns. The project will co-create data governance principles tailored to urban mobility, ensuring data interoperability, trust, and accountability. Additionally, it will design business models that balance economic sustainability with equitable value sharing, ensuring long-term data collaboration and scalable data ecosystems.

Ambition I – Enhancing HIA and IAF to develop a CN scoring index for boosting Rethinking Urban Spaces

SotA: Current urban monitoring systems primarily rely on static environmental metrics, such as air quality indices and noise pollution levels, gathered through isolated sensors and static observation points[31]. Existing HIA frameworks remain fragmented and depend on legacy data and retrospective analyses, which limit their ability to assess environmental and health risks in real time, particularly in rapidly changing urban contexts[32]. Spatial analysis tools, e.g. Geographic Information Systems, provide foundational mapping capabilities but lack the dynamic adaptability needed for continuous monitoring and response to emerging threats[33]. Cities do not yet implement a standardized scoring framework integrating key metrics related to climate neutrality, mobility, and energy efficiency into a unified model for assessment and comparison. A critical problem exists within IAF, as they often fail to deliver comprehensive, cross-sectoral insights, leading to fragmented decision-making and limited capacity to evaluate the full long-term impacts of climate-neutral (CN) measures on health, mobility, and energy systems[34].

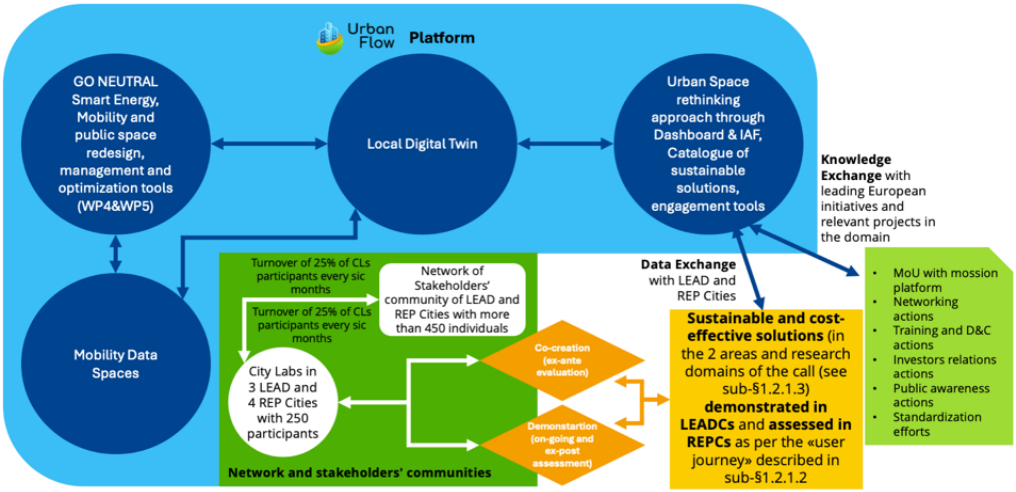
Innovation Potential in URBAN-FLOW: The URBAN-FLOW project develops dynamic, integrated monitoring tools that combine real-time data streams from LDTs and MDS, overcoming the limitations of

[29] Fabrègue, B.F.G.; Bogoni, A. Privacy and Security Concerns in the Smart City. Smart Cities 2023, 6, 586-613.
[30] https://digital-strategy.ec.europa.eu/en/library/staff-working-document-data-spaces
[31] Moreno, C. (2020). *The 15-minute city: For a new chrono-urbanism*. Paris: Urban Innovation Press.
[32] UNCHAIN Consortium. (2021). *Dynamic urban space and climate adaptation solutions*. Helsinki: UNCHAIN Project Publication.
[33] València Climate Resilience Report. (2022). *Resilience strategies for sustainable and climate-neutral cities*. València: Urban Sustainability Board.
[34] European Commission. (2022). *Climate action and investment strategies in urban areas*. Brussels: European Commission.

static environmental models. By embedding predictive AI-based analytics, the enhanced HIA framework provides real-time assessments of environmental and health risks, enabling cities to implement immediate mitigation measures during critical events like heatwaves or flooding. The HIA measures, expressed in policy-relevant metrics such as Years of Life Lost (YLLs) and Disability-Adjusted Life Years (DALYs), integrate directly into decision-making processes. These metrics become part of the IAF, alongside other impact indicators related to mobility, energy, and the environment, providing a comprehensive view of policy impacts across the entire cycle (ex-ante, ongoing, ex-post). This integration equips decision-makers with the tools to evaluate the full impact of CN measures. Furthermore, URBAN-FLOW introduces a Climate Neutrality (CN) scoring index, which merges key indicators across energy, mobility, and public space use to serve as a benchmark for climate-resilient urban planning. This index offers clear, measurable performance indicators to guide decision-making and attract impact investors by showcasing the viability and effectiveness of CN measures. By demonstrating economic, environmental, and social returns, the index mobilizes capital and accelerates CN implementation. Through the integration of these tools, URBAN-FLOW facilitates adaptive and inclusive decision-making, allowing cities to respond dynamically to evolving environmental challenges while supporting long-term sustainability and resilience goals.

1.2 Methodology

1.2.1 Concept and approach



URBAN-FLOW is an ambitious project that aims to transform European cities into more liveable, accessible, and climate-neutral spaces. By fostering the integration of sustainable mobility, energy-efficient solutions, and dynamic public space management, it addresses the challenges of limited urban space, suburban connectivity, and environmental resilience. The project is demonstrated across **3 LEADCs and 3 REPCs**, with scalable solutions co-created through active participation from a community network of about **450 local authorities' representatives, citizens, and stakeholders belonging to the pilot cities** (T2.1). The core of URBAN-FLOW's approach is the co-creation of sustainable urban regeneration measures through participatory processes in CLs established from the community network of stakeholders of LEADCs and REPCs (T2.2). These labs act as hubs for co-creating, testing, and validating solutions that **rethink urban spaces with a more cohesive and holistic approach towards CN**. Leveraging a systemic methodology outlined in the URBAN-FLOW user journey (sub-§1.2.1.1), the project ensures that its solutions address the unique needs and contexts of each city while providing a blueprint for replication and scaling (WP6). It integrates digital tools, including LDTs and real-time data monitoring through Mobility Data Spaces, to enhance decision-making processes and optimize energy and mobility management (WP3-4-5). **This integration should focus on maximizing real-time adaptability by incorporating predictive analytics and dynamic feedback loops to ensure quick responses to changing urban conditions.** These innovations, supported by participatory governance models, enable cities to dynamically manage public spaces and deploy adaptive solutions tailored to different urban contexts **by bridging gaps between urban and suburban areas, ensuring cohesion and seamless transitions.** This aligns with the two areas of intervention and research actions identified in the HORIZON-MISS-2024-CIT-01-01 call for proposals and listed in sub-§1.2.1.2. Moreover, the project employs innovative simulation models, combining urban planning with climate resilience and social inclusiveness, to ensure that sustainable solutions meet long-term environmental goals. The project also emphasizes sustainable business models, aiming to unlock investment opportunities for urban regeneration and resilience. Supported by expert partners, a business model draft

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will be developed, detailing strategies for sustainable exploitation, such as public-private partnerships, licensing, and spin-offs. This approach is refined into a comprehensive business plan, ensuring the long-term viability and scalability of URBAN-FLOW outcomes (T8.5). Demonstration activities in the LEADCs will showcase practical applications of integrated urban planning, sustainable mobility, and energy optimization, serving as transferable examples for replication in the REPCs and other European cities through **structured, iterative mutual learning processes that facilitate feedback and refinement** (T7.1), Climate Neutral Replication plans for REPCs (T7.3), overall Impact Assessment (T7.4), policy recommendations (T7.5), and social awareness actions (T8.3). In line with the HORIZON-MISS-2024-CIT-01-01 objectives, it establishes a dynamic ecosystem that fosters collaboration among cities, policymakers, and communities. To this end, an effective D&C effort is organized (T8.1), together with capacity-building (T7.2) activities for internal stakeholders' communities of LEAD and REP Cities and external stakeholders of other urban contexts (see paragraph 2.2). Standardization and interoperability (T8.4) efforts strengthen the replicability potential of the project. **This is achieved by ensuring all tools and methodologies are modular and interoperable across different technological systems and policy environments.** This is further sustained by an intensive networking and collaboration effort (T8.2) with leading European associations and initiatives in the domain, **[reinforced through knowledge-sharing workshops and joint collaboration platforms]**, since the beginning of the project as it is testified by the MoU that will be signed with Mission Platform within the first six months of the project start (T8.2). Through its orchestrated interventions, it generates data-driven insights, enabling cities to co-create and implement urban solutions that are scalable, context-aware, and effective in achieving long-term sustainability.

1.2.1.1 Methodological Approach

URBAN-FLOW proposes a methodology that is designed to sustain a systemic approach to transform urban public spaces and its integration in the European cities and regions. URBAN-FLOW will be implemented in 5 phases:

Phase 1 - (IMAGINING WITH STAKEHOLDERS) - Foundational Elements of URBAN FLOW

Key Activities: This phase begins by engaging a Stakeholders' Community of about 450 members, including local authorities, citizens, private sector representatives, and civil society organizations. Together, they will identify challenges such as inefficient public space use, mobility issues, and energy inefficiencies, and co-create reference scenarios for sustainable urban regeneration. Dynamic public space reconfiguration strategies and common rules for procurement and demonstration will be developed with stakeholder input (Activity 1, T2.1, T2.3, T2.6). Around 250 stakeholders (25% rotating every 6 months) will participate in CLs within LEADCs and REPCs (Activity 2, T2.2). CLs will help define baselines and co-create regeneration measures based on initial findings from Activity 1. An impact assessment framework will evaluate proposed interventions against environmental, social, and economic indicators (Activity 3, T2.4), with IAF applied throughout the policy cycle (ex-ante, ongoing, and final assessment). Technical requirements for an interoperable Mobility Data Space integrating real-time data on mobility, energy, and public space will be defined (Activity 4, T2.5). Capacity-building programs will ensure ongoing stakeholder engagement and participation (Activity 7, T7.2). **Outcomes:** This phase will produce co-designed reference scenarios for LEAD and REP Cities, an impact assessment framework for policy evaluation, technical requirements for the URBAN-FLOW platform, and common rules for demonstrations and ex-ante evaluations. **Relations with Other Phases:** Phase 1 lays the groundwork for Phase 2's digital development, Phase 3's co-creation and demonstrations, and Phase 4's knowledge transfer activities.

Phase 2 - (DIGITALIZING) - URBAN FLOW Framework Design and Development

Key Activities: In Phase 2, the project begins with the definition of technical guidelines governing the development and integration of the URBAN FLOW platform (**Activity** 1, T3.1). The Mobility Data Spaces will be developed with interoperable layers that enable seamless data integration across cities, covering mobility patterns, energy use, and public space monitoring (**Activity 2**, T3.2 and T3.3). An online collaboration platform will be developed to facilitate real-time engagement among stakeholders belonging to CLs, allowing for continuous feedback and progress tracking (**Activity 3**, T3.4). The platform itself will be developed by integrating LDTs, impact dashboards, and a catalogue of sustainable solutions that cities can reference when designing interventions (**Activity 4**, T3.5). The platform will offer services to redesign public spaces dynamically (WP4) and improve transport and energy systems for

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climate neutrality (WP5). Development of the HIA models and toolbox for assessing the population health impact of the CN measures and to develop the CN Composite Intex to give the Cities the possibility to monitor their progress toward CN and benchmark with the others (**Activity 5**, T3.6). **Outcomes:** The platform, fully equipped with digital tools and technical infrastructure, will enable real-time monitoring, stakeholder interaction, and evidence-based decision-making for urban regeneration. **Relations with the other phases:** The platform outputs will directly support the co-creation and validation activities in Phase 3, while its impact monitoring features used in Phase 4 to guide knowledge transfer and scaling efforts.

Phase 3 - (DEMONSTRATING) - Co-Creation and Demonstration in pilot cases of LEADCs

Key Activities: This phase begins with a detailed baseline analysis of each pilot area to establish key performance indicators for mobility, energy, and public space (**Activity 1**, T6.1). The Local Digital Twins and Mobility Data Spaces developed in Phase 2 will be customized to reflect the unique characteristics of each city, ensuring their relevance and effectiveness (**Activity 2**, T6.3,6,9). Co-creation sessions will be conducted in the CLs, following a structured user journey that engages stakeholders in designing and refining innovative solutions tailored to local challenges (**Activity 3,** T6.4). Demonstration activities will involve the real-world implementation of co-created solutions in pilot areas, supported by ongoing data collection and monitoring and to conduct on-going impact evaluation (every 3 months) for defining mitigation actions and producing sustainable measures for the end of the demonstration period (**Activity 4,** T.5 and T.5). Stakeholder capacity-building will continue throughout this phase to ensure active and informed participation (**Activity 6**, T7.2). **Outcomes:** This phase will result in validated and refined urban regeneration solutions, tested and demonstrated in real-world conditions in LEAD Cities, and ready for scaling and replication. **Relations with the other phases:** The insights and lessons learned from the demonstrations will be fed back into Phase 2 for platform refinement and into Phase 4 to support knowledge co-creation and scaling.

Phase 4 - (UNDERSTANDING & SCALING) - Knowledge Co-Creation and Scaling

Key Activities: Phase 4 begins on the results of the Demonstration phase in LEADCs (Phase 3) to develop Climate Neutral Replication Plans of each REP city with tailored guidance on implementing successful solutions and adapting them to their specific needs (**Activity 1**, T7.3). To this end and on the bases of the REPs challenges, needs, barriers and scenarios developed in T2.2, the REPCs will conduct an ex-ante impact evaluation of the most addressed urban regeneration solutions demonstrated in LEADCs and adapted to the local baselines assessed in T7.3. A comprehensive impact assessment will be conducted to evaluate the project's overall success, providing insights for future applications (**Activity 2**, T7.4) as well as will be conducted a mutual learning sessions, where stakeholders from LEAD and REP Cities, share experiences, challenges, and best practices gained during the demonstration activities and the ex-ante impact evaluation of the Replication Plans made in REPCs (**Activity 2**, T7.1). The capacity-building programs initiated in earlier phases will be expanded to equip stakeholders with the knowledge and skills needed for successful replication of solutions in different contexts as well as for creating capacity building courses for other urban areas engaged during the dissemination and networking activities in WP7 (**Activity 3**, T7.2). Policy recommendations and guidelines will be developed to help policymakers integrate the project's outcomes into urban planning frameworks (**Activity 4**, T7.5). **Outcomes:** The outcomes include enhanced stakeholder capacities, Climate Neutral Replication Plans for REPCs, and actionable policy recommendations that support the scaling and sustainability of the project's solutions. **Relations with the other phases:** The replication and scaling strategies developed in this phase will build upon the lessons learned from Phase 3 and contribute to the dissemination and exploitation activities in Phase 5.

Phase 5 - (DISSEMINATING, SHARING & EXPLOITING) – D&C Business Plans, and Recommendations

Key Activities: The final phase of the project consolidates and disseminates its outcomes through a targeted communication and dissemination plan detailed in paragraph 2.2, sharing key findings and best practices with policymakers, industry stakeholders, and the general public (**Activity 1**, T8.1). Partnerships with European mission platforms will be formalized through Memoranda of Understanding within the first six months of the project, enabling long-term collaboration and knowledge exchange (**Activity 2**, T8.2). Public awareness campaigns will highlight the project's achievements and promote sustainable urban practices (**Activity 3**, T8.3). To ensure the financial sustainability of the solutions, business plans

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will be developed, exploring opportunities for public-private partnerships and innovative financing mechanisms (**Activity 4**, T8.5). Additionally, efforts will be made to standardize the project's methodologies and ensure the interoperability of its digital tools across different urban contexts (**Activity 5,** T8.4). **Outcomes:** This phase will produce comprehensive business plans, widely disseminated knowledge, and policy recommendations that ensure the long-term impact and scalability of the project's outcomes. **Relations with the other phases:** The dissemination activities will leverage the validated solutions from Phase 3 and the replication plans from Phase 4, ensuring that the project's impact extends beyond its duration.

1.2.1.1 Systemic approach and "user journey" for the selection of urban intervention

The **User Journey**, which interactive Loops of the participatory decision-making process of climate neutral solution co-creation are depicted in the figure outlines the sequential steps taken to co-create, test, and scale urban regeneration measures focused on climate neutrality and sustainability. The steps are detailed in **Table 2**, which integrates tools, methodologies, and stakeholder engagement mechanisms. The 3 **CLs for 3 LEADCs with 50 participants each and 3 for REPCs with 25 participants each** play a pivotal role in URBAN-FLOW, serving as the primary hubs for stakeholder engagement, data-driven decision-making, and co-creation of climate -neutral urban solutions. By involving a diverse range of stakeholders—from residents and local businesses to policymakers and technical experts—CLs ensure that interventions are inclusive, scalable, and responsive to local contexts. This **User Journey** integrates the specific work packages, tasks, and stakeholder dynamics of URBAN-FLOW while adhering to the call's objectives.

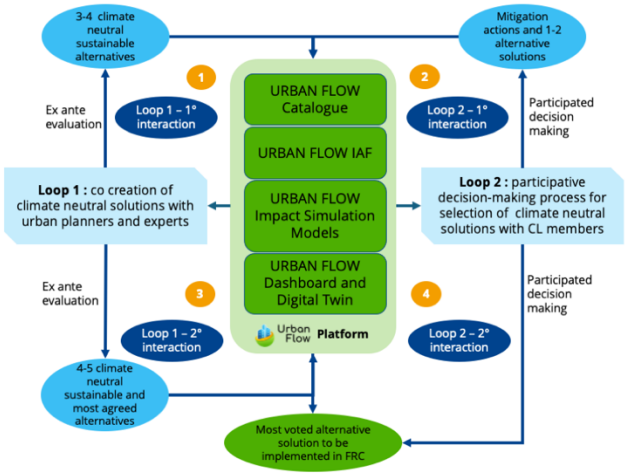

Table 2: Steps of the User Journey (UJ) with Tools, Methodologies, and Stakeholders

Step	Description for LEADCs and REPCs	WP-Task	Stakeholders Engaged
Preparatory Steps A	As described in the **Phase 1 - (IMAGINING WITH STAKEHOLDERS) - Foundational Elements of URBAN FLOW**		
Preparatory Step B	As described in **Phase 2 - (DIGITALIZING) - URBAN FLOW Framework Design and Development**		
User Journey (UJ) main steps	As described in **Phase 3 (DEMONSTRATING) - Co-Creation and Demonstration in pilot cases of LEADCs and described in the two interrelated Loops below:**		
UJ. S1 Loop 1	Customization of LTD and MDS in Pilot. Identify baselines of each LEAD and REP Cities and conduct ex-ante evaluations of the interventions in LEADCs to assess environmental, health, social, and economic impacts.	URBAN-FLOW platform and T6.1 and T6. 2,5,8	Urban planners, environmental analysts, public authorities, academic researchers, energy and mobility providers.
UJ. S2 Loop 2	Co-create alternative urban regeneration measures through participatory workshops and integrate them into planning frameworks in CLs of LEADCs	URBAN-FLOW platform and T6.2,5,8	Community representatives, NGOs, public officials, academic researchers, energy and mobility providers.
UJ. S3 Loop 1 (2nd interaction)	Validation of the sustainability of the mitigation actions and/or the alternative solutions made by the consultation in Loop 2. Co-design of 4-5 alternative solutions that are sustainable and agree with the local	URBAN-FLOW platform and T6.3,6,9	Urban planners, environmental analysts, public authorities, academic researchers, energy and mobility providers.

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	communities and all stakeholders in CLs of LEADCs		
UJ. S4 Loop 2 (2nd interaction)	Final vote of the solution to be implemented in pilot site of each LEADCs	Final solution per pilot area of each LEADCs based on the 4-5 sustainable alternative scenarios of UJ. S3 (2nd interaction). URBAN-FLOW platform and T6.,6,93	All members of the CLs of each LEADC
UJ. S5 Deployment Step 1	Develop collaborative procurement frameworks for implementing selected solutions in pilot sites.	Rules defined in T2.6 and implemented in LEADCs. URBAN-FLOW platform and T6.4,7,10	Procurement specialists, local government officials, and private sector stakeholders.
UJ. S6 Deployment Step 2	Deploy co-created solutions in LEADC pilot areas, focusing on dynamic public space management, sustainable mobility, and energy optimization.	URBAN-FLOW platform and T6.4,7,10	Urban developers, mobility service providers, energy operators, and local businesses.
UJ. S7 On-Going monitoring	Conduct ongoing evaluations of implemented measures to monitor impacts and refine strategies. Assess data and feedback to co-develop mitigation actions.	URBAN-FLOW platform and T6.4,7,10	Data analysts, local administrators, community leaders, and policy experts.
UJ. S8 Climate Neutral solution management	Co-create mitigation action plans based on ongoing evaluations to enhance the sustainability of implemented solutions. Implement mitigation measures to optimize the resilience and effectiveness of solutions and return to UJ. S7.	URBAN-FLOW platform and T6.4,7,10	Environmental planners, urban policymakers, citizen groups, and technical consultants. Urban planners, local authorities, private stakeholders, and energy and mobility providers.
Final evaluative and transferability actions	As described in **Phase 4 - (UNDERSTANDING & SCALING) - Knowledge Co-Creation and Scaling**		

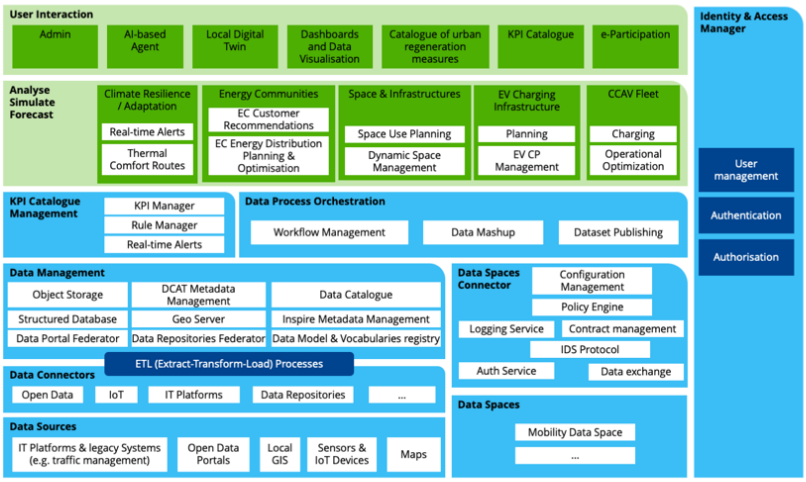
1.2.1.2. URBAN FLOW Measures and addressed areas/research actions of the call in the LEADCs and REPCs

The table below maps the **8** Research Directions (**RD**) under Intervention **Area 1** (Reallocation of space and infrastructure redesign) and the **3** Research Directions under Intervention **Area 2** (Dynamic curb-side management and use) to the expected CN solutions that LEAD pilots aim to demonstrate. It also highlights the REPs interested in assessing the applicability of these solutions in their urban areas. Details on CN interventions and related quantitative KPIs can be found in the pilot descriptions (§1.2.1.4). **Table 3: Call measures by LEAD and REP Cities**

Expected Measures of the call and Cities where they will be tested	LEAD Cities			REP Cities		
	VLC	FI	TA	ED	BE	PIL
A1.RD1 Integrated transport and urban planning tools linked to SUMPs	✓	✓	✓	✓	✓	✓
A1.RD2 Reallocating or multifunctional use of EM infrastructure		✓	✓	✓	✓	
A1.RD3 Utilizing existing infrastructure to scale sustainable mobility		✓	✓	✓		
A1.RD4 Engaging service providers and infrastructure managers	✓	✓			✓	✓
A1.RD5 Road space allocation and smart distributed energy pilot projects	✓	✓		✓	✓	✓
A1.RD6 Using current infrastructure for energy communities and sharing	✓			✓		
A1.RD7 Decarbonizing heating and cooling networks	✓			✓		
A1.RD8 Optimizing green and blue infrastructures at city/street levels	✓	✓	✓			

A2.RD1 Dynamic urban space management based on changing needs	✓	✓	✓	✓	✓	✓
A2.RD2 Developing tools and guidelines for dynamic space management	✓	✓	✓		✓	✓
A2.RD3 New financial models for curb-side management	✓	✓	✓	✓		✓

1.2.1.3 High level data architecture and Key Exploitable Results (KERs) with their Initial and Final TRL



The **URBAN-FLOW IT reference logical architecture** consists of eight layers, each playing a key role in enhancing platform functionality and efficiency. The **Data Connectors layer** establishes connections to diverse data sources, including IoT devices, data repositories, and local or legacy systems. This layer ensures that the platform can gather and integrate data from multiple origins for seamless processing. The **Data Management layer** organizes and prepares data for advanced analysis and AI-driven processes. It includes object storage for large datasets, structured databases for organized retrieval, and a context broker for dynamic data management using publish/subscribe mechanisms. The Data Repositories Federator merges information from various repositories such as Cassandra, Hive, and PostgreSQL, ensuring consistency. The Data Portal Federator provides unified access to scattered open data portals. The Geo Server manages georeferenced data, including map layers generated by the platform's analytics and simulations. Enhanced with DCAT and Inspire Metadata Management, the platform ensures accessible metadata and a shared data model registry to support interoperability. Between the Data Connectors and Data Management layers, the **Extract-Transform-Load (ETL) worker** processes and harmonizes incoming data via open APIs like SensorThings and NGSI-LD. It aggregates and standardizes data, enabling advanced analytics and simulations. A suite of **Data Process Support Tools** handles tasks like workflow management, AI algorithm implementation, and KPI monitoring through a customizable KPI Catalogue Management system. The **Analyse-Simulate-Forecast layer** delivers advanced analytics, simulations, and multi-objective optimization. It supports climate resilience assessments (e.g., thermal comfort maps, real-time warnings), energy community planning, public space allocation impact analysis, and dynamic space management. This layer also optimizes electromobility through smart charging, connected autonomous vehicles, and bi-directional charging systems. The **User Interaction layer** offers a unified and user-friendly interface for stakeholders. It integrates the **Local Digital Twin**, providing immersive 3D visualizations for participatory co-design and scenario simulations. Dashboards and data visualization tools simplify complex information, while the **Catalogue of Urban Regeneration Measures** offers centralized access to project data. The **KPI Catalogue** defines reference KPIs, and **AI-based virtual assistants** guide users via natural language interfaces. The layer also includes **e-Participation tools** for stakeholder engagement and an **Admin module** for platform management. The **Data Space Connector layer** ensures interoperability with European Data Spaces, aligning with initiatives like DSSC, IDSA, and SIMPL for secure data handling and sharing. The **Identity & Access Manager** provides user management, authentication, and secure access control across the platform, ensuring proper functionality and data security. Finally, URBAN-FLOW will align with the **EU Local Digital Twin (LDT) Toolbox initiative**, enhancing its scalability and long-term adaptability.

Main IT assets provided by project partners contributing to the implementation of URBAN-FLOW LDT

Digital Enabler (ENG): Start TRL 5 (considering it applied to the specific domain of URBAN-FLOW) - End TRL 7. A data driven, native cloud, ecosystem platform composed of a set of independent and interoperable tools (e.g. data and KPI management, connectors, etc.) to discover, integrate, harmonise, visualise scattered and multi-source data, and enable interoperability among third party systems, speeds

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up the development of new domain specific applications. It will be tailored and verticalized to support planning and dynamic management or urban spaces. Digital Enabler contributes to KER2, KER4, KER6, KER7.
DECIDIM (ENG): Start TRL 5– End TRL 7; Open-source platform to support citizen engagement and participation activities in the democratic processes of a city. Towards data-driven / evidence-based participatory process, Decidim has been integrated with dataset management tool of the Digital Enabler to allow reuse of dataset in content (e.g. comments, post, etc.). It will be further integrated with the KPI Management solution and LDT. Dicidim contributes to KER1, KER3, KER4, KER 7.
Coney Toolkit (CEF): Start TRL 6 - End TRL 8; A complete toolkit for design, administration and analysis of conversational surveys. Coney represents a solution to better engage with the end-users and improve response rate while gathering relevant and actionable data. The tool will be integrated into the user engagement solutions developed by the project support the definition and analysis of multilingual surveys. Coney Toolkit contributes to KER3, KER4.
Chimera (CEF): Start TRL 5 - End TRL 6; Chimera is a customizable software framework for data enrichment and harmonization. Chimera offers components to define schema and data transformation pipelines based on Semantic Web solutions. The tool will be enhanced to support harmonisation and fusion of data needed by URBAN-FLOW. Chimera contributes to KER2.
U-NEED (ETRA): Start TRL 6 - TRL 8; U-NEED is an advanced data analytics tool to optimizing public transportation systems. The tool will consider the specific condition of disruptive climate events to adapt mobility in the city. U-NEED contributes to KER3, KER4, KER7.
ELECTRA (ETRA): Start TRL 5 - TRL 7; ELECTRA allows the management and planning of the charging sessions of an electric bus fleet. The tool will consider the availability of V2G and the use of charging point for different types of EV. ELECTRA contributes to KER5, KER7.
CITY-LOG (ETRA): Start TRL 6 - TRL 8; Tool to help the local authorities to define the most appropriate location of new parking spaces for loading / unloading purposes. The tool will support the dynamic use of public space as response to disruptive climate events. CITY-LOG contributes to KER3, KER4, KER5, KER7.
INES CLOUD (MUN): Start TRL 5 (considering the new functionalities in URBAN-FLOW) - End TRL 7: INES Cloud is a modular platform for digitizing urban mobility and parking services. Certified in the national SaaS marketplace, it integrates multiple application modules, field devices, and external systems, offering a solution to regulate vehicle access and manage permits. The platform will be evolved with new API for data acquisition from new data sources, a data visualization tool and a recommendation and alerting tool to support policy makers. INES CLOUD contributes to KER3, KER4, KER5, KER7.
MUV CLOUD (MUN): Start TRL 5 (considering the new functionalities in URBAN-FLOW) - End TRL 7; MUV Cloud is a cloud-native, interoperable platform to develop multimodal mobility services. It supports sustainable transport with a user app for trip planning and ticketing, and an operator interface for data integration, analytics, and service management. MUV Cloud will be evolved with vehicle tracking features to monitor vehicles journey within the LEZ area and to apply dynamic road pricing based on real mileage. MUV CLOUD contributes to KER3, KER4, KER5, KER7.
THERMAL COMFORT (TEC): Start TRL 5 – End TRL 8; Tool for the identification of optimal location of climate refugees and comfortable itineraries, based the thermal comfort criteria and specific accessibility needs. Industrialization of previous developments, inclusion of cycling, pedestrian mobility, public transport stops, school spaces. THERMAL COMFORT contributes to KER3, KER4, KER7.
Digital Twin Solution (TEC): Start TRL 7 - End TRL 8; The Digital Twin Solution allows you to view different elements of the city in layers such as buildings, green areas, roads and points of interest; and view its attributes. Progression from 2D and 3D to fully-immersive 3D (metaverse) interaction, adapted to different co-desing urban planning processes. Digital Twin Solution contributes to KER3, KER4, KER7.
SMART GEOSPATIAL CHAT (TEC): Start TRL 4 - End TRL 7; Generative AI-based tools supporting the consultation and exploitation of information from the municipal GeoPortal. Extension of scenarios, considering heterogenous data and complex queries and interfaces. Industrialization of developments. SMART GEOSPATIAL CHAT contributes to KER7.
ENERGY COMMUNITIES OPT (TEC): Start TRL 5 - End TRL 8; A module that allows the solar energy generated by a building with photovoltaic panels to be distributed among other buildings in its

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surroundings. Improvement of optimization algorithms. Evolution of its UI and integration on DigitalTwin. ENERGY COMMUNITIES OPT contributes to KER3, KER4, KER7.
TATEBE (VTT): Start TRL 4 - End TRL 6; Tampere EV charging testbed for innovative charging technology experiments and assessment. V2X technology interoperability capabilities and user experience evaluation possibilities will be added. TATEBE contributes to KER4.
Remote Control Center (REM): Start TRL 4 - End TRL 6; Remote supervising and controlling automated vehicles including facilities, HW, SW and connectivity. Support for on-demand and/or assisted services will be added. Remote Control Center contributes to KER2, KER5, KER7.
DataHub (KENT): Start TRL 6 - End TRL 8; Aims at managing protocols and devices heterogeneity and provides access to data/actions of IoT devices. Creation of specific data bridges and data models to fit the project pilot needs for interoperability. DatHub contributes to KER2.
Kentyou Eye (KENT): Start TRL 5 - End TRL 7; Urban hypervisor solution to visualize urban data, provide forecasts and decision support for municipal actors. Creation of dedicated data analytics and decision support solutions for the project pilots. Kentyou Eye contributes to KER4, KER6, KER7.
EPISODE-CityChem (PV): Start TRL 7 - End TRL8; open-source urban air quality model that simulates city-level pollutant dispersion and chemical interactions, providing high-resolution exposure estimates for pollutants like NO_2, O_3, and $PM_{2.5}$. EPISODE-CityChem contributes to KER8.
BenMAP-CE (PV): Start TRL 7 - End TRL8; BenMAP-CE quantifies health impacts of air pollutants on mortality and respiratory diseases, using exposure-response functions. BenMAP-CE contributes to KER8.

The following table list the technical KERs of the project together with their Initial and Final TRL.

KER	Brief Description	Link with KR	Addressed Measures	Expected TRL
KER1	Climate-neutral planning policies and baseline strategies for urban areas	KR-3, KR-2, KR-4	A1.RD5 A2.RD2,3	TRL7
KER2	Collaborative platform for data sharing and governance across CLs	KR-5, KR-21	A1.RD4	TRL8
KER3	URBAN FLOW framework for the co-creation of sustainable urban regeneration measures	KR-7, KR-8, KR-9	All	TRL8
KER4	Integrated urban planning decision-support framework	KR-18, KR-19, KR-12, KR-16, KR-17	All	TRL8
KER5	Digital tools for dynamic space allocation and sustainable mobility optimization	KR-10 to KR-13	A1.RD1,2,3,5 A2.RD1,3	TRL8
KER6	Impact Assessment Framework (IAF) for evaluating climate, energy, mobility, and health impacts and CN Index	KR-14; KR-15, KR-23	A1.RD8 A2.RD2,3	TRL8
KER7	Digital Twin and unified data platform for integrated energy, transport, and land-use planning	KR-18, KR-20	A1.RD*	TRL8
KER8	Health Impact Assessment (HIA) Toolbox	KR-22	A1.RD8 A2.RD2	TRL8

In section 2.2 will be added non-technical KERs to provide a full picture of the URBAN FLOW exploitation strategy.

1.2.1.4 URBAN-FLOW pilots' interventions and demonstration activities

VALENCIA: ***Dynamic urban space management for climate neutrality and resilience against climate change***

Description Valencia, Spain's third-largest city with 830,000 residents, is a sustainability and urban innovation leader. After a 1957 flood, it transformed the old Turia Riverbed into a 7-km urban park. Committed to climate neutrality by 2030, Valencia follows various sustainability policies and participates in the European initiative 100 Smart and Climate Neutral Cities. As the 2024 European Green Capital, it hosted over 400 climate action events and aims to cut CO_2 emissions by 40% by 2030.

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It’s also a smart city innovation hub, hosting the South European AI Supernode of Citcom.ai and leading projects like EDIC Citiverse, applying AI and LDT to urban challenges.
Needs / Problems to solve (pitch) The recent flood in Valencia caused major disruptions, damaging streets, buildings, and public spaces, and overwhelming drainage systems. Transportation and road access were severely impacted, affecting homes, businesses, and agricultural areas. Valencia's recovery strategy focuses on resilience and sustainability, including flood-resistant infrastructure, redesigned streets for walking, cycling, and public transport, and smart mobility solutions. Citizen participation is key, aligning with climate adaptation and inclusive urban planning goals.
Background (description of pilot zone and ongoing actions) Reconstruction will target the heavily flooded southern districts of La Torre, Forn d'Alcedo, and Castellar-l'Oliveral, with €38 million in city funds and €2.2 billion in national funding. Valencia aims to rebuild sustainably, modernize infrastructure, transform public spaces, and improve mobility systems, using cutting-edge technologies to enhance resilience and quality of life.
Proposed intervention actions Dynamic Urban Space Management Tool (geofences): delineates zones with temporary regulations for urban space uses (loading/unloading, events, mobility control during extreme weather and others). Extended Accessibility Analysis Tool: aligns with the 15-minute city concept, focusing on resilience support planning for climate change, optimizing sustainable mobility routes and itineraries, including cycling, pedestrian, public transport stops, school spaces, existing climate shelters and incorporates dynamic thermal planning with alert system based on existing analyses. #SSH to coordinate infrastructure use vs. energy supply and extreme weather events– e.g. remote work during heat waves. Collaborative Tool for Optimal Curb-Side Use Planning: Analyse big data on historical patterns and feedback to identify congestion and reallocate space. Dynamic Curb-Side Management: real-time efficient space allocation, adaptable regulations, supervision, and pricing models, involving carpooling companies who will test a #carpooling system adapted to flood-affected districts. #Flexible parking policies allow for temporal or seasonal space modifications, including photovoltaics for energy communities or charging services, and nature-based solutions. They feature automatic lighting adjustment and incident detection, adaptable for various uses (companies, schools, shopping centres). #Electrification of EMT garages with PV deployment and control system. #AI-based tools for the Energy One-Stop Shop, optimizes energy habits, bills, and solar self-consumption and to guide local entities towards the sustainable practices established in the signed commitment (reduction of consumption, circularity, renewables, mobility plans, etc) # Analysis and optimisation of collective renewable energy self-consumption from 2.6 MWp of public installations connected to dozens of public buildings and hundreds of vulnerable homes. #Definition of an approach for designing and decarbonising the heating and cooling networks, considering the activities of industry renovations, easing the development of an Energy Master Plan or Heating and Cooling Plan Besides, a more detailed analysis will be conducted in one of the neighbourhoods affected by the floods.# Demo to monitor impact of sustainable urban drainage systems (SUDS) on runoff water using nature-based solutions: (1) to manage rainfall by infiltrating/retaining runoff, and (2) environment enhancement.# Initiatives to compensate the carbon footprint of companies, prioritizing flood-affected areas, using the “ReTree - Smart reforestation for companies” app to measure and apply compensations. #Creation of a metaverse (supported by a digital twin) for a flood-affected city area to involve secondary school students and mobility professionals in public space design through gamification, giving inputs on urban issues. #Tool for planning public space reconstruction in flood-affected districts using the EDIC toolbox, including damage assessment, cost models, sustainable construction, energy efficiency, and material life cycle analysis. Citizen participation initiative to evaluate Climate Pacification Measures, and awareness activities supported by a digital comic and a game about energy and e-mobility. Three top projects will deploy demos in the Valencia sandbox, aligned with the acceleration program to promote Smart City solutions using EDIC and Citcom toolboxes (Valencia LDT and AI) for projects integrating energy and electromobility in public space.
Upscaling/Replication potential High relevance for cities addressing resilience against climate change and sustainability, from a cross-domain co-design approach.
KPIs related to CN measures of the call (**A1.RD1**) ≥20% reduction in single-occupancy vehicle trips with respect to the current baseline; (**A1.RD4**) Number of shared mobility users onboarded (no specific target); (**A1.RD5**) ≥1.5°C reduction in the urban heat island effect with respect to the current baseline; (**A1.RD6**) ≥30% of energy demand covered through on-site renewables; (**A1.RD7**) ≥20% reduction in

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CO_2 emissions with respect to the current baseline; (**A1.RD8**) ≥25% increase in stormwater managed through SUDS infrastructure; (**A2.RD1**) ≥10 dynamically adjusted geofenced areas monitored; (**A2.RD2**) ≥15% improvement in space optimization through congestion reduction; (**A2.RD3**) ≥10% of shared mobility trips subsidized through dynamic pricing

FLORENCE: *City for all, all for the city and its community*

Description Florence (Firenze), the capital of the Metropolitan City of Florence and the Tuscany region, is a historic, artistic, and economic hub in central Italy with a population of about 363,837 (ISTAT 2024) and a metropolitan area of 1.5 million. Known for its cultural heritage and innovation, Florence is part of the European 100 Smart and Climate Neutral Cities initiative and is committed to climate neutrality. The city actively implements sustainable urban policies, focusing on green mobility, energy efficiency, and a circular economy. Its Sustainable Urban Mobility Plan (SUMP), approved in 2021 through a participatory process, emphasizes four pillars: expanding public transport (tramways, rail, and BRT), creating mobility hubs to reduce car use, implementing the Green Shield LTZ with telematic controls, and promoting soft mobility with cycling and micro-mobility networks. Following the Climate City Contract (CCC), approved in 2023 and recognized by the EU Commission in 2024, Florence has included urban logistics for its historic centre and incentives for sustainable transport, such as electric vehicles and discounted transit passes for students and low-income residents.

Needs / Problems to solve (pitch) Florence requires an innovative spatial management plan to re-functionalize public spaces, especially in the historic centre. The goal is to use public spaces as enablers of sustainable mobility and public transport while implementing climate adaptation measures to mitigate urban heat islands. Key interventions include sustainable street furniture, green area expansion, and traffic-calming measures, all compliant with UNESCO World Heritage regulations. Advanced technology will support governance by enhancing data collection through sensors and digital monitoring to regulate city access, enforce compliance (e.g., for logistics operators), and manage resources efficiently. These measures will be integrated into the Florence for the Climate initiative, promoting continuous citizen engagement and data-driven policymaking.

Background (description of pilot zone and ongoing actions) Florence's historic centre is an area utilized annually by over 13 million tourists, 360,000 residents, and approximately 150,000 commuters.

Proposed intervention actions Extended accessibility analysis tool, optimising public space allocation management In line with the 15-minute city concept and 300 mt green area opportunity. Optimization of sustainable mobility accessibility and use of space with reference to a climate proofing perspective and user needs as policy making supporting system. # Dynamic urban space management tool (loading and unloading, events, pedestrian zones, LEZ, access control and management) based on geofence by monitoring kilometres travelled by polluting vehicles within the Florence Scudo Verde LEZ and defining predictive urban road pricing schemes. #Collaborative Tool for Optimal Curb-Side Use Planning: Big data analysis of historical patterns (parking, mobility, types of use...) and direct feedback from citizens and local specialist users to identify congestion hotspots and opportunities for space reallocation. # Dynamic Curb-Side Management, real-time monitoring and efficient, dynamic allocation of available space for multimodal uses and users (allows for adapted regulation, supervision, and pricing models). #Flexible use of parking, dashboards for an advanced interactive visualization of analysis, reports, and KPIs, and application of dynamic parking policies that allow for temporal and mixed use of space usage looking solutions respectful of climate neutrality also, including the electrification system enhancing sustainable vehicles choices. #City Recommendation and simulation providing operators with a tool for planning urban space management regulations, including on-street parking enabling the comparison of multiple scenarios, the analysis of their effects, and the recommendation of the most suitable ones based on historical and forecast data, applying simulation to evaluate vehicular flow dynamics and their impact. AI-based and user-oriented of technical and management tools for policy making sustainable model. City Alerting Management as solution for rapid and effective response to incidents, prevent potential disruptions that allows by configuring dynamic rules and thresholds for anomaly detection to operators, registered users (e.g., MaaS app users in Florence or users of web and mobile apps and third-party systems (e.g., Mobility Control Center). #Climate participatory process: ad hoc meeting. #Creation of the metaverse (supported by a digital twin) or similar tool/instrument of a specific area of the city (pilot in the ZSC1 area,) and use it to involve through gamification, two specific groups of interest in the

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design of the public space: (1) people attending Florence for Climate urban flow meeting (2) professionals of urban mobility and logistics.
Upscaling/Replication potential Special, relevance for cities important tourist flows and historical heritage environments.
KPIs related to CN measures of the call (**A1.RD1**) ≥15% increase in public transport ridership with respect to the current baseline; (**A1.RD2**) ≥30 reallocated or newly installed EV charging points with respect to the current baseline; (**A1.RD3**) ≥10% increase in shared mobility trips (bike and e-scooter) with respect to the current baseline; (**A1.RD4**) ≥5 new public-private partnerships for mobility services established; (**A1.RD5**) ≥15% increase in green surface area with respect to the current baseline; (**A1.RD8**) ≥20% increase in permeable surfaces with respect to the current baseline; (**A2.RD1**) ≥30% reduction in delivery-related curb-side congestion with respect to the current baseline; (**A2.RD2**) ≥3 space reallocation guidelines co-created and tested; (**A2.RD3**) ≥€1M revenue generated from dynamic pricing models for curb-side management

TAMPERE: ***Improvement of mobility for people around the growing city by using automated public transport services, with minimized unplanned downtime due to weather or charging issues***

Description The City of Tampere, Finland's third-largest city with over 240,000 residents, is a leader in smart city development and sustainability. Over the past decade, Tampere has built a robust smart city ecosystem, leveraging open platforms, open data, and digital services to enhance urban living. As one of the EU Sustainable Urban Mobility Plan (SUMP) [1]cities, Tampere has developed an action plan with around 40 measures aimed at fostering efficient, carbon-neutral, equitable, safe, active, and environmentally responsible mobility. The city's local master plan aligns with its Carbon Neutral Tampere 2030 roadmap, prioritizing low-emission transport, optimized land use, and accessible green spaces. SUMP serves as a strategic framework integrating these goals, ensuring mobility planning supports both urban growth and sustainability while enhancing quality of life.
Needs / Problems to solve (pitch) Tampere aims for an annual population growth of 1.4%, adding over 3,000 new residents each year, which translates to more than 10,000 additional daily trips on weekdays. Currently, nearly 50% of trips are made by car, but as the city expands, shifting towards low-emission and space-efficient mobility is crucial. With 67% of trips under 5 km, there is significant potential for sustainable transport, supported by denser urban planning and a modern public transit system. Expanding high-quality public transport, integrating new mobility services, and enhancing park-and-ride facilities will reduce car dependency, improve travel efficiency, and support Tampere's carbon neutrality goals. Prioritizing modal shift for longer journeys is essential to achieving a sustainable urban mobility system.
Background (description of pilot zone and ongoing actions) Tampere has been a proactive player in the development of ITS already since the late 1990s. Functioning as a living laboratory and experimenting ground for smart urban innovations for several significant international projects (e.g., STARDUST, SURE, IN2CCAM and SHOW). Tampere has relevant data sources as: IoT platform, real-time public transport data, Tampere Node C-ITS data and Hervanta Digital Twin.
Proposed intervention actions Public transportation plays a pivotal role in promoting sustainable mobility. However, traditional bus services often fail to meet the needs of specific user groups, such as seniors with disabilities, parents with small children, and individuals requiring assistance. #Dynamically manage the mobility and transportation according to user needs with a shared automated "Neighborhood shuttle" fleet concept. #Includes co-designed multimodal and on-demand/call-based first/last-mile mobility services with CCAV fleet. Based on the modeling the vehicle's operation during a day of service and calculating the corresponding energy needs, charging requirements can be identified, and the modeling of optimal charging cycles can be carried out. In addition, the use of EV car fleet as a temporary energy storage and source of energy, based on the current needs in the local energy system, will also be developed and piloted. One of the interesting concepts is #bi-directional charging (V2G) optimization i.e., the use of AV batteries as energy storage for green electricity. Dynamic EV fleet management handles the fleet orchestration to wireless charging on route charging points and/or in depot/garage with automated park & charge functionality. Furthermore, development and small-scale testing of innovative charging solutions (e.g., charging robots, and/or wireless charging solutions) will be conducted at Tampere EV charging testbed. The target is to speed up the introduction of user-friendly EV charging stations that are currently limiting the adoption of EVs). #In addition, new solutions for dynamic curbside management of ongoing urban development projects, making suburban areas more

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accessible and car-free, the concept envisions transforming spaces currently reserved for private vehicles into vibrant, livable neighborhoods. #Optimizing and integrating of automated mobility with energy solutions has significant potential. Tampere will explore the use of multiple data sources (such as mobility service needs from Pulssi, traffic, weather, electricity prize forecast, etc.), combined with AI prediction for optimization. The local weather forecasts will be utilized to prepare and adapt the systems. A social innovation (service co-design) will be utilized during the design of new mobility and energy solutions that respond to the needs of all stakeholders and objectives of Tampere (as defined in SUMP). Finland mobile App will be used for resident engagement and user interaction channel during the pilots.
Upscaling/Replication potential challenges linked to its winter climate, marked by cold temperatures, icy or snowy roads, and specifically, the electromobility deployment and performance.
KPIs related to CN measures of the call (**A1.RD1**) ≥10% modal shift to public transport and automated shuttles with respect to the current baseline; (**A1.RD2**) ≥200 vehicles using V2G technology with respect to the current baseline; (**A1.RD3**) ≥10 km of newly connected multimodal corridors; (**A2.RD1**) ≥10% reduction in waiting times for public transport with respect to the current baseline; (**A2.RD2**) ≥90% accuracy of AI-driven space reallocation decisions; (**A2.RD3**) ≥15% reduction in parking-related emissions with respect to the current baseline
With the pilot conclusions on hand, and the urban plans on the top, URBANFLOW is committed to elaborating replication plans for other districts in Valencia, Florence and Tampere and for districts in the follower cities Brussels, Edinburgh and Pilsen, which are participating as partners in the URBANFLOW project. The urban plans in the follower cities are focused to the following issues:

Edinburgh. Partners: City of Edinburg, University of Edinburgh

Challenges Urban space design & planning, Space dynamic management, Smart Energy Systems, CR
Background The Council has approved ambitious targets to tackle climate change, reduce congestion and improve the quality, health, safety and accessibility of public streets and spaces. CMP continues to play a pivotal role in meeting these targets, including achieving net zero, reducing car kms by 30% by 2030 and Vision Zero (where there are zero fatalities or serious injuries on Scotland's roads) by 2050. Edinburgh remains dominant as a regional employment centre, accounting for around 45% of all commuting trips. The city centre remains a huge draw for tourists and leisure activities.
Proposed intervention actions The council is committed to addressing climate change, improving air quality, health, and well-being, reducing poverty, and promoting good placemaking. Providing rest areas aims to make walking easier, especially for older citizens, by enhancing thermal comfort and accessibility. Parking controls will be expanded and adjusted to benefit local residents and people with mobility challenges, with pricing strategies reviewed to help reduce vehicle emissions. Land use planning prioritizes high-density development on brownfield sites over greenfield development, with Low Traffic Neighbourhoods (LTNs) already implemented in Corstorphine and Leith and plans for broader expansion. The Sustainable Energy Action Plan (SEAP) aims to cut Edinburgh's carbon emissions by 42% by 2020 by reducing energy demand, encouraging local generation, and promoting decentralized, low-carbon technologies.
Upscaling/Replication potential High potential around interventions around urban space and kerbside management (VAL/FLO), smart energy systems (VAL) and mobility routing from climate perspective (VAL)

City of Brussels. Potential local partner: SMIT, the Studies in Media, Innovation and Technology research group from VUB University (https://smit.research.vub.be/en).

Challenges Flood and Extreme Weather Resilience, Energy Efficiency and Integration, Citizen Engagement and Co-Creation, Urban Heat Island Mitigation, Digital and Technological Integration, Regulatory and Administrative Barriers, Knowledge and Skills Gaps.
Background & proposed intervention actions We support energy-efficient building renovations and positive energy districts while fostering energy communities and sharing systems in collaboration with local municipalities. Our focus includes optimizing energy sharing by leveraging existing infrastructure—such as buildings, grids, and underground spaces-integrated with real-time data, demand response, and storage solutions. A key priority is the development of low-carbon heating and cooling networks, including both high- and low-temperature systems, to drive decarbonization. We are committed to expanding and optimizing electric vehicle charging stations across Brussels, incorporating technologies like V2G and bi-directional charging to enhance grid flexibility and efficiency. Citizen

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participation is central to our approach, ensuring an inclusive and socially just energy transition. Through innovative climate policies and ambitious urban renewal efforts, we aim to create better-integrated neighbourhoods with enhanced services, improved living conditions, and reduced environmental impact.

Upscaling/Replication potential Interest on exploring how to replicate several initiatives from the pilot cities of Valencia, Florence, and Tampere in the City of Brussels.

Pilsen. Partners: POVED: Pilsen Public Transport Organizer SITMP: Information Technology Administration of the City of Pilse.

Challenges Urban Management, Digital and Technological Integration, Public Space Optimization

Background Despite having an advanced city digital twin, Pilsen has yet to fully utilize its potential for addressing suburban transit needs. The city plans to use this technology to optimize transportation, improve commuter experiences, and streamline integrated urban-suburban public transit systems. Through digital and mobile tools, Pilsen aims to enhance the comfort and usability of public transportation from suburban areas to the city centre by integrating real-time data, predictive modelling, and user-centric applications.

Proposed intervention actions Urban Space Design & Planning focuses on redesigning suburban spaces to improve transportation efficiency, multimodality, parking, and sustainable mobility, leveraging Pilsen's Digital Twin and dynamic traffic management. Dynamic Space Management will implement real-time data, modern technologies, and intelligent systems to optimize transport, parking, and mobility services. This dynamic approach ensures an efficient, eco-friendly, and user-centric transit system, with Pilsen's Digital Twin playing a central role in enhancing transportation optimization and commuter awareness

Upscaling/Replication potential Pilsen is a leader in digital twin technology pioneering 5G technology for smart urban management, this enriches experiences from URBANFLOW, setting a benchmark for the future of smart urban development in the Czech Republic and Europe.

1.2.2 Link to European and national R&I initiatives relevant to the project

Pathways 2 Resilience (HORIZON-MISS-2021-CLIMA-02-02) empowers over 100 regions and communities across Europe to co-design climate-resilient futures through transformative pathways. URBAN-FLOW will build on PEERS' outcomes and connect with its networks. CKIC ensures visibility of integrated activities between the Adaptation and Cities Missions, leveraging URBAN-FLOW to shape future climate resilience work.	CKIC
URBREATH (HORIZON-MISS-2023-CLIMA-CITIES-01) integrates technical and nature-based solutions using community participation, LDTs, and AI technologies. URBAN-FLOW will adopt and refine these tools and methodologies.	LC, ENG
NetZeroCities Mission Platform (H2020 LC-GD-1-2-2020) –aims to overcome structural, institutional, and cultural barriers to achieve climate neutrality by 2030. CKIC leads the project, supporting over 112 cities with funding and capacity building. URBAN-FLOW will benefit from this knowledge transfer, replication, and dissemination, integrating case studies and innovative actions from Mission Cities.	CKIC, EIT UM, TEC
EXPEDITE (HORIZON-MISS-2023-CIT-01-02). develops tools for real-time monitoring and management of district-level energy flows. URBAN-FLOW will adopt and further improve these methodologies.	LC, TEC
MICAD (HORIZON-CL2-2024-DEMOCRACY-01) fosters inclusive metropolitan planning focused on climate and digital transitions. Its guidelines and roadmaps will support URBAN-FLOW cities in advancing their digital agendas.	KENT
T-FACTOR (H2020-SC5-2019-2**)** focuses on temporary urbanism and sustainable regeneration, providing valuable engagement approaches and insights for URBAN-FLOW's Impact Assessment Framework (IAF).	PV
UPPER (EIT UM in UPPER and UNCHAIN) promotes shifting users from private cars to public transport through participative governance. URBAN-FLOW will leverage its expertise in citizen engagement.	ETRA, EITUM, VLC
EBENTO explores a One-Stop-Shop platform for energy services and renovations, forming the foundation for URBAN-FLOW's support of energy communities.	ETRA, VCE

MATCHUP (H2020- SCC-2016-2017-2017), developed solutions in lighthouse cities, including Valencia's energy model. URBAN-FLOW will refine this model to address heating, cooling, and decarbonization needs.	TEC, ETRA, Valencia
UNCHAIN establishes a data exchange ecosystem and urban logistics services, forming the basis for URBAN-FLOW's dynamic urban space management.	EITUM, SPES, MUN, FLO, ETRA
CITCOM.ai: provides large-scale testing facilities for AI and smart city solutions. URBAN-FLOW will engage with project partners to test its developments.	Valencia, IMEC, OASC, Tampere
DeployEMDS (DIGITAL-2022-CLOUD-AI-03-DS-MOBILITY) supports EU digital sovereignty by creating a mobility data space. URBAN-FLOW will align with its recommendations and releases.	EMDS.
DS4SSCC-DEP (DIGITAL-2022-CLOUD-AI-03-DS-SMART) focuses on developing data spaces for smart communities. URBAN-FLOW will use its insights on data ecosystems and trust to assess its solution's trustworthiness.	IMEC, OASC
LDT toolbox (DIGITAL EUROPE): fosters the adoption of Local Digital Twins across EU cities. URBAN-FLOW will align with this initiative to enhance digital twin implementation.	IMEC, OASC
DECARBCITYPIPES (H2020-LC-SC3-2018-2019-2020) developed roadmaps for zero-carbon heating and cooling. URBAN-FLOW will build upon this methodology, integrating energy infrastructure analysis and climate adaptation considerations	TEC

1.2.3 Interdisciplinarity

URBAN-FLOW integrates diverse academic and industrial expertise to deliver innovative urban transformation solutions. The project involves experts in urban planning, climate resilience, and nature-based solutions (UPV, UEDIN), financial and business experts on sustainable investment models (APRE, LC, PV), co-design and participatory governance specialists (APRE, EIT UM), and digital twin and AI-driven analytics teams (ENG, OASC). Specialists in climate neutrality and energy transitions (TEC, ETRA) ensure renewable energy deployment, while teams focusing on software interoperability (ENG, CEF) support data standardization across urban contexts. Social impact experts address inclusivity and behavioural change (CKIC), and policy experts ensure alignment with EU and local sustainability directives. (LC, CKIC, OASC). Partnerships with city authorities across seven European countries (Spain, Italy and Finland for the LEADCs; United Kingdom, Belgium and Czech Republic for the REPCs) guarantee the real-world applicability and scalability of project outcomes.

1.2.4 Integration of Social Sciences and Humanities

The integration of Social Sciences and Humanities (SSH) within the URBAN-FLOW project ensures a holistic, interdisciplinary approach to tackling climate adaptation challenges. This integration addresses key aspects such as gender-related inequalities by embedding gender considerations throughout project activities and outcomes. Open science principles are implemented to promote transparency and ensure research outputs are accessible to all stakeholders, while robust frameworks for managing research data and results support efficient sharing and protection. Citizen, end-user, and civil society engagement is central to the project, involving diverse and underrepresented voices in co-creation activities to guarantee socially inclusive solutions. Methodologies are carefully designed to comply with the 'do no significant harm' principle, prioritizing sustainability and minimizing negative environmental and social impacts. Artificial intelligence is strategically applied to enhance innovation, decision-making, and adaptive solutions. URBAN-FLOW incorporates SSH expertise to address ethical, social, and legal dimensions, enhancing the development of inclusive and resilient solutions for climate adaptation. Under the leadership of DBC (with LC, ENG, IMEC, D4P, PV and all cities), the project places special emphasis on reducing social inequalities related to gender, ethnicity, and socio-economic status, ensuring that marginalized communities are meaningfully represented in decision-making and co-creation processes. This comprehensive integration of SSH disciplines bridges technological innovation with ethical and human-centered considerations, supporting equitable, inclusive, and long-lasting outcomes.

1.2.5 Consideration of Gender Dimension in Research and Responsible R&I

URBAN-FLOW integrates gender considerations into its research, acknowledging that perceptions of and resilience to climate risks differ by sex due to varying roles and responsibilities. Living labs will assess

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gender-specific vulnerabilities to risks like flooding and heatwaves. Data will be disaggregated by sex, and diversity policies will promote equal participation and leadership within project teams. AI systems will be designed to avoid gender biases, and gender-sensitive standards will guide planning and decision-making. Practical interventions include barrier-free, safe public spaces and targeted objectives to embed gender equality into all project planning initiatives.

1.2.6 Open science practices

URBAN-FLOW adopts open-source policies, ensuring that all deliverables, data, and metadata comply with open-access standards. Scientific publications will follow gold or green access policies, and data from pilot projects will be made publicly available while safeguarding personal information. The project will use platforms like OpenAIRE to ensure widespread dissemination and compliance with intellectual property rights.

1.2.7 Research data management and management of other research outputs

The URBAN-FLOW data management team (T1.4-led by DBC) will guarantee the implementation of partners' agreements regarding data storage and processing. For all case studies (WP6 tasks), an ethical/legal manager will be assigned from the beginning. URBAN-FLOW ensures proper data management through agreements among partners. Ethical/legal managers will oversee each case study. The project promotes technical and semantic data interoperability through a common data model. Data will be transformed, uploaded to repositories, and linked to a virtual management system to ensure compliance with FAIR principles and access to siloed data sources.

1.2.8 Do No Significant Harm Principle (DNSH)

URBAN-FLOW applies the DNSH principle by ensuring that technologies deployed are environmentally sustainable and comply with EU regulations. The project minimizes resource consumption and emissions through optimized processes and management. DNSH principles will enhance project readiness and support access to green financing. Activities align with international sustainability standards and human rights guidelines, promoting AI trustworthiness and minimizing environmental impacts.

1.2.9 Engagement of Citizens, end-users and civil society

URBAN-FLOW ensures active citizen engagement through City Living Labs, integrating community needs into the co-design and validation of climate resilience solutions. Digital Twin environments will allow citizens to visualize and provide feedback on scenarios, fostering continuous engagement. WP10 will focus on disseminating outcomes and ensuring long-term project impact and sustainability.

1.2.10 Artificial intelligence (AI)

AI in URBAN-FLOW adheres to strict ethical and legal standards, focusing on privacy, bias mitigation, and accountability. AI modules will comply with GDPR, and a Data Protection Officer (DPO) will oversee data governance. Ethical AI algorithms will detect and reduce biases, while user-controlled data management ensures transparency. Liability risks will be managed through ethical assessments, and robustness will ensure consistent AI performance under varying conditions, fostering user trust.
Specifically, to achieve **technical robustness** in AI algorithms regarding **replicability** and **accuracy of results, URBAN-FLOW** will rely on a methodological approaches, and engineering best practices, and governance flows, briefly summarised below.

- Replicability
  - **Open Source Code & Models**: in line with the principle "as open as possible, as closed as necessary", sharing code, model architectures, and training scripts allow third party to replicate AI models.
  - **Version Control**: tools such as Git allow to track changes in the source code to ensure its consistency.
  - **Environment Reproducibility**: tools such as Docker help replicability of the tools, reducing the complexity for their deployment.
  - **Detailed Documentation**: URBAN-FLOW will provide clear documentation of the models, including preprocessing steps, parameters, and evaluation metrics.
- Accuracy
  - **High-Quality Data**: URBAN-FLOW will implement AI models based on clean, diverse, and representative datasets, to reduce bias and improve generalization.

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- **Robust Evaluation Metrics**: appropriate metrics (e.g., F1-score, ROC-AUC) will be employed.
- **Cross-Validation**: splitting data into multiple folds to assess model performance more reliably.
- **Random Seed Control**: fixing random seeds in training and evaluation ensures consistent results across runs.
- **Error Analysis**: analysis of model errors to identify weaknesses and improvements.
- **Adversarial Testing**: models' results will be evaluated against perturbed or adversarial inputs.

2. Impact

2.1 Project's pathways towards impact

URBAN-FLOW follows the logical pathway that Outputs (i.e. Deliverables) provide measurable benefits (namely Outcomes) for specific groups of beneficiaries in the project time frame, and then such benefits can directly generate Impacts in a longer period. The Table (**§2.2.1**) outlines the **Target Groups** impacted by the project KERs (sub-§1.2.1.3 and sub-§2.2.5). The **project's significance** is demonstrated through KPIs, which assess progress in achieving the call's expected outcomes and impacts. KPIs are detailed in sub-§1.1.2 for scientific and technical objectives, sub-§1.2.1.4 for pilot case studies aligned with the **2 Areas of Intervention** and **11 Research Directions** from the call, sub-§2.1.2 for pathways to outcomes and impacts, and sub-§2.1.3 for mitigation measures to address risks to not reach the expected impacts. The **project 's scale** is summarized below.

2.1.1 Project scale at a glance

URBAN-FLOW demonstrates significant **scale and ambition** through its quantitative targets, reflecting its impact on sustainable urban regeneration and climate resilience. The project engages a **stakeholders' community of 450 participants**, including local authorities, public and private stakeholders, and citizens from LEAD and REPC cities, fostering collaboration and decision-making through **CLs**. It will establish **3 CLs in LEADCs with ≥50 participants each** and **3 CLs in REPCs with ≥25 participants each**. Through co-creation activities, the CLs will drive the development and demonstration of sustainable CN solutions. URBAN-FLOW's **demonstrations in LEAD Cities** reflect ambitious local-scale achievements, such as a **≥15% increase in public transport ridership, ≥30 new EV charging points**, and **≥15% increase in green surface area in Florence**; a **≥20% reduction in single-occupancy vehicle trips, ≥25% renewable energy coverage for EV charging**, and a **≥1.5°C reduction in urban heat island effects in València**; and a **≥10% modal shift to public transport and automated shuttles, ≥200 vehicles using V2G technology**, and **≥40% of energy generated from on-site renewable sources in Tampere**. These quantitative KPIs demonstrate improvements in **modal shifts, energy management, and urban greening**, providing measurable benchmarks for scaling up solutions across additional urban contexts. To further scale its impact, URBAN-FLOW will organize **≥2 webinars and learning events involving ≥50 local governments** and conduct **≥100 stakeholder** demonstrations in pilot sites **as well as capacity building programmes with over 500 stakeholders**. Dissemination efforts will include **≥25 accepted scientific publications in peer-reviewed journals** and **≥2 sessions at international conferences**, ensuring broad knowledge sharing. The project will engage **≥15 regions or communities** as interested parties and **≥10 collaborations with relevant research projects** for cross-sector knowledge transfer. Digital engagement is central to the project's scale, with URBAN-FLOW aiming to share **planning solutions with 120 EU communities and 30 regional authorities**. It will establish **≥4 transferable business models adaptable to diverse urban contexts** and **≥10 new partnerships ensuring the long-term sustainability of its CN solutions**. In financial terms, URBAN-FLOW's **dynamic pricing models for curb-side management** in pilot sites will generate **≥€1M revenue in Florence**, while **shared mobility in València will benefit from ≥10% of trips subsidized by dynamic pricing mechanisms**. Policy influence remains a core objective, with **≥5 policy changes or adoptions integrating findings** into climate adaptation frameworks, ensuring long-lasting impact across Europe.

2.1.2 Pathways of URBAN-FLOW towards Expected Outcomes and Impacts of the call

In this sub-§, we group the call's outcomes and impacts into three **Impact Dimensions** (IMP-DIMx) to better highlight URBAN-FLOW's contributions to reach outcomes and impacts of the call: **IMP-DIM A**

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focuses on raising awareness and preparedness among citizens, service users, civil servants, and local stakeholders for shifting to decarbonized mobility and energy through participatory decision-making, enhancing public authorities' ability to implement CN solutions. **IMP-DIM B** addresses developing and testing transferable mobility and energy solutions that foster CN, nature-based interventions, shared services, and optimized public space use, improving connectivity across urban districts. **IMP-DIM C** targets advanced methods for assessing health and well-being impacts, improving pollution evaluation, governance, and monitoring of CN through integrated urban solutions.

IMP-DIM A – Improve Capacity, Understanding and Acceptance towards the adoption of more participated climate neutrality energy and mobility solutions for local areas

Link to objectives listed in Part1: OO1; OO2; OO3; OO7; OO9. **WPs**: WP2; WP4; WP5; WP6; WP7.

OUT3 *Raise awareness [...] to support urban public space revitalization and reallocation for more economically viable and resilient urban environments;* ***OUT9*** *Creation of smart energy and/or transport services management in cities [...] through digitalization and consumer awareness related to smart charging and energy demand response;* ***OUT11*** *Better preparedness of citizens and urban planners to shift from fossils to renewable energy [...] to optimize public space use and budgets through energy system integration.*

IMP1 *Enhanced innovation capacity of local/regional administrations and accelerated uptake of shared, smart, and sustainable zero-emission solutions;* ***IMP7*** *Better understanding and enhanced societal acceptance of sustainable mobility management schemes, including guidance and recommendations for public and private organisations [...];* ***IMP9*** *Increased preparedness and capacity of authorities [...] to engage in cities' transition towards climate neutrality;* ***IMP10*** *Increased capacity among European cities [...] to design and roll out Climate City Contracts and achieve climate neutrality by 2030;*

URBAN-FLOW contribution to IMP-DIM A Outcomes. Through WP2 (CLs engagement) and participatory processes established in T2.1 to T2.3 and WP6 to WP9, the project addresses **OUT3** by involving citizens, businesses, policymakers, and civil servants in co-designing dynamic space reallocation and smart charging solutions. LEAD Cities like València (dynamic curb-side management and geofencing), Firenze (shared mobility hubs and EV fleet management), and Tampere (bi-directional charging integrated with public transport) demonstrate these solutions, fostering awareness of climate-neutral urban revitalization and resilience. REPCs like Gdansk and Pilzen evaluate the transferability of these solutions through baseline analyses and tailored local adaptations (WP7). T7.1 facilitates mutual learning and exchanges between LEAD and REP Cities, while T7.2 delivers capacity-building programs for over 500 stakeholders, contributing to **OUT3.** For **OUT9,** demonstration WPs (WP6) guide CL participants in co-creating and implementing CN solutions such as dynamic parking policies (València), EV charging systems (Tampere), and multimodal hubs (Firenze). Using the "user journey" (sub-§1.2.1.7), participants employ the URBAN FLOW platform and methodology (WP3, WP4, WP5) to design locally adapted CN solutions based on challenges identified in T2.3 and baseline conditions established through T6.1. On-going impact evaluations (T6.3,6,9) and co-decided mitigation actions ensure continuous optimization, including bi-directional V2G charging and energy demand response (Tampere). Feedback from mobility users during demonstrations is stored in Mobility Data Spaces (T3.2, T3.3) and informs mitigation and communication actions to raise awareness. For **OUT11**, training sessions (T6.1 and T7.2) engage 450 planners, stakeholders, and citizens with modules on renewable energy transition and sustainable transport integration, preparing participants for the "user journey" processes. Knowledge exchange (T7.1) draws on demonstration outcomes such as dynamic curb-side management (Valencia), geofencing for space optimization (Firenze), and V2G charging (Tampere). REPCs (Gdansk, Pilzen) evaluate solution transferability based on l needs and infrastructure (T7.3). IA (T7.4) and data-driven policy recommendations (T7.5) enhance dissemination and communication strategies, ensuring broader engagement and improved preparedness for renewable energy and EV mobility while optimizing public budgets.

URBAN-FLOW contribution to IMP-DIM A Impacts. URBAN-FLOW's outcomes grouped under IMP-DIM A directly contribute to achieving key impacts through co-creation and participatory processes in City Living Labs (WP6), engaging diverse stakeholders in developing climate-neutral mobility and energy solutions tailored to local contexts. By enhancing awareness (**OUT3**) of sustainable urban mobility and energy benefits and preparedness through mutual learning, training (T7.1, T7.2), and co-creation processes structured via the user journey (sub-§1.2.1.1), local authorities build their innovation

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capacity (**IMP1**) to design, test, and deploy solutions like dynamic curb-side management (València) and vehicle-to-grid (V2G) optimization (Tampere). These solutions address public space reallocation and energy efficiency while offering scalable implementation models. The participatory approach facilitates societal acceptance (**IMP7**) by incorporating feedback from stakeholders into policy recommendations (T7.5) and ensuring that solutions align with user needs. Awareness activities (**OUT3**) promote public understanding of how sustainable mobility contributes to public space revitalization and reallocation, fostering more resilient urban environments. The structured involvement of LEAD Cities and REPCs ensures authorities' preparedness (**IMP9**) by providing hands-on experience with transferable, adaptable solutions based on baseline analyses (T6.1 and T7.3). Moreover, capacity building activities made in T7.2 together with mutual learning and exchange practices among LEADs and REP Cities in T7.1 and the participated impact assessment of T7.4 would significantly increase preparedness of Target Groups (**OUT11**), to move towards CN policy decisions through recommendations in T7.5, enhancing the ability of cities to shift from fossil-based to renewable energy systems while optimizing space use and budgets through energy system integration. Data-driven planning tools, such as MDS (T3.2, T3.3) and decision-support systems, offer practical applications in managing smart energy and transport services (**OUT9**) and adaptive governance models. Networking activities (T8.2) further support collaboration among cities, enabling the co-design and implementation of Climate City Contracts (**IMP10**) aligned with Europe's 2030 climate neutrality targets.

Scale and significance for IM-DIM-A Outcomes. Key URBAN-FLOW Results: KPIs of OO1; OO2; OO3; OO7; OO9 (**§1.1.2**), KPIs of LEADs (**sub-§1.2.1.4**), KPI of impact risk mitigation actions in **§2.1.3**. **Additional KPIs: OUT3.1**: By project end, ≥30% average increase in awareness of CN mobility and energy benefits among LL participants (>3 on a 1-5 Likert scale, self-reported questionnaire before and after demonstration activities); **OUT9.1**: ≥80% of LEAD KPIs related to OUT9, as detailed in sub-§1.2.1.4, are achieved during the project lifecycle; **OUT11.1**: By project end, ≥80% average increase in preparedness to reduce fossil-based mobility through integrated renewable energy and mobility systems among LL and capacity-building participants (>3 on a 1-5 Likert scale, self-reported questionnaire before and after activities).

KPIs for IMP-DIM-A Impacts: IMP1.1: ≥15 additional urban areas on average sign MoUs with the project to test and adapt key participatory methodologies (KPRs) before the project end; **IMP7.1** before the project end ≥ 10 local administration in EU include project' policy recommendations in their agenda towards climate neutrality; **IMP9.1**: ≥3 co-investors on average sign MoUs to co-fund CN measures demonstrated in LEAD cities before the end of the project; **IMP10.1**: before the end of the project, ≥10 local administration sign an MoU with the project to use the tools and methodologies to establish CLs aimed at designing and rolling out Climate City Contracts.

Target groups: *Citizens and local community organizations; Local and regional public authorities, including policymakers and civil servants; Local businesses and service providers; Urban planners and technical consultants; Energy and mobility service providers; Civil society organizations, NGOs, and other stakeholders*

The baseline for IMP-DIM A highlights limited awareness and engagement in decarbonized mobility and energy solutions, with only 30% of EU urban residents aware of their benefits and 25% participation in related decision-making processes. About 40% of EU municipalities have policies supporting CN solutions, providing

IMP-DIM B – Deployment and testing transferable climate neutral solutions for sustainable energy and mobility in local areas

Link to objectives listed in Part1: OO1; OO2; OO3; OO4; OO5; OO8; OO9; OO10. **WPs**: all

OUT1 *Development and implementation of solutions for a smart urban public space design and infrastructure planning [...] to enable the integration of mobility services within the city's street network and layout;* ***OUT2*** *Mobility and energy solutions co-designed with local authorities, citizens, and stakeholders [...] to achieve climate neutrality by 2030;* ***OUT5*** *Improved urban public space connectivity and accessibility of different districts [...] by embedding multimodality and shared services;* ***OUT6*** *More efficient and fair use of urban space through dynamic management [...] with help of digital tools;* ***OUT7*** *Better use of vehicles (e.g., public transport and active modes) and car parking spaces [...] prioritizing modes with minimal impact on public domain;* ***OUT8*** *Reduced pressure on public space with minimized parking needs and optimized off-street space [...].*

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IMP2 *Increased use of transferable solutions for sustainable mobility [...] exploiting zero-emission systems, automation, and connectivity;* ***IMP3*** *Increased deployment of solutions [...] in urban greening, renaturing, reducing soil sealing, and nature-based infrastructures for climate mitigation and adaptation;* ***IMP4*** *Development and testing of a DT of a Positive clean Energy District [...] to generate replicable processes for achieving district and city-wide CN;* ***IMP5*** *Improved connectivity and accessibility of urban districts and neighborhoods [...] by integrating multimodality and shared services into public space layouts.*

URBAN-FLOW contribution to IMP-DIM B Outcomes. Through **co-creation processes (T6.1-10)** and the **"user journey" approach**, URBAN-FLOW addresses **OUT1** by developing and implementing **integrated mobility and energy solutions** tailored to each city's infrastructure. **València** reallocates public spaces for **shared mobility services**, **Firenze** optimizes public transport hubs, and **Tampere** enhances multimodal corridors (sub-§1.2.1.4). These measures, refined through **real-time assessments (T6.3,6,9)**, are transferred to **REPCs like Gdansk and Pilzen** for adaptation based on local needs (T7.1-7.3). For **OUT2**, co-designed mobility and energy solutions leverage challenges identified in **T2.3**. **Tampere** implements **bi-directional EV charging** and **dynamic curb-side allocation**, **València** focuses on **geofencing-based parking management**, and **Firenze** integrates **multimodal hubs** combining tramways and bike-sharing routes. Solutions undergo **ex-ante evaluations (T6.3,6,9)** to align with climate neutrality goals. **WP7** ensures transferability by helping **REPCs** test solutions against local constraints. To achieve **OUT5**, the project enhances **public space connectivity** by embedding **multimodal services** into redesigned street layouts. **Tampere** integrates dynamic curb-side management for **buses and EV fleets**, while **València** connects cycling and pedestrian networks to public transport hubs. Digital tools (**WP3, WP4, WP5**) and data-driven feedback loops within the **URBAN FLOW platform** facilitate wider adaptation in REPCs like **Gdansk and Pilzen (T7.3)**. For **OUT6**, real-time dynamic space allocation mechanisms balance competing curb-side needs. **Tampere** demonstrates dynamic curb-side allocation through **automated shuttles and V2G integration**, while **València** uses **geofencing** and flexible curb-side reallocation (T6.2-4, and T7.3). Participatory decision-making within **CLs** ensures continuous optimization of space use. **OUT7** prioritizes shared and public transport, demonstrated by **V2G optimization and dynamic parking policies in Tampere**, **shared EV fleets in València**, and **multimodal hubs in Firenze**. Tasks **T6.1-5** focus on designing optimal solutions, including **dynamic curb-side parking reallocation** and **vehicle access optimization (sub-§1.2.1.4)**. Stakeholder feedback from demonstrations informs sustainability improvements and cost-effectiveness (T6.3,6,9). For **OUT8**, the project alleviates pressure on public space through **off-street mobility hubs** and reallocated parking. **Tampere** integrates dynamic curb-side management with **off-street parking for shared EV fleets**, while **Firenze** reclaims underused spaces for **green corridors** (§1.2.1.4). **REPCs like Gdansk and Pilzen** evaluate transferability through **comparative analyses (T7.3)**.

URBAN-FLOW contribution to IMP-DIM B Impacts. By **co-designing and testing integrated mobility and energy solutions** tailored to specific urban layouts (OUT1, OUT2), URBAN-FLOW promotes the deployment of **transferable solutions (IMP2)** like **dynamic parking and curb-side reallocation** (València), **shared EV fleet optimization** (Tampere), and **multimodal transport hubs** (Firenze). The **iterative testing of solutions** within LEAD Cities and their evaluation in REPCs (T7.1 to T7.3) ensures their adaptation and scalability across different urban contexts. **Nature-based solutions, such as green corridors (Firenze) and nature-based SUDS (Tampere), enhance the deployment of urban greening, renaturing efforts, and reduce soil sealing, contributing to IMP3. Dynamic curb-side policies also integrate multifunctional green spaces, addressing both climate mitigation and adaptation goals through sustainable infrastructure.** By embedding **multimodal services and dynamic space allocation** (OUT5, OUT6) into street networks, the project fosters better **urban connectivity and accessibility**, which is critical for **sustainable public space redesign**. Solutions such as **dynamic curb-side use and shared mobility services** (OUT7) also **reduce reliance on private car usage** and optimize **vehicle access and parking** through **V2G-enabled EV charging** (Tampere) and **collaborative geofencing** (València). These interventions contribute to **better vehicle allocation** and **improve shared mobility systems**, ensuring **long-term impacts on public space efficiency and mobility integration (IMP5)**. The **reduction of pressure on public spaces** (OUT8) is achieved through **off-street mobility hubs** (Tampere and Firenze) and **dynamic curb-side policies**, which prioritize **environmentally efficient transport**. **Digitalization efforts feed into the development of a DT**

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framework (WP3), generating **replicable knowledge on achieving district-level and city-wide climate neutrality (IMP4)**. Through **dynamic feedback loops and ongoing policy recommendations** (T7.5), cities can continuously adapt and replicate these solutions across local and regional contexts, ensuring effective exploitation of **ZE mobility systems** and **enhanced urban public space design**.
Scale and significance for IM-DIM-B Outcomes. Key URBAN-FLOW Results: KPIs of OO1; OO2; OO3; OO4; OO5; OO8; OO9; OO10 (**§1.1.2**), KPIs of LEADs (**sub-§1.2.1.4**), KPI of impact risk mitigation actions in **§2.1.3**. **Additional KPIs: OUT1.1**: ≥80% of LEAD KPIs related to OUT1, as detailed in sub-§1.2.1.4, are achieved during the project lifecycle; **OUT2.1**: ≥80% of LEAD KPIs related to OUT2, as detailed in sub-§1.2.1.4, are achieved during the project lifecycle; **OUT5.1**: ≥80% of LEAD KPIs related to OUT5, as detailed in sub-§1.2.1.4, are achieved during the project lifecycle; **OUT6.1**: ≥80% of LEAD KPIs related to OUT6, as detailed in sub-§1.2.1.4, are achieved during the project lifecycle; **OUT7.1**: ≥80% of LEAD KPIs related to OUT7, as detailed in sub-§1.2.1.4, are achieved during the project lifecycle; **OUT8.1**: ≥80% of LEAD KPIs related to OUT8, as detailed in sub-§1.2.1.4, are achieved during the project lifecycle.
KPIs for IMP-DIM-B Impacts: IMP2.1: ≥12 transferable CN solutions successfully demonstrated and tested across LEAD and REPCs (T7.1 and T9.2); **IMP3.1**: ≥6 new nature-based or urban greening solutions co-created in suburban and peripheral areas across LEAD cities with respect to current baselines in T6.1; **IMP4.1**: Based on the evidence of the demonstration activities, participating to LLs agree that the CN solution co-creation process based on local digital twin and "user journey" approach of URBAN FLOW is more cost-effective and sustainable than the current practices; **IMP5.1**: based on evidences of the demonstration phase, ≥ 3 co-founders sign a MoU with the project to assess the opportunity of co-funding the initiatives related to IMP5 and demonstrated in LEADs
Target groups: *Local authorities and regional public administration; Citizens and community organizations; Public transport operators; Stakeholders involved in the co-design CN solutions; Industry partners (mobility, energy, and urban planning sectors); Digital innovation actors (for mobility data spaces and real-time assessment tools); Private mobility and shared service providers; Urban planners and transport engineers*
The baseline for IMP-DIM B highlights high private vehicle dependency and underutilized public spaces across European cities, with only 20% of tested sustainable solutions being replicated elsewhere.

IMP-DIM C – Advanced methods for assessing climate-neutrality impacts of energy and mobility solutions on target population health and well-being

Link to objectives listed in Part1: OO3; OO4; OO5; OO6; OO7; OO8. **WPs**: WP3; WP4; WP5; WP6.

OUT4 *Improvement of public health through better air quality, reduced urban overheating, and lower pollutant emissions [...] with enhanced infrastructure for active modes and increased livability,* ***OUT10*** *Improved planning of green infrastructures and city zones [...] to enhance human restoration and well-being,*

IMP6 *Improved methods for assessing exposure to air, water, soil, and noise pollution [...] with a focus on vulnerable groups and the (co-)benefits of zero pollution measures combined with climate neutrality policies;* ***IMP8*** *Enhanced sustainable development of suburban and peripheral areas [...] through integrated green and smart mobility, energy, industry, and governance solutions to achieve climate neutrality.*

URBAN-FLOW Contribution to IMP-DIM C Outcomes. Through **WP6, 7, and 8**, URBAN-FLOW addresses **OUT4** by demonstrating solutions that improve **air quality, reduce urban overheating,** and decrease **air and noise pollution**. LEAD Cities like **València, Firenze, and Tampere** deploy **NbS** and **active mobility measures**, such as **dynamic curb-side reallocation for shared mobility zones (València, Firenze)** and **green corridors linked to multimodal hubs (Firenze)**. **Tampere** integrates **EV infrastructure and bi-directional V2G charging** to reduce transport emissions. **Impact assessments (T2.4 for IAF, T3.6 for HIA and data gathered in WP6)** track **air quality improvements** and emission reductions, while **REPCs (Gdansk, Pilzen)** conduct **baseline evaluations** to assess solution transferability (**T7.3**). For **OUT10**, URBAN-FLOW enhances **green infrastructure planning** through co-designed urban greening initiatives and **Nb interventions**. **Firenze** incorporates **green corridors** into redesigned public spaces, while **Tampere** pilots **SUDS-linked solutions** to improve **stormwater management** and **urban well-being, València builds a demonstrator to measure and monitor the impact on runoff water of different SUDS (T2.4, T3.6, WP6)**. Participatory processes

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within **CL (T6.1)** and **ex-ante evaluations (T6.2,5,8)** assess environmental, population health and socio-economic impacts based on IAF (T2.4 and HIA (T3.6). **Digital tools (WP3, WP4)** provide visualized scenarios, optimizing planning and human restoration that are useful for collaboration with stakeholders.
URBAN-FLOW contribution to IMP-DIM C Impacts. By demonstrating solutions to improve **air quality, reduce overheating**, and cut **pollutant emissions (OUT4)**, URBAN-FLOW enables comprehensive assessments of **climate-neutral (CN) solutions** in LEAD Cities like **València (dynamic curb-side management, geofencing, SUDS, tools to redesign of public space), Firenze (green corridor networks)**, and **Tampere (V2G-enabled EV charging, nature-based interventions)**. Ongoing assessment of **air quality improvements** and **noise reduction (T2.4, T3.6 and WP6)** provide data on co-benefits, particularly for vulnerable groups, informing health and socio-economic impact evaluations across **LEAD and REPCs (T7.3)**. To support **sustainable suburban and peripheral development (IMP8)**, URBAN-FLOW integrates **green infrastructures** and **mobility measures (OUT10)** through initiatives like **green urban corridors (Firenze)**, **Nb SUDS (Tampere and València)**, and **multi-modal routes promoting active transport (València)**, enhancing **ecosystem services** and **CR**. Participatory processes (**T6.1** and **T7.3**) engage stakeholders in co-designing solutions that **REPCs like Gdansk and Pilzen** can adapt and scale.
Scale and significance for IM-DIM-C Outcomes. Key URBAN-FLOW Results: KPIs of OO3; OO4; OO5; OO6; OO7; OO8 (**§1.1.2**), KPIs of LEADs (**sub-§1.2.1.4**), KPI of impact risk mitigation actions in **§2.1.3**. **Additional KPIs: OUT4.1**: Achieve at least a 20% reduction on average in local air pollutant emissions (NO_2, PM2.5) with respect to the current baselines calculated in T6.1, as measured through monitoring stations within LEAD cities by the project's end; **OUT10.1**: ≥80% of LEAD KPIs related to OUT10, as detailed in sub-§1.2.1.4, are achieved during the project lifecycle.
KPIs for IMP-DIM-C Impacts: IMP6.1: LLs participants confirm that the HIA methodologies and context data tools within the URBAN FLOW platform provide superior assessment of environmental and public health impacts, enhancing ex-ante, ongoing, and ex-post evaluations of CN measures compared to current practices. **IMP8.1:** On average, ≥5 co-investors sign MoUs to co-fund integrated green and smart mobility solutions demonstrated in suburban and peripheral areas of LEADs and ex-ante assessed in REPs.
Target groups: *Public authorities in energy, environment, urban planning, and green infrastructure; EU and international initiatives (e.g., EUI, GPSC, Net Zero Cities); Standardization bodies and open-source groups; Civil society, including NGOs and civic organizations; Researchers and academia in sustainable mobility and climate-resilient design; SMEs, startups, and innovators in environmental and urban solutions; Relevant R&I projects in environmental and mobility contexts; Industry sectors in mobility, energy, and urban planning.*
The baseline for IMP-DIM C reveals that while some European cities have begun integrating health and well-being assessments into urban planning, adoption remains inconsistent, and comprehensive tools for assessing climate-neutral solutions are lacking. Existing methodologies cover only 50% of key parameters related to air, water, soil, and noise pollution.
Specific baseline values for some of the KPIs are provided in the table below.

Impact Dimension (IMP-DIM)	Baseline Description (from proposal)	Quantified Baseline Values	Source/Justification
IMP-DIM A: Awareness and Engagement in CN Mobility & Energy	Low citizen awareness and limited engagement in decision-making processes related to decarbonized mobility and energy	• 30% of EU urban residents aware of benefits • 25% participate in related decision-making • 40% of municipalities with CN-supporting policies	**European Commission. (2023).** *Eurobarometer on Energy Transition.* Brussels: Directorate-General for Communication. https://europa.eu/eurobarometer **OECD. (2022).** *The Territorial Governance of Climate Change Adaptation in Europe.* Paris: OECD Publishing. https://doi.org/10.1787/fc00f689-en **Covenant of Mayors. (2022).** *Annual Report 2022: Climate and Energy Progress*

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			in Cities. Brussels: CoM Secretariat. https://www.covenantofmayors.eu
IMP-DIM B: Replication and Spatial Efficiency	High car dependency, underused public spaces, and low replication of sustainable solutions	• Car ownership > 500 vehicles per 1000 inhabitants in 70% of cities • Public space reallocation below 15% of total city surface • Only 20% of tested sustainable solutions replicated elsewhere	**European Environment Agency. (2021).** *Urban Transport and Mobility in Europe.* Luxembourg: Publications Office of the European Union. https://www.eea.europa.eu/en/topics/in-depth/transport-and-mobility **URBACT. (2020).** *URBACT Transfer Networks: Replication and Scaling of Urban Innovations.* Paris: URBACT Secretariat. https://urbact.eu **CIVITAS Initiative. (2021).** *CIVITAS Replication Handbook: Accelerating Urban Mobility Solutions.* Brussels: European Commission. https://civitas.eu
IMP-DIM C: Integration of Health and Pollution Indicators in Urban Planning	Inconsistent inclusion of health co-benefits and lack of tools for CN impact assessment across environmental domains	• Only 30% of cities perform regular Health Impact Assessments (HIAs) • Existing CN assessment tools cover only 50% of key parameters (air, water, soil, noise) • Fewer than 20% of EU cities link CN policies to well-being indicators	**World Health Organization. (2022).** *Health in the Green Urban Transition: WHO European Healthy Cities Network Annual Report.* Copenhagen: WHO Regional Office for Europe. https://www.who.int/europe **Joint Research Centre (JRC). (2021).** *Urban Environmental Pollution Assessment Methods in the EU.* Luxembourg: Publications Office of the European Union. https://publications.jrc.ec.europa.eu **EuroHealthNet. (2023).** *Well-being and Climate-Resilient Urban Planning in Europe: A Review.* Brussels: EuroHealthNet. https://eurohealthnet.eu

2.1.3 Potential barriers and risks and associated mitigation actions to reach the impacts

Risk of Barriers // Mitigation actions, KPIs and Contributing WPs
Stakeholder Engagement and Community Participation // URBAN-FLOW develops and implements a comprehensive stakeholder engagement strategy, conduct regular community workshops and meetings, and use participatory approaches to ensure active involvement. **KPIs: KPI1:** Achieve a 30% annual increase in active community participation in project activities**; KPI2:** Attain at least 85% stakeholder satisfaction with participation processes as measured by annual feedback surveys**. Contributing WPs**: WP2, WP6, WP7, WP8
Data Management and Technology Integration // URBAN-FLOW establishes robust data governance frameworks, invest in training for communities on digital tools, and ensure interoperability of digital platforms**. KPIs: KPI3:** Ensure 95% uptime of digital platforms and adherence to data governance standards**. KPI4:** Train 70% of community members on digital tools by the end of year two**. Contributing WPs:** WP3, WP4, WP5.
Policy Alignment and Regulatory Hurdles // URBAN-FLOW engages in continuous dialogue with policymakers and stakeholders to align project objectives with EU regulations and advocate for supportive rural innovation policies. **KPIs**: **KPI5:** Successfully integrate project outcomes into at least three regional policy frameworks within three years; **KPI6**: Host bi-annual roundtables with policymakers to ensure ongoing alignment and adaptation to regulatory changes. **Contributing WPs:** WP2, WP7, WP8

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Scaling Innovations and Ensuring Sustainability // URBAN-FLOW develops scalable and adaptable business models, secure partnerships with private and/or public investors for long-term sustainability and focus on capacity building for self-sustaining innovations**. KPIs: KPI7:** Develop at least two scalable business models validated through pilot testing in multiple regions; **KPI8:** Form at least four strategic partnerships with private and/or public investors to support scaling and sustainability**.** **Contributing WPs**: WP6, WP7, WP8

Technological Adoption and Digital Literacy // URBAN-FLOW develops a sound experimental phase from which to gather lessons learned, policy and practical recommendations, capacity buildings and financial sustainability strategies for facilitating the adoption of the project framework **creat**ing a user**-friendly and accessible** digital environment to leverage sustainable CN solutions**. KPIs: KPI9:** Increase technology adoption rates by 40% within target communities by project mid-point**; KPI10:** Conduct quarterly digital literacy workshops and achieve a 75% improvement in self-reported user competence**. Contributing WPs:** WP2, WP6, WP7, WP8

Maintaining Long-term Engagement and Motivation // Based on evidence from the experimental phase, URBAN-FLOW implements feedback mechanisms and sound exploitation and sustainability strategies to continuously adapt project activities to community needs, recognize and celebrate community achievements, and establish local project champions for long term sustainability of RLLs and facilitating replicability and transferability of the project framework**. KPIs: KPI11:** Sustain or increase engagement levels year-over-year by at least 20%; **KPI12:** Identify and support at least five community champions annually who can foster ongoing project activities and motivation**.** **Contributing WPs:** WP7, WP8

2.2 Impact Creation

The consortium will implement a comprehensive strategy to maximize the impact of URBAN-FLOW's results through efficient communication, dissemination, and exploitation. The strategy will (i) ensure broad visibility and awareness by establishing a recognizable project identity to support promotional efforts; (ii) engage relevant stakeholders across domains to effectively showcase project outcomes; (iii) facilitate both commercial and non-commercial exploitation of innovative URBAN-FLOW solutions; (iv) enable large-scale adoption through replication in REP cities and the creation of validated Transferability Guidelines; (v) contribute to publications, scientific fields, standardization efforts, and open-source initiatives; (vi) coordinate closely with relevant platforms, projects, and working groups; and (vii) guarantee Open Access to key project results.

2.2.1 Communication and Dissemination Strategy

Phase 1 – Foundation Setting (M01-M10): Develop the D8.1 Communication, Dissemination, and Exploitation Roadmap (M6), refining target groups and selecting tools for community-building. Inform stakeholders about URBAN-FLOW's scope and objectives, establish collaboration mechanisms with relevant projects (T1.5, T8.3), and outline the exploitation strategy for Key Exploitable Results (KERs). Plan participation in initial events.

Phase 2 – Initial Dissemination and Community Outreach (M09-M36): Engage key stakeholders to generate interest in URBAN-FLOW outputs. Lay the foundation for dissemination, showcasing, and policymaking activities. Organize knowledge exchange, capacity-building workshops, and co-hosted events with other initiatives.

Phase 3 – Achieving Sustainable Impact (M37-M48): Promote large-scale adoption of URBAN-FLOW solutions through dedicated dissemination, publishing project results online and on platforms like the Mission Portal. Participate in events and organize replication workshops, policy dialogues, and the final project conference. Ensure commercial viability with Business Models and City Mission Canvases, contribute to standardization and policy initiatives, and validate Transferability Guidelines with Mission Cities for broader impact.

2.2 2 Target groups

Target Stakeholder	Benefits/Needs	Interaction channels
Mission Cities and other cities and regions	Adoption of measures and solutions through URBAN-FLOW Transferability Guidelines	Mission Portal, website, workshops, events, project website, media engagement, newsletter

Researchers, academia within the sustainable mobility, energy efficiency, climate-resilient design domains.	They leverage on the results generated by the project to complement and extend their research and innovation efforts	Publications, participation, demos and presentation in targeted events, newsletter, project website, social media, workshops.
Relevant European and international p**rojects and initiatives Cities Mission Platform, CIVITAS, etc.**	Validation and sharing of best practices and lessons learnt, joint promotion of project results and policy recommendations, raise awareness of global challenges	Participation in relevant working groups, events and workshops, targeted communications through all channels, joint publications
Industry and Business	Proven URBAN-FLOW technologies and tested use cases opens market opportunities as defined in Business Models, new business models and innovative services	Participation and presentation in targeted events, newsletters/news, project website, social media, targeted communications
Public authorities, Policy makers at local, regional, national and European level	Make informed strategic decisions through project best practice and policy recommendations	Participation at targeted events at national and European level, policy dialogues, joint activities with relevant initiatives and Cities Mission, project website and media channels, partner networks
Local Energy and Transport organizations	Access to sustainable mobility and energy solutions, improved integration of infrastructure and services, and guidance on new technologies	Stakeholder workshops, pilot project demonstrations, targeted communications, direct partnerships and collaboration, newsletters, and technical consultations
Standardisation bodies / open source initiatives	Contribution to several standardisation and opensource initiatives to support technology transfer	Direct liaison with relevant bodies, innovators, researchers and technical initiatives and activities as well as standardisation activities
Civil society and community at large (social civic organisations, NGOs, the public, media)	Inform of project best practices, and outcomes, raise awareness around climate change and social aspects to boost uptake of sustainable mobility	Liaison with URBAN-FLOW stakeholders, press and media communications, domain-focused events, newsletter campaigns, social media, project website.

2.2.3 Communication channels and measures

A comprehensive communication strategy will be implemented early in the project to support all impact-related activities. The goal is to effectively promote URBAN-FLOW and its findings throughout the project, delivering clear messages and using tailored tools and channels to reach target groups. The aim is to communicate project outcomes beyond the project community and make them accessible to the media and general public. At the start, the consortium will select the most effective communication instruments and messages aligned with project objectives, leveraging partner networks and related initiatives. Key channels and tools include: **Visual identity and promo kit:** Brand guidelines, colour schemes, fonts, and project logo variants for online and offline use. **Project website:** A

Measure	Indicators	Target	Source and methodology
Project Website	N. of visitors to the website (average per year)	> 3000	News, Publications, Videos, Newsle Deliverables
Social Networks	N. of Followers, cumulative	>300 cumulative	Keeping profiles on LinkedIn, YouT Mastodon active via regular posting monitoring
Promo materials	N. of Project presentations N. of Flyers N. of Posters / Roll-up banners	>2 >3 >2	Capturing the proper content and prov infographics/diagrams to effectively ex and present URBAN-FLOW work results
Publications	N. of publications	8	Articles and papers published in scie journals, online portals and magazines
Press Releases	N. of Press Releases	4	Press releases published
Newsletters/Digital Digests	N. of Newsletters (published every 6 months)	8	Recording of subscribers to the news and published on the website
Videos	N. of published videos	5	Introduction, informative, events' interviews' videos to support awar creation and stakeholders' engagement
Workshops	N. of policy dialogues, capacity building work. and outreach to Mission Cities	>8	Attendance proof, presented mat photos, animation of social media char events' reports
Events participation and presentations	N. of external events attended by partners	>10	Attendance proof, presented mat photos, animation of social media char event reports

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user-friendly platform providing comprehensive project information and public materials, supporting result promotion. **Social media presence:** Active on LinkedIn and Mastodon to engage stakeholders, with potential use of X (former Twitter) during policy events. Content will be amplified through partner networks and related initiatives. **Promotional materials:** Both online and offline materials showcasing project achievements for targeted engagement activities. **News items and newsletters:** Regular updates via a dedicated news channel on the project website, and a biannual newsletter highlighting key activities and announcements. **Videos:** A series of videos to raise awareness and promote project outcomes, supporting further uptake and exploitation by target stakeholders.

2.2.4 Dissemination channels and measures

URBAN-FLOW dissemination activities will involve all project partners and raise awareness about the project's objectives and results. They include dedicated presentations, expert panels, keynotes at selected events, webinars and workshops, in close collaboration with relevant initiatives and projects (see the target channels below). They are: **Events organisation and participation:** workshops with external audiences, including policy dialogues, capacity building activities and outreach to Mission Cities; **Target events:** ensure efficient dissemination and promotion of project results, the consortium plans to participate (via presentations/keynotes/interventions in expert panels/discussion sessions) in large and important events such as: *Smart City Expo World Congress and Tomorrow Mobility, Cities Mission Conference, CIVITAS events, ITS World/Europe, TRA Transport Research Arena, The Smarter E Europe, UNIC Thematic Conference: Urban Resilience, Sustainability, and the Future of Inclusive Post-Industrial Societies, Green Urbanism (GU), World Design Congress, Livable Cities Interdisciplinary Conference, International Conference on Urban Geography and Urban Planning (ICUGUP)*; **Target publication journals/magazines** (indicative list): publish the project results in various online portals, magazines and scientific journals. An indicative list of relevant journals and online portals includes: *Journal of Urban Design, IEEE Transactions on Intelligent Transportation Systems, Mission Portal, Smart Cities Marketplace, EIT Urban Mobility Marketplace, CIVITAS website;* **liaisons to relevant initiatives:** to widen the outreach of URBAN-FLOW and maximise its impact the Consortium will pursue and ensure close coordination with the EC, the various ongoing relevant HE projects as well as relevant initiatives and stakeholders on national, European and international level. The following initiatives are targeted: *Cities Mission Platform, CIVITAS, New European Bauhaus, Covenant of Mayors for Climate & Energy European Urban Initiative (EUI) – Greening Cities, Innovating Cities Initiative, Eurocities, EEA, ICLEI Europe, European Sustainable Cities Platform, EnRoute, (refer to T8.3).*

URBAN-FLOW is committed to establishing a cooperation with the projects funded under the same topic HORIZON-MISS-2024-CIT-01-01 as part of cluster RETHINKING URBAN SPACES as well as with the Cities Mission Platform and the CIVITAS Initiative. This cooperation shall materialise in the coordination of research and innovation, monitoring and communication and dissemination activities of mutual interest, and any other type of collaborations that may occur during the conduct of this Innovation Action project, on the basis of mutual benefit.

The consortium members of the URBAN-FLOW project acknowledge and share the Cities Mission objectives as well as the CIVITAS Initiative objectives and, through playing an active role in the Cities Mission and the CIVITAS community, aim to contribute towards them. In order to promote the Cities Mission and the CIVITAS initiative, the URBAN-FLOW project will share the project's lessons and conclusions with these networks. On request, URBAN-FLOW will cooperate with the Cities mission secretariat and the CIVITAS Initiative secretariat and participate in relevant activities and events.

To foster complementarity and avoid duplication, all the projects funded under topic HORIZON-MISS-CIT-01-01 and part of cluster RETHINKING URBAN SPACES are expected to share information on their living-labs demonstration/pilot activities and relevant results to the Cities Mission Platform and the CIVITAS Initiative , including, where possible, the provision of data to enable the monitoring of progress towards the achievement of the Cities Mission and CIVITAS objectives. The collaboration with the Mission Platform will be facilitated through the CIVITAS Initiative Coordination and Support Action (currently CIVITAS MUSE) and formalised through a Memorandum of Understanding to be concluded as soon as possible after the project starting date.

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2.2.5 Exploitation Measures

Based on the C&D&E Roadmap (D8.1), the exploitation strategy (T8.5) focuses on refining a list of Key Exploitable Results (KERs) that represent the project's innovations and value propositions for partners and stakeholders. Commercial KERs involve services generating financial returns through product exploitation. The strategy aims to maximize impact by exploring commercial opportunities, transferability, and policy recommendations. This involves conducting a gap analysis, PESTEL analysis, background research, and stakeholder interviews to develop a comprehensive Cost-Benefit Analysis. Insights from pilot experiences will further enhance the process. Societal readiness and behavioural change aspects will be incorporated to boost public acceptance and ensure the sustainability of new mobility and public space solutions. The main deliverable (D8.4) will include Business Models designed for providers and cities, ensuring project outcomes are effectively utilized during and beyond the project. Figure below presents a preliminary list of KERs, both (T)echnical and (O)thers, derived from sustainable measures (Table 3). For high-TRL measures, commercial Key Exploitable Results (KERs) will be assessed for market readiness to guide business models and European expansion strategies. One example is the Collaborative Tool for Optimal Curb-Side Use Planning, validated through real-world applications. This tool optimizes curb-side management using historical data and citizen feedback, enhancing mobility by improving space allocation, reducing congestion, and increasing accessibility. Target users include city planners, municipal authorities, and mobility providers. The tool's adaptability allows for replication in various cities through direct deployment or integration into smart city initiatives. Commercialization strategies could involve free municipal trials followed by subscription-based licensing. Additional revenue could be generated through partnerships with urban logistics firms and public transport operators. **KERs and Business Models:** Innovative business models will be developed for each commercially viable service, with Business Model Canvases (BMC) analysing their applicability in different Living Labs. City Mission Canvases (CMC) will holistically assess services tested in each Living Lab, evaluating scalability, replicability, market responsiveness, and resilience to risks. Stakeholder interviews will identify gaps, socio-environmental benefits, and revenue potential. **Transferability and Uptake:** Non-commercial KERs, such as guidelines and digital tools, will focus on accelerating decarbonization through the transfer of mobility solutions. The URBAN-FLOW Transferability Guidelines, central to the replication strategy, will transfer solutions from LEAD cities to REP cities, adapting them to diverse socio-economic and political contexts. Validated by Mission Cities, these guidelines will support cities in fast-tracking net-zero transitions. **Policy Contributions:** URBAN-FLOW will engage with Commission initiatives, regulatory bodies, and policymakers to shape future policies at local, national, and EU levels. Recommendations will be derived from assessments of barriers and enablers (T2.3), co-design processes (T3.4), capacity-building workshops (T7.2), replication activities (T7.3), policy dialogues (T8.2), and standardization lessons (T8.4). These recommendations will address policies, regulatory frameworks, and standards necessary for scaling project solutions.

KER Label	T/O	Exploitation Potential	Target Clients	Beneficiaries
KER1 Climate-neutral planning policies and baseline strategies for urban areas	T	Supports policy-making and climate-neutral initiatives in urban areas	City planners, municipal authorities, policy makers	Urban residents, businesses, government bodies
KER2 Collaborative platform for data sharing and governance across City Labs	T	Enables effective data governance and collaboration among City Labs	City Labs, data managers, research institutes	City residents, innovation stakeholders, service operators
KER3 URBAN FLOW framework for the co-creation of sustainable urban regeneration measures	T	Facilitates participatory urban regeneration processes for scalable adoption	Urban developers, local authorities, community stakeholders	Community groups, neighborhood associations, citizens
KER4 Integrated urban planning decision-support framework	T	Provides decision-makers with integrated planning capabilities	Decision-makers, policy analysts, city councils	Public institutions, municipalities, residents
KER5 Digital tools for dynamic space allocation and sustainable mobility optimization	T	Optimizes urban mobility and space allocation in dynamic settings	Mobility service providers, urban planners, transport operators	Public transport users, local businesses, city residents
KER6 Impact Assessment Framework (IAF) for evaluating climate, energy, mobility, and health impacts and CN Index	T	Measures and evaluates multi-domain impacts for sustainable solutions	Policy makers, urban planners, environmental agencies	Communities, health organizations, environmental groups
KER7 Digital Twin and unified data platform for integrated energy, transport, and land-use planning	T	Supports integrated planning through real-time data monitoring and simulations	City planners, data scientists, policy makers	Urban communities, energy providers, transport users
KER8 Health Impact Assessment (HIA) Toolbox	T	Assesses environmental and health impacts to inform responsive policies	Health agencies, city councils, public health planners	General public, healthcare providers, environmental bodies
KER9 Guidelines and replicability strategy for scaling climate-neutral solutions	O	Enables the replication of proven solutions in diverse socio-economic contexts	City authorities, policy makers, regional planners, sustainability consultants	Urban communities, regional development groups, vulnerable areas
KER10 Business models and exploitation strategies for urban climate resilience enhancement	O	Promotes sustainable business models and funding opportunities for project outcomes	Investors, municipal authorities, city planners, private stakeholders	Local businesses, energy cooperatives, sustainability advocates
KER11 Knowledge exchange and networking mechanisms for large-scale awareness	O	Expands knowledge-sharing platforms for urban sustainability awareness and upscaling	Researchers, community organizations, NGOs	Public stakeholders, academic institutions, policy networks

Key exploitation measures tailored to each specific KER are provided in the table below.

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KER	Key Exploitation Measures (KEPs)	Target Values
KER1: Climate-neutral planning policies and baseline strategies	• Develop open-access Climate Neutral Planning Toolkit • Integrate with Decidim & IAF • Policy workshops with 30+ EU municipalities	Toolkit used by ≥10 cities; 2+ policy changes per pilot city; 3 replication policy workshops
KER2: Collaborative platform for data sharing and governance across CLs	• Deploy modular governance dashboards in CLs • Develop a legal blueprint for interoperable data sharing • Set up 6 regional data hubs	≥80% data interoperability in pilots; Legal toolkit downloaded ≥100 times; 6 operational hubs
KER3: URBAN FLOW framework for co-creation	• Package as "Co-Creation Playbook" • Support replication in 3 REPCs and 5 non-partner cities • Deliver certified capacity-building modules	Playbook translated into ≥5 languages; >200 trained professionals; Deployed in 8 cities
KER4: Integrated urban planning decision-support framework	• Commercial licensing to urban consultancies • Embed in EU smart city initiatives (e.g. Living-in.EU) • Integration into 3 Local Digital Twins	3 licensing contracts; 5 city deployments; 1 EU-level adoption agreement
KER5: Digital tools for dynamic mobility & space allocation	• Commercial pilot with mobility operators • Link with SUMP dashboards • Offer as API suite to MaaS platforms	2 operators integrate API suite; 10% increase in public space reallocation; ≥1 real-time deployment per pilot
KER6: Impact Assessment Framework (IAF) & CN Index	• Offer as SaaS for municipalities • Include CN scoring in EU city benchmarking reports • Publish white paper for EU policy use	5 SaaS subscriptions post-project; IAF used in ≥3 Mission Cities; 1 EU-level policy input

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KER	Key Exploitation Measures (KEPs)	Target Values
KER7: Digital Twin & unified data platform	• Bundle as part of "City Digital Twin Suite" • Integrate with local energy/mobility platforms • Use in academic courses on urban resilience	4 city deployments; ≥3 EU twin cities integrate it; 5 academic programs adopt it
KER8: HIA Toolbox	• Certify for EU public health use (HIA standards) • Offer to climate-health NGOs and agencies • Publish scientific benchmark studies	Validated by ≥3 health agencies; ≥2 public health pilots; ≥3 publications in peer-reviewed journals
KER9: Guidelines for replicability	• Translate into actionable online "playbooks" • Support peer-to-peer learning via CoP platform • Formal adoption in 3+ REPC replication roadmaps	Downloaded ≥300 times; 3 REPC replication documents include the guidelines; 2 cross-city learning events
KER10: Business models for CN urban regeneration	• Roadshow for impact investors • Integrate into municipal finance tools • Launch Living Lab for CN business canvases	5 investors engaged; ≥2 co-financing schemes initiated; ≥1 municipal budget reform triggered
KER11: Knowledge exchange & networking mechanisms	• Launch URBAN-FLOW Knowledge Hub • Include in Climate-ADAPT and Mission CoP • Organize annual "Urban Flow Summit"	1 digital hub online; ≥500 users engaged; ≥100 participants/year in summit

2.2.6 Knowledge Management & IPR Protection

The consortium recognizes that effective knowledge and IPR management is crucial for successful collaboration and the long-term exploitation of URBAN-FLOW outcomes. By safeguarding partners' interests, confidentiality issues will be minimized, enhancing market visibility and exploitation potential. Knowledge and IPR management will be governed by the Consortium Agreement (CA), aligned with Horizon Europe policies and signed by all partners before the project starts. The CA will define:

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Background knowledge: Specified in the CA and shared royalty-free among partners when necessary for project activities. **Foreground knowledge**: Owned by the partner generating it, but shared royalty-free when needed for other partners' activities. If multiple partners contribute, ownership will be shared based on effort. **Access conditions**: Knowledge will be shared royalty-free for research, demonstration, and academic purposes while being made available for exploitation under fair and reasonable terms. The CA will also outline decision-making processes, risk management, legal aspects regarding software, trademarks, and patents. Scientific publications will follow the "green" open access model, making papers available on the project website and repositories like Zenodo. IPR protection will include patent submissions, focusing on market-oriented and technically viable innovations from URBAN-FLOW.

2.3 Summary

Specific Needs	Expected Results	D & E & C Measures
Efficient Space Allocation: Optimize space for transport, public amenities, green areas, and energy infrastructure; **Resolve Mobility Conflicts:** Address car-centric planning to reduce congestion and pollution. **Improve Connectivity:** Enhance infrastructure and access in peri-urban areas to reduce inequalities. **Integrated Energy and Mobility:** Align energy use with transport and urban design to lower emissions and support CN. **Inclusive Urban Spaces:** Improve accessibility and engagement, focusing on disadvantaged groups.	**KER1** Climate-neutral planning policies and baseline strategies for urban areas; **KER2** Collaborative platform for data sharing and governance across City Living Labs; **KER3** URBAN FLOW framework for the co-creation of sustainable urban regeneration measures; **KER4** Integrated urban planning decision-support framework; **KER5** Digital tools for dynamic space allocation and sustainable mobility optimization; **KER6** Impact Assessment Framework (IAF) for evaluating climate, energy, mobility, and health impacts and CN Index; **KER7** Digital Twin and unified data platform for integrated energy, transport, and land-use planning; **KER8** Health Impact Assessment (HIA) Toolbox; **KER9** Guidelines and replicability strategy for scaling climate-neutral solutions; **KER10** Business models and exploitation strategies for urban climate resilience enhancement; **KER11** Knowledge exchange and networking mechanisms for large-scale awareness	> 3000 N. of visitors to the website (average per year) >300 N. of Followers, cumulative >2 N. of Project presentations >3 N. of Flyers >2 N. of Posters / Roll-up banners 8 N. of publications 4 N. of Press Releases 8 N. of Newsletters (published every 6 months) 5 N. of published videos >8 N. of policy dialogues, capacity building work. and outreach to Mission Cities >10 N. of external events attended by partners

Target Groups	Outcomes Measures	Impact Measures
• Mission Cities and other cities and regions • Researchers and academia (sustainable mobility, energy efficiency, climate-resilient design) • Relevant European and international projects and initiatives (e.g., Cities Mission Platform, CIVITAS) • Industry and business • Public authorities and policymakers (local, regional, national, and European levels)	All the KPIs of sub-§1.1.2 and of the sub-§1.2.1.4 and the following KPIs: **OUT3.1:** ≥30% increase in awareness of CN mobility and energy benefits among LL participants (>3 on a 1-5 Likert scale) by project end. **OUT1.1, OUT2.1, OUT5.1, OUT6.1, OUT7.1, OUT8.1, OUT9.1, OUT10.1:** ≥80% of LEAD KPIs of the related OUT, as detailed in sub-§1.2.1.4, are achieved during the project.	**IMP1.1:** ≥15 urban areas sign MoUs to test and adapt key participatory methodologies by project end; **IMP2.1:** ≥12 transferable CN solutions are demonstrated and tested across LEAD and REPCs (T7.1, T9.2); **IMP3.1:** ≥6 new nature-based or urban greening solutions are co-created in suburban and peripheral LEAD city areas (T6.1); **IMP4.1:** LL participants agree that URBAN-FLOW's co-creation process using digital twins and "user journeys" is more cost-effective than current practices. **IMP5.1:** ≥3 co-founders sign MoUs to explore co-funding initiatives demonstrated in LEAD cities; **IMP6.1:** LL participants confirm that the HIA tools in URBAN-FLOW improve ex-ante, ongoing, and ex-post evaluations

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• Local energy and transport organizations • Standardization bodies and open-source initiatives • Civil society and community (social civic organizations, NGOs, the public, media)	**OUT11.1:** ≥80% increase in preparedness to reduce fossil-based mobility via renewable energy systems among LL and capacity-building participants (>3 on a 1-5 Likert scale) by project end; **OUT4.1:** 20% average reduction in NO_2 and PM2.5 emissions compared to current baselines (T6.1) in LEAD cities by project end.	compared to current methods; **IMP7.1:** ≥10 local administrations adopt project policy recommendations for climate neutrality by project end; **IMP8.1:** ≥5 co-investors sign MoUs to co-fund green and smart mobility solutions demonstrated in LEAD cities and assessed in REPs; **IMP9.1:** ≥3 co-investors sign MoUs to co-fund CN measures demonstrated in LEAD cities by project end; **IMP10.1:** ≥10 local administrations sign MoUs to use project tools and methodologies for establishing CLs and Climate City Contracts by project end.

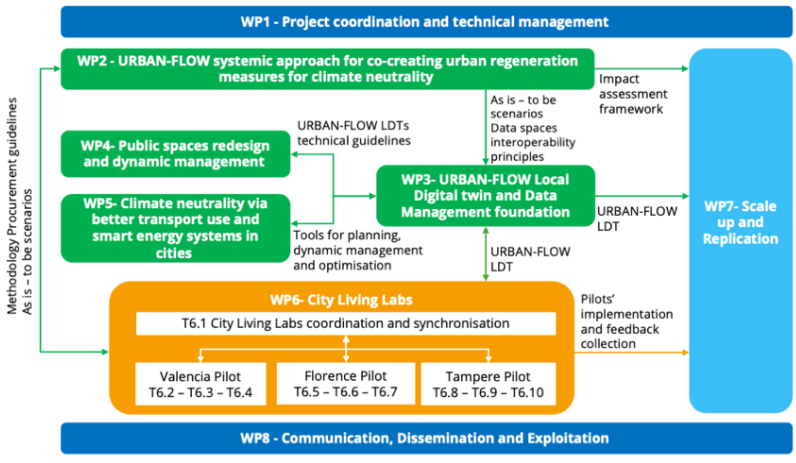
3. Implementation

3.1 Work plan and resources

The duration of the URBAN-FLOW project is scheduled to be four years (48 months), and the work has been divided into 8 Work Packages (WPs) listed in Table below

WP No	Work Package Title	Lead Part.	Lead Part. Short	Person Months	Start Month	End Month
1	Project coordination and technical management	1	LC	92	1	48
2	URBAN-FLOW systemic approach for co-creating urban regeneration measures for climate	10	APRE	280	1	40
3	URBAN-FLOW Local Digital twin and Data Management foundation	11	ENG	224	1	42
4	Public spaces redesign and dynamic	13	ETRA	147	1	42
5	Climate neutrality via better transport use and smart energy systems in cities	4	TEC	153	1	42
6	City Living Labs	7	VIC	433	3	40
7	Scale up and Replication	25	EIT UM	304	10	48
8	Communication, Dissemination and	26	D4P	231	1	48
Total PMs				**1864**		

3.1.1 Work Packages and their interrelation (Pert Diagram)



The URBAN-FLOW work plan ensures smooth interaction among WPs to support climate-neutral urban regeneration through co-created solutions and knowledge transfer. WP1 oversees coordination and resource allocation, ensuring timely progress across WPs. WP2 establishes baseline methodologies, identifying needs and impact pathways, feeding into the development of the Impact Assessment Framework and Health Impact Assessment in WP3. WP3 integrates these inputs into the development of Local Digital Twins and data-driven tools, providing dynamic decision-support for urban planning and real-time monitoring. Outputs from WP3 guide WP4 and WP5, where spatial reconfiguration strategies and transport-energy optimizations are defined and prepared for deployment. WP6 drives the deployment, implementation, and demonstration of these solutions within the CLs, gathering data from pilot activities to refine measures and validate their effectiveness. WP7 ensures transferability through capacity-building and lessons learned, supporting the

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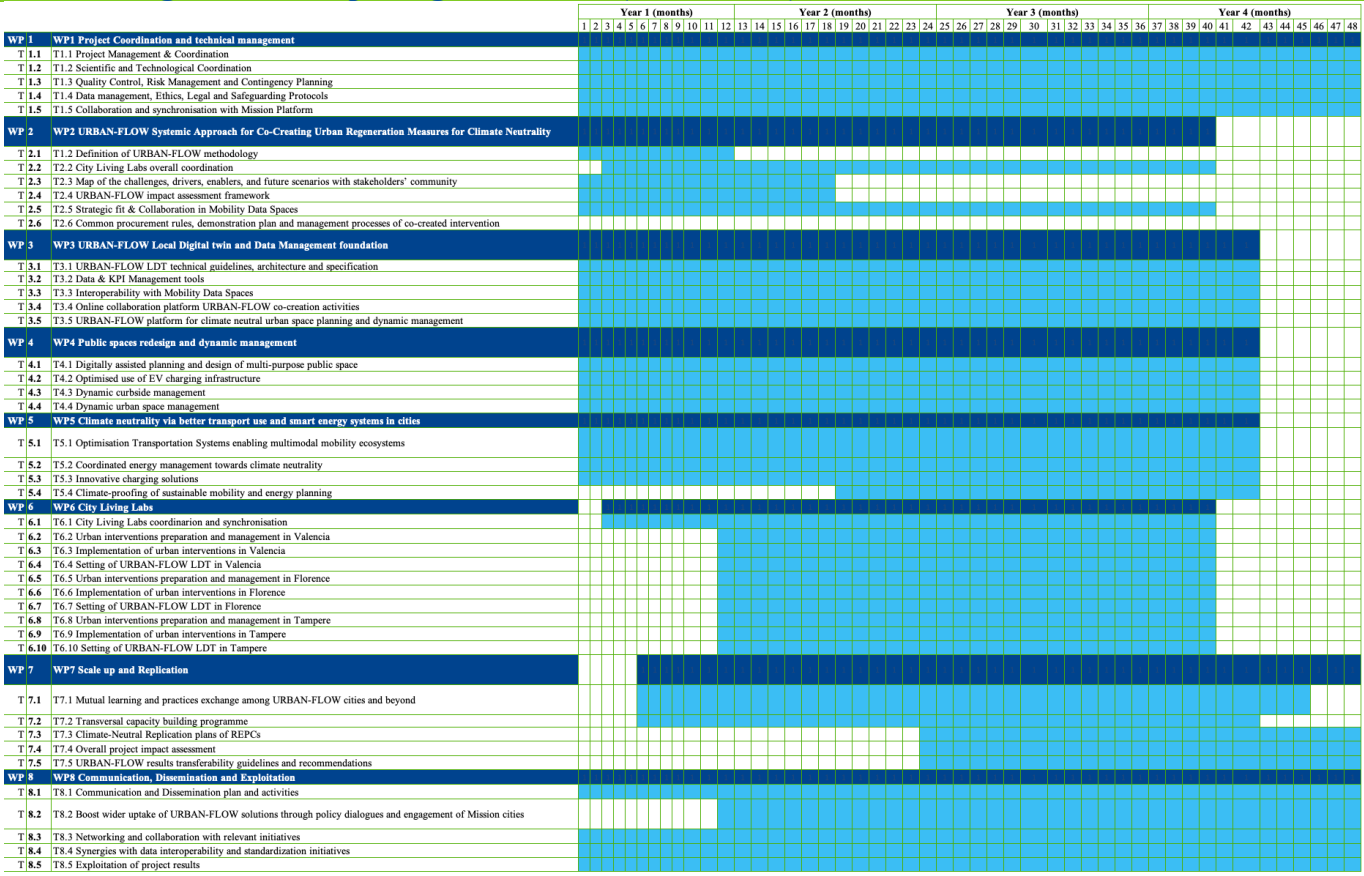
large-scale replication of validated solutions. WP8 focuses on networking, dissemination, and stakeholder engagement, ensuring knowledge exchange with EU platforms and projects and fostering broad uptake of project outcomes across Mission Cities and beyond.

3.1.2 Timing of the work packages and tasks (Gantt chart)



3.1.3 Sub-contracting cost items (Table 3.1g)

The beneficiaries must base their contracts/subcontracts according to the principles for best value for money and absence of any conflict of interest (according to Articles 6.2 and 9.3 of GA). Beneficiaries that are 'contracting authorities' or 'contracting entities' (within the meaning of the EU public procurement Directives 2004/18/EC and 2004/17/EC or any EU legislation that replaces these Directives) must moreover comply with the applicable national law on public procurement.

3/VTT		
	Cost (€)	**Description of tasks and justification**
Subcontracting	8.000	Mechanical installations of needed sensors, devices or charging equipment to VTT test vehicles or electric charging units. More specifically subcontracting covers: in WP5 (tasks 5.1 and 5.3): Production of custom sensor mountings, mechanical and safe electrical installations to VTT's test vehicles in Automated Vehicle technology platform and electric vehicle charging units in Tampere electric vehicle charging test bed.

6/UEDIN		
	Cost (€)	**Description of tasks and justification**
Subcontracting	42.000	Collaboration with an urban innovation expert in WP2 (tasks 2.3 and 2.4).

7/VIC		
	Cost (€)	**Description of tasks and justification**

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Subcontracting	180.000	**Tool for planning the reconstruction of public space in flood-affected districts (**Related WP and task: WP6 – T6.3**).** **Estimated cost: €180,000** **Scope of the subcontract:** This subcontract covers the development and implementation of a planning tool for the reconstruction and sustainable transformation of public spaces in districts highly affected by flooding events (La Torre, Forn d'Alcedo, and Castellar-l'Oliveral). The subcontracted entity will: • Design and develop a digital tool to support scenario-based planning, integrating the EDIC toolbox and Urban-Flow's digital architecture. • Provide multi-criteria analysis for the evaluation of reconstruction alternatives (mobility, green infrastructure, energy efficiency, climate resilience). • Integrate GIS-based spatial data, stakeholder inputs, and environmental risk layers (e.g., flood maps). • Ensure interoperability with other Urban-Flow tools (e.g., CityVerse, Local Digital Twins). • Support co-design workshops and produce guidelines for replication. **Cost estimation and breakdown:** The total cost has been estimated based on market prices for similar technical services and the complexity of integration with existing urban data platforms. We forecast 2 contracts under these section. • Expert consultancy in urban regeneration and climate adaptation: €60,000 • Software development and visual interface design, including tool integration : €120,000.

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Subcontracting	25.000	**Involvement of carpooling companies and tailored carpooling system** **Estimated cost: €25,000 (**Related WP and task: WP6 – T6.3). **Scope of the subcontract:** This subcontract will enable the participation of carpooling providers to test and adapt shared mobility services to the needs of flood-affected areas. The subcontracted activities include: • Engagement of at least two carpooling operators to participate in co-creation sessions and pilot deployment in vulnerable areas. • Technical adaptation of their platforms and operational models to dynamic curbside management and disrupted urban contexts. • Contribution to the testing of flexible parking, road pricing strategies, and access control measures in the demonstration phase. • Delivery of a final report with key findings and recommendations for replication in other contexts. **Cost estimation and breakdown:** **The total cost has been estimated based on market prices for similar technical services and the complexity of integration with existing carpooling services:** • 2 contracts, one per each carpooling operator (12.500 each) including all services described above:

3.1.4 Purchase costs' items - Purchase costs higher 15% of personnel costs (Table 3.1h)

All depreciation costs for equipment, infrastructure or other assets in the project are in compliance with Article 6 and will be recorded in the appropriate beneficiary's accounts, purchased in accordance with Article 6.2.C of the grant agreement and written off in accordance with international accounting standards and the beneficiary's usual accounting practices.

5/UPV		
	Cost (€)	**Justification**
Other goods, works and services	55.000	Strengthening city sensor network infrastructure: these costs are intended for the deployment of complementary sensors to current ones to improve the monitoring of environmental indicators. Additionally, the possibility of using models trained with temporary sensors will be studied to analyze improvements with the lowest investment cost.
Remaining purchase costs (<15% of pers.)	20.000	
Total	**75.000**	

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7/VIC		
	Cost (€)	**Justification**
Other goods, works and services	305.000	245.000€ Demonstrator to measure and monitor the impact on runoff water of different sustainable urban drainage systems (SUDS) designed using NBS; 25.000€ In the framework of the project "Green pact for technological entities", development of a virtual assistant to guide involved entities towards the sustainable practices; 15.000€ application to mobilize initiatives to compensate carbon footprint of companies; 15.000€ involvement through gamification two specific groups of interest in the design of the public space: (1) the students of secondary school, (2) professionals of urban mobility and logistics; 5.000€ costs of the Certificate on the Financial Statements (CFS).
Remaining purchase costs (<15% of pers.)	15.000	
Total	**320.000**	

9/VCE		
	Cost (€)	**Justification**
Other goods, works and services	74.000	18.000 € facilitation support for citizen participation under "My Green Neighbourhood" initiative; 18.000 € integration of URBAN-FLOW tools into the Energy Offices architecture, in order to ensure continuity of the project developments and avoiding duplicities; 23.000 € batteries for collective PV installations optimisation, to demonstrate optimised management of energy communities and collective PV installations in the València demonstration; 15.000 € local communication campaigns to support and visualise the development of different actions of the Valencian pilot.
Remaining purchase costs (<15% of pers.)	15.000	
Total	**89.000**	

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18/REM		
	Cost (€)	**Justification**
Other goods, works and services	559.000	Costs: • €480,000 for 2 automated vehicles (rental value value for 12 months); • €24,000 for service and operational costs for these vehicles for 12 months; • €50,000 for an on-demand system to be integrated into the 2 automated vehicles; • €5,000.00 for CFS audit costs. Justification: • The vehicles for Remoted are needed to verify the concepts of the planned multimodal mobility ecosystems referred to in task 5.1 as well as explore the new concepts of multimodal on demand AV service that especially aims to increase the usability of public transport by elderly and disadvantaged people. Without the vehicles the development of the concepts cannot get the full advantage of actual feedback from the target groups using the system. • The service costs of the vehicles are necessary especially when considering the target audience of the concepts and potential special needs arising for the vehicle maintenance of it. • The on-demand system integration is necessary to enable the proper functioning of the whole ecosystem and implementation of the urban interventions for the task 6.9. • For Remoted the CFS audit is necessary due to the size of part of the project implemented by Remoted.
Remaining purchase costs (<15% of pers.)	15.000	
Total	**574.000**	

27/FLO		
	Cost (€)	**Justification**
Other goods, works and services	435.000	280.000€ strengthening network infrastructure and sensors; 60.000€ tools to support metaverse digital twin; 60.000€ IHL participatory process services (15.000/year); 30.000€ catering, technical services for meeting and workshop (5.000x6/ 2 meeting/year); 5.000€ audit.
Remaining purchase costs (<15% of pers.)	25.000	
Total	**460.000**	

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28/BT		
	Cost (€)	**Justification**
Other goods, works and services	210.000	BT will implement 10 agile experiments, each costing 10.000€ (total 100.000 €) to develop and test innovative mobility, energy and smart charging solutions in Tampere. Agile experiments will be done in co-operation with companies including local SMEs. The experiments will be selected through a tendering process (innovation competition). The details of the agile experiments are defined and executed as part of WP6 (T6.8 and T6.9) work, as defined in the Work Plan. A mobile robotic EV charger will autonomously navigate to parked electric vehicles and charge them on-site. This reduces the need for fixed charging stations and provides a highly scalable solution to speed up the capacity building for EV charging. The pilot will test usability, automation, and user interaction of the robot EV solution. (35.000 €) Two new mobility and energy services will be implemented through the Tampere.Finland app to support better user engagement and interaction. These services will enable residents to participate and engage into the development and use of smart solutions for sustainable urban mobility and energy. These pilots, each with a budget of 35.000 € (total 70.000 €), will be selected based on the merits of the most promising agile experiments that will be executed during the project. Finally, 5.000 € are the costs of the Certificate on the Financial Statements (CFS).
Remaining purchase costs (<15% of pers.)	15.000	
Total	**225.000**	

Table 3.1 i: 'Other costs categories' items (e.g. internally invoiced goods and services)

3/VTT		
	Cost (€)	**Justification**
Internally invoiced goods and services	232.000	VTT's work within the project is conducted exploiting TP Transport research infrastructure and technology platform to gain the results described in the research plan (especially in WP2, WP3, WP4, WP5, WP6, and WP7). VTT's TP Transport includes TATEBE (Tampere EV charging testbed), automated vehicles, sensor and vehicle charging subsystems, data management, digital twins and software tools necessary for achieving the expected results including technical setup, technology development, testing, impact assessment and evaluation during the project. Estimated number of units: 6636, estimated average unit cost: 35 €.
Total	**232.000**	

Table 3.1 j: 'In-kind contributions' provided by third parties – N/A

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3.2 Capacity of participants and consortium as a whole

3.2.1 Consortium complementarity and capacity

	UB	CR	TMI	SES	CD	STP	SSI	DSS	IAEV	IoT	MBS	AI/DA	UP	CDES
1/LC						X		X	X			X	X	X
2/IMEC	X		X		X		X	X		X	X	X		
3/VTT	X				X		X	X		X		X		
4/TEC	X	X		X	X		X	X		X		X		
5/UPV	X	X		X			X					X		
6/UEDIN			X										X	X
7/VIC						X								X
8/EMT		X	X	X										
9/VCE		X		X	X									
10/APRE						X			X				X	X
11/ENG					X		X	X		X	X	X		
12/MUN					X		X	X		X	X	X	X	
13/ETRA			X	X	X		X	X			X	X		
14/CEF	X				X	X	X		X			X	X	X
15/KENT					X					X		X		
16/SAS	X	X												
17/SPES						X			X					
18/REM							X			X				
19/DBC					X		X	X		X	X	X	X	X
20/LAT	X	X	X		X		X	X		X	X	X		
21/PV					X		X	X		X	X	X	X	X
22OASC					X	X		X	X		X		X	X
23/UTA			X								X		X	X
24/CKIC				X					X				X	X
25/EIT UM			X						X		X		X	X
26/DFP						X			X				X	X
27/CSCC		X			X	X					X		X	X

URBAN-FLOW includes 33 partners from 11 EU countries and one associated country. LC, a Brussels-based think tank, coordinates the consortium and leads the impact assessment framework (T2.4). IMEC, a hub in nanoelectronics and digital technologies, leads the strategic fit and collaboration in Mobility Data Spaces (T2.5) and contributes to interoperability tasks (T3.3). Further, LC leads the engagement activities with Mission Cities (T8.2). VTT, Finland's leading research institution, supports in LDT and Data Management (WP3), Climate neutrality solutions (WP5), and urban interventions in Tampere (T6.8). TEC, a Spanish research centre, leads WP5 on Climate Neutrality and CLs coordination (T6.1). UPV, a Spanish technical university, contributes to climate-proofing sustainable mobility and energy planning (T5.4). UEDIN, a UK institution, contributes to urban sustainability and transport planning (WP5). VIC, a public innovation centre in Valencia, leads urban interventions in VLC (T6.2, T6.3). EMT, Valencia's public transport company, supports urban interventions in VLC. VCE, a foundation in Valencia, supports climate adaptation and mitigation strategies. APRE, the Italian agency for the promotion of European research, leads the co-creation of urban regeneration measures for climate neutrality (T2.1). ENG and MUN support the digital transformation of local public administration and are responsible for data management and monitoring. ENG also leads WP3 on LDT and Data Management, while MUN leads the setting of URBAN-FLOW LDT in FLO (T6.7). ETRA, a Spanish company, leads WP4 on public spaces redesign and supports CLs in WP6. CEF, an Italian digital innovation centre, leads the mapping of challenges and supports data interoperability (T8.4). KENT offers open-source platforms for smart cities and participates in WP3 & WP4. SAS, an Italian company managing mobility services in Florence, leads urban interventions in Florence (T6.6). SPES, an Italian consultancy, supports impact assessment. REM, a Finnish company, leads multimodality optimisation (T5.1) and support the interventions in Tampere. OASC, a global network, leads interoperability with Mobility and Smart City Data Spaces (T3.3) and alignment standardization initiatives (T8.4).

UTA is an Associate partner in the URBAN-FLOW project with a particular focus on facilitating trials with lead and follower cities and on communication and dissemination activities. We will be particularly active in WP2 where we help define and develop a systematic approach to urban regeneration measures for climate neutrality and in WPs 6 & 7 where we will help operationalise, scale and replicate project solutions. Finally, we will contribute extensively to WP8 to communicate and disseminate project solutions. UTA has an extensive international network of City members and significant experience and expertise in defining, running and replicating technology solutions for Smart Cities. This expertise has been built through several EU projects but also projects in Asia and North America funded by cities and national sources. We will bring that expertise to the project, solicit feedback from our city members on URBAN-FLOW's approach and disseminate project results to our members to help ensure that URBAN-FLOW is not only successful in developing solutions, but is impactful on the global stage. CKIC, Europe’s leading climate innovation agency, takes part to the engagement activities with Mission Cities. EIT UM, Europe’s largest urban mobility innovation community, leads WP7 on Capacity Building. D4P is an Associate partner in the URBAN FLOW project. The organisation will be the leader of WP8 Communication, Dissemination and Exploitation. Within the WP8 D4P will be responsible by T8.1: Communication and Dissemination plan and activities and T8.3 Networking and collaboration with relevant initiatives and very closely collaborating with the other partners in the execution of T8.2, T8.4 and T8.5. D4P will also contribute to several other tasks along the life of the project. D4P has a long-standing successful track record and solid expertise in leading Dissemination & Communication (D&C) and Exploitation (strategy and execution) in EU projects which is reflected in a current portfolio of more than 10 EU Projects (including IA, RIA and

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CSAs). Included in D4P's mission is fostering equitable progress through sustainable and ethical digital technologies, which is in complete alignment with the goals of URBAN FLOW. D4P team of sustainability and communication experts and the strong network of partners and contributors across Europe will strongly contribute to the success of URBAN FLOW. CSCC collaborates on smart city strategies. The consortium includes 6 cities (3 lead and 3 follower cities) from 6 Member States. Each lead city is supported by core partners: VLC by UPV, VIC, EMT, VCE; FLO by MUN, SAS, SPES; BT by VTT and REM. Each follower city is supported by a local partner: BRU by IMEC; CEC by UEDIN; PIL by KENT and CSCC. SMEs and non-profits represent a significant portion of participants, maximizing exploitation, scaling up, and knowledge sharing. A precise breakdown of the consortium member competences is provided in the adjacent table. Finally, all the networks mentioned in the call for proposals (and more) are duly represented in the project: **Living-In.EU** (OASC, VLC); **New European Bauhaus** (EIT UM, C-KIC); **Covenant of Mayors** (VLC); **EIT KIC Culture & Creativity** (TEC); **EIT Urban Mobility** (EIT UM); **CIVITAS** (EIT UM, VLC); **2Zero partnership** (ETRA); **Cities Mission Platform** (CKIC, EIT UM, VLC, TEC); **DS4SSCC project** (OASC, IMEC); **EU LDT Toolbox consortium** (ENG, OASC, IMEC).

3.2.2 Industrial/commercial involvement in the project

11 of the URBAN-FLOW partners are SMEs (CEF, KENT, SAS, SPES, REM, DBC, LAT, PV) and large enterprises (ENG, MUN, ETRA) with clear potential for expansion of their product portfolio on urban development, mobility and energy technologies combined with social science and AI. The URBAN-FLOW outreach opportunities for exporting innovations to Europe and contribute to global climate market development is as well defined. All partners will approach regional, national and European authorities and policy makers to communicate the URBAN-FLOW political, environmental and economic benefits. Engagement (interacting with the relevant stakeholders), through communities of practice and CLs and related communication are clearly considered and planned.

3.2.3 Access to infrastructure needed to carry out the URBAN-FLOW activities

The URBAN-FLOW consortium has already access to EU and Worldwide Infrastructure related to the i) Climate-related, ii) Financial, iii) Adaptation modelling activities. The project has also secured access to risk assessment data and Climate change Indicators knowledge hubs. The full list of the infrastructures is presented in sub-§1.2.1, however some indicative infrastructures are the following: Copernicus Climate Change Services, Copernicus Emergency Management Services, EU Flood Awareness System, EU Centre for Medium-Range Weather Forecasts (ECMWF), ESA and the Global Climate Observing System (GCOS). The consortium includes the cities of VLC, FIO, BT, BRU, CEC, and PIL, which will be actively involved as end users in providing functional and non-functional requirements for the URBAN-FLOW tools and applications. They are also the authorities responsible for the URBAN-FLOW activities in their respective regions, communities and infrastructure. Therefore, the consortium has all the necessary capacity and authority to ensure that access to study areas and critical infrastructure is ensured, for the successful project implementation. Finally, the URBAN-FLOW project has ensured access to most relevant critical infrastructure needed for the developed of the power consuming modelling activities and the almost real-time decision support system engines of the project.

4. Ethics Self-assessment

4.1 Ethical dimensions of the objectives, methodology and likely impact

Applying ethics principles is integral to the URBAN-FLOW approach. To augment the consortium's internal expertise on ethics and ensure the highest standards are maintained throughout the entire project lifetime, an external independent ethics advisor will be appointed, with a dedicated budget for this held by DBC.

At the heart of URBAN-FLOW is the co-creation of urban regeneration measures for climate neutrality (WP2), the City Living Labs and demonstration actions (WP6), and the scale-up and replication (WP7). As such the project will involve human participants, particularly through the collection of data during evaluation and co-creation activities, as part of a user-centred design process. URBAN-FLOW involves voluntary participation of adults whose informed consent can be obtained before the beginning of data collection, as they agree to collaborate in the project in advance. Informed consent is thus an inherent part of the planned research, as participants are thoroughly informed about the purpose and objectives before they agree to participate. Participation in the research activities listed above involves no psychological, social, economic or other forms of risk for respondents.

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The URBAN-FLOW project team is particularly aware of the sensitivity of collected data, most importantly participant demographic and contact details. Ethics considerations will be addressed consistently across all Work Packages and the project will directly deal with these important issues within WP1 as part of the Data Management Plan (DMP). Focus will be on the full compliance of data collection methods with EU law and directives, and the privacy of the participants. Demographic (personal) data will be collected about the participants, as well as their personal views or attitudes. However, so long as informed consent is received, this data (stored in a confidential and appropriate manner) is not considered a risk to participants and there will be no foreseeable negative consequences arising from participation. The engagement methodologies detailed throughout the project also entail communication and dissemination where no data is collected.

As such, only the engagement methodologies which collect data to be used within the research project have been detailed below, these are categorised by the various types of activity:

Workshops: co-creation workshops will be run within the URBAN-FLOW demonstration activities. All participants attending face-to-face or online workshops will receive Participant Information Sheets and will sign (physically or digitally) Consent Forms before participation. Information Sheets will be used for adults and recruitment. Workshops will use semi-structured group interview formats to explore outcomes of the interventions. Meetings will be observed with notes, or audio recorded and transcribed verbatim, then analysed with qualitative thematic analysis. All data will be kept in accordance with the Data Management Plan, then pseudoanonymised and grouped to remain individually unidentifiable for reporting.

Surveys and tests: Questionnaires will collect data on the outcomes resulting from the project interventions. Data will also be collected on the engagement processes to evaluate their effectiveness. Stakeholders may also be invited to complete online questionnaires, or complete brief feedback measures. Descriptive and analytical statistics will be conducted on the questionnaire data for grouped anonymised reporting.

The project will make use of artificial intelligence for data analysis in WP3, WP4 and WP5. The project coordinator has extensive experience on the ethical adoption of disruptive technologies, and artificial intelligence in particular, developed within the scope of the project ETAPAS (https://www.etapasproject.eu/), where LC has developed a governance model for the adoption of disruptive technologies in the public sector. At any rate, the most relevant guidelines will be applied, such as the Ethics Guidelines for Trustworthy Artificial Intelligence (AI) elaborated by the High-Level Expert Group on Artificial Intelligence (AI HLEG), as well as the proposed European law on artificial intelligence AI Act.

4.2 Compliance with ethical principles and relevant legislations

The countries involved in the project all have excellent standards for research ethics, however there are naturally some regional differences. All partners, via the Grant Agreement will agree to conform (where possible according to national laws) with those standards as set by EU Directives and the General Data Protection Regulation, and following EU Responsible Research and Innovation protocols. All non-EU countries will also be bound to this process and will follow the Ethics Self-Assessment Guidance. These will update in accordance with EU law. All educators participating in URBAN-FLOW will be expected to have in place and demonstrate robust ethical procedures that comply with EU directives and GDPR as part of the eligibility criteria. The Ethical Approval application will be based at DBC; with all other Partners adhering to this, An Ethics Application can only be submitted to the DBC Research Ethics Committee once a grant has been awarded. If awarded, the DBC Ethics Committee will work with the project to enable a swift process and completion of the Ethics Review if required by the Commission for the signing of the Grant Agreement. Diadkasia Ethics follows the EU Responsible Research and Innovation guidelines.
The ethics considerations, documents and procedures will include the following:
1) the foreseen measures by URBAN-FLOW to minimise the risks to research participants and staff involved in the project;
2) informed consent procedures for the participation of humans;

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3) procedures for obtaining an individual's consent to collect, store and protect personal data within the scope of the project activities;
4) sheet to obtain informed consent;
5) information sheet that will be used during the implementation of the procedures for obtaining informed consent regarding the collection, storage and protection of personal data; the information sheet will be distributed in local languages; depending on the national legislation, additional information may be included in the template.
The following measures are considered to protect personal data:
- URBAN-FLOW will comply with applicable data protection legislation. All partners in the consortium will comply with the General Data Protection Regulation (GDPR) and will keep abreast with current proposed changes to the regulatory framework.
- URBAN-FLOW will ensure that the amount of personal data collected is kept at the minimum that is necessary to achieve the project's objectives and will as far as possible work with anonymised data.
- The project will provide sufficient information to participants on a) The identity of the organisations and individuals handling the personal data provided by participants. b) The legal basis for collecting and using the data. c) The purposes for which that data will be used and the period for which it will be kept in identifiable form.
- The project will ensure that, where personal data is processed on the basis of the participants' consent, that consent is 'freely given, specific, informed and unambiguous' (Article 4(11) of the GDPR) and can be withdrawn at any time during the project. It will put in place measures that will allow it to exclude individual data records from the project and delete them, should a participant decide that they wish to leave the project.
- URBAN-FLOW will keep all personal data confidential and will only disclose it to those individuals working on the project on a needtoknow basis. Personal data will not be disclosed to any person or party unrelated to the project.
- To the extent that the chosen research methodology allows, all personal information received from participants will be collected in anonymised form or will be anonymised as soon as reasonably possible.
- In any instance where the URBAN-FLOW research would involve the further processing of previously collected personal data, consent from informants will be explicitly sought, and adequate information on the purpose of the research and the use of their personal data will be provided. No processing of previously collected personal data is foreseen for the research activities.
- Personal data will be kept secure using all necessary technical and organisational measures. It will be kept securely in passwordcoded files that only the researchers have access to, and data exchange among consortium members will be organized via a password-secured exchange platform, with access rights controlled by the project coordinator.
- The project will not keep personal data for longer than necessary for the purposes for which it was collected and will destroy or delete any personal data which is no longer required for the purposes of the project.
- All empirical data will be saved on password-protected servers in order to ensure that only members of the URBAN-FLOW research team can access the data.

ANNEX 2

ESTIMATED BUDGET FOR THE ACTION

	Estimated eligible[1] costs (per budget category)											Estimated EU contribution[2]			
	Direct costs									Indirect costs	Total costs	EU contribution to eligible costs			Maximum grant amount[6]
	A. Personnel costs				B. Subcontracting costs	C. Purchase costs			D. Other cost categories	E. Indirect costs[3]		Funding rate %[4]	Maximum EU contribution[5]	Requested EU contribution	
	A.1 Employees (or equivalent) A.2 Natural persons under direct contract A.3 Seconded persons		A.4 SME owners and natural person beneficiaries	A.6 Personnel unit cost	B. Subcontracting	C.1 Travel and subsistence	C.2 Equipment	C.3 Other goods, works and services	D.2 Internally invoiced goods and services	E. Indirect costs					
Forms of funding	Actual costs	Unit costs (usual accounting practices)	Unit costs[7]	Unit costs[7]	Actual costs	Actual costs	Actual costs	Actual costs	Unit costs (usual accounting practices)	Flat-rate costs[8]					
	a1	a2	a3	a5	b	c1	c2	c3	d2	e = 0,25 * (a1 + a2 + a3 + a5 + c1 + c2 + c3)	f = a+b+c+d+e	U	g = f * U%	h	m
1 - LC	872 000.00	0.00	0.00	0.00	0.00	35 000.00	0.00	34 600.00	0.00	235 400.00	1 177 000.00	100	1 177 000.00	1 177 000.00	1 177 000.00
2 - IMEC	456 000.00	0.00	0.00	0.00	0.00	15 000.00	0.00	27 500.00	0.00	124 625.00	623 125.00	100	623 125.00	623 125.00	623 125.00
3 - VTT	0.00	369 600.00	0.00	0.00	8 000.00	20 000.00	0.00	4 000.00	232 000.00	98 400.00	732 000.00	100	732 000.00	732 000.00	732 000.00
4 - TEC	619 875.00	0.00	0.00	0.00	0.00	20 000.00	0.00	5 000.00	0.00	161 218.75	806 093.75	100	806 093.75	806 093.75	806 093.75
5 - UPV	269 500.00	0.00	0.00	0.00	0.00	15 000.00	0.00	60 000.00	0.00	86 125.00	430 625.00	100	430 625.00	430 625.00	430 625.00
6 - UEDIN	119 000.00	0.00	0.00	0.00	42 000.00	15 000.00	0.00	0.00	0.00	33 500.00	209 500.00	100	209 500.00	209 500.00	209 500.00
7 - VIC	325 600.00	0.00	0.00	0.00	205 000.00	15 000.00	0.00	305 000.00	0.00	161 400.00	1 012 000.00	100	1 012 000.00	1 012 000.00	1 012 000.00
8 - EMT	107 674.00	0.00	0.00	0.00	0.00	15 000.00	0.00	0.00	0.00	30 668.50	153 342.50	70	107 339.75	107 339.75	107 339.75
9 - VCE	243 000.00	0.00	0.00	0.00	0.00	15 000.00	0.00	74 000.00	0.00	83 000.00	415 000.00	100	415 000.00	415 000.00	415 000.00
10 - APRE	324 000.00	0.00	0.00	0.00	0.00	25 000.00	0.00	3 000.00	0.00	88 000.00	440 000.00	100	440 000.00	440 000.00	440 000.00
11 - ENG	283 500.00	0.00	0.00	0.00	0.00	23 000.00	0.00	0.00	0.00	76 625.00	383 125.00	70	268 187.50	268 187.50	268 187.50
12 - MUN	529 000.00	0.00	0.00	0.00	0.00	17 000.00	0.00	5 700.00	0.00	137 925.00	689 625.00	70	482 737.50	482 737.50	482 737.50
13 - ETRA	603 200.00	0.00	0.00	0.00	0.00	20 000.00	0.00	5 000.00	0.00	157 050.00	785 250.00	70	549 675.00	549 675.00	549 675.00
14 - CEF	264 000.00	0.00	0.00	0.00	0.00	15 000.00	0.00	0.00	0.00	69 750.00	348 750.00	100	348 750.00	348 750.00	348 750.00
15 - KENT	495 000.00	0.00	0.00	0.00	0.00	15 000.00	0.00	35 000.00	0.00	136 250.00	681 250.00	70	476 875.00	476 875.00	476 875.00
16 - SAS	315 880.00	0.00	0.00	0.00	0.00	15 000.00	0.00	0.00	0.00	82 720.00	413 600.00	70	289 520.00	289 520.00	289 520.00
17 - SPES	0.00	122 230.56	195 394.44	0.00	0.00	15 000.00	0.00	0.00	0.00	83 156.25	415 781.25	70	291 046.88	291 046.88	291 046.88
18 - REM	528 000.00	0.00	0.00	0.00	0.00	15 000.00	0.00	559 000.00	0.00	275 500.00	1 377 500.00	70	964 250.00	964 250.00	964 250.00
19 - DBC	196 000.00	0.00	0.00	0.00	0.00	15 000.00	0.00	0.00	0.00	52 750.00	263 750.00	70	184 625.00	184 625.00	184 625.00
20 - LAT	0.00	0.00	168 000.00	0.00	0.00	15 000.00	0.00	0.00	0.00	45 750.00	228 750.00	70	160 125.00	160 125.00	160 125.00
21 - PV	378 000.00	0.00	0.00	0.00	0.00	15 000.00	0.00	0.00	0.00	98 250.00	491 250.00	70	343 875.00	343 875.00	343 875.00
22 - OASC	414 000.00	0.00	0.00	0.00	0.00	15 000.00	0.00	5 000.00	0.00	108 500.00	542 500.00	100	542 500.00	542 500.00	542 500.00
23 - CKIC	249 200.00	0.00	0.00	0.00	0.00	15 000.00	0.00	5 000.00	0.00	67 300.00	336 500.00	100	336 500.00	336 500.00	336 500.00
24 - EIT UM	461 500.00	0.00	0.00	0.00	0.00	25 000.00	0.00	5 000.00	0.00	122 875.00	614 375.00	100	614 375.00	614 375.00	614 375.00
25 - CSCC	245 300.00	0.00	0.00	0.00	0.00	20 000.00	0.00	0.00	0.00	66 325.00	331 625.00	100	331 625.00	331 625.00	331 625.00
26 - VLC	108 000.00	0.00	0.00	0.00	0.00	10 000.00	0.00	0.00	0.00	29 500.00	147 500.00	100	147 500.00	147 500.00	147 500.00
27 - FLO	505 500.00	0.00	0.00	0.00	0.00	25 000.00	0.00	435 000.00	0.00	241 375.00	1 206 875.00	100	1 206 875.00	1 206 875.00	1 206 875.00
28 - BT	503 766.00	0.00	0.00	0.00	0.00	15 000.00	0.00	210 000.00	0.00	182 191.50	910 957.50	100	910 957.50	910 957.50	910 957.50
29 - CEC	195 500.00	0.00	0.00	0.00	0.00	20 000.00	0.00	0.00	0.00	53 875.00	269 375.00	100	269 375.00	269 375.00	269 375.00
30 - BRU	240 000.00	0.00	0.00	0.00	0.00	20 000.00	0.00	0.00	0.00	65 000.00	325 000.00	100	325 000.00	325 000.00	325 000.00

	Estimated eligible[1] costs (per budget category)											Estimated EU contribution[2]			
	Direct costs									Indirect costs	Total costs	EU contribution to eligible costs			Maximum grant amount[6]
	A. Personnel costs				B. Subcontracting costs	C. Purchase costs			D. Other cost categories	E. Indirect costs[3]		Funding rate %[4]	Maximum EU contribution[5]	Requested EU contribution	
	A.1 Employees (or equivalent) A.2 Natural persons under direct contract A.3 Seconded persons		A.4 SME owners and natural person beneficiaries	A.6 Personnel unit cost	B. Subcontracting	C.1 Travel and subsistence	C.2 Equipment	C.3 Other goods, works and services	D.2 Internally invoiced goods and services	E. Indirect costs					
Forms of funding	Actual costs	Unit costs (usual accounting practices)	Unit costs[7]	Unit costs[7]	Actual costs	Actual costs	Actual costs	Actual costs	Unit costs (usual accounting practices)	Flat-rate costs[8]					
	a1	a2	a3	a5	b	c1	c2	c3	d2	e = 0,25 * (a1 + a2 + a3 + a5 + c1 + c2 + c3)	f = a+b+c+d+e	U	g = f * U%	h	m
31 - UTA															
32 - D4P															
Total consortium	9 851 995.00	491 830.56	363 394.44	0.00	255 000.00	535 000.00	0.00	1 777 800.00	232 000.00	3 255 005.00	16 762 025.00		14 997 057.88	14 997 057.88	14 997 057.88

[1] See Article 6 for the eligibility conditions. All amounts must be expressed in EUR (see Article 21 for the conversion rules).
[2] The consortium remains free to decide on a different internal distribution of the EU funding (via the consortium agreement; see Article 7).
[3] Indirect costs already covered by an operating grant (received under any EU funding programme) are ineligible (see Article 6.3). Therefore, a beneficiary/affiliated entity that receives an operating grant during the action duration cannot declare indirect costs for the year(s)/reporting period(s) covered by the operating grant, unless they can demonstrate that the operating grant does not cover any costs of the action. This requires specific accounting tools. Please immediately contact us via the EU Funding & Tenders Portal for details.
[4] See Data Sheet for the funding rate(s).
[5] This is the theoretical amount of the EU contribution to costs, if the reimbursement rate is applied to all the budgeted costs. This theoretical amount is then capped by the 'maximum grant amount'.
[6] The 'maximum grant amount' is the maximum grant amount decided by the EU. It normally corresponds to the requested grant, but may be lower.
[7] See Annex 2a 'Additional information on the estimated budget' for the details (units, cost per unit).
[8] See Data Sheet for the flat-rate.

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 2a

ADDITIONAL INFORMATION ON UNIT COSTS AND CONTRIBUTIONS

SME owners/natural person beneficiaries without salary

See Additional information on unit costs and contributions (Annex 2a and 2b)

HE and Euratom personnel unit cost

See Additional information on unit costs and contributions (Annex 2a and 2b)

HE and Euratom Research Infrastructure actions

See Additional information on unit costs and contributions (Annex 2a and 2b)

Euratom staff mobility costs

See Additional information on unit costs and contributions (Annex 2a and 2b)

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

INTERUNIVERSITAIR MICRO-ELECTRONICA CENTRUM (IMEC), PIC 999981149, established in KAPELDREEF 75, LEUVEN 3001, Belgium,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Anne VAN DEN BOSCH with ECAS id nboscann signed in the Participant Portal on 16/10/2025 at 11:50:21 (transaction id SigId-22894-qvbpwZaUNn4ThAFVbKptRHJgwPkcn3Vs3jFkc85ZpkYrzJU6NBGjTCnkAzvvaUouzkwLuSnq5iukieatKchzkea-m5stpJzr6TdQuM1vzgRVP7-CyT2nO1ANyqXRTGxZ6hutF1Hn5138Ys48p9ZIQo0Up0wczNJxes3J9HfTeMN6mNGnPvzg4pAirIfpZoPMlb3zbW). Timestamp by third party at 2025.10.16 11:50:26 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

TEKNOLOGIAN TUTKIMUSKESKUS VTT OY (VTT), PIC 932760440, established in TEKNIIKANTIE 21, ESPOO 02150, Finland,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Petri Söderena with ECAS id n002gi4l signed in the Participant Portal on 20/10/2025 at 16:19:44 (transaction id SigId-53855-LW9y73Kuh9q7lk4iGKGAZWJce0gcLICQJmPxHaNCY62pakLtjty6tczxzRwfzV8dN72bAKo2fMF9alznsca32Ry-m5stpJzr6TdQuM1vzgRVP7-ePzLwQjdB7DT6Qa0yazbzcfGUyw2vwDodCZBF7DfvAZQ0mrsWJLCmAnNiRDzQ1W0OD3NO6URZVrQnJ4l9Ze1jbK). Timestamp by third party at 2025.10.20 16:19:48 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

FUNDACION TECNALIA RESEARCH & INNOVATION (TEC), PIC 999604110, established in PARQUE CIENTIFICO Y TECNOLOGICO DE BIZKAIA, ASTONDO BIDEA, EDIFICIO 700, DERIO BIZKAIA 48160, Spain,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

JOSE LUIS ELEJALDE with ECAS id nelejjos signed in the Participant Portal on 19/10/2025 at 18:50:59 (transaction id SigId-45667-jG7J3V UXzMRVJrpUL1wfhPyYoPheZ7HSZntFOIJgqeTvgwkBBfLqbDjpnxafEx eQWPF548fDCaoHgManT57kCK-m5stpJzr6TdQuM1vzgRVP7-yzzcUY 1f6gbmrYZQzmCRWGgjTfLDcifqOXUnC17D7e34jmNv1HpkLutGhTY 8cyHCkGpsvsOWmtZtWzSfbHrykvC). Timestamp by third party at 2025.10.19 18:51:03 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

UNIVERSITAT POLITECNICA DE VALENCIA (UPV), PIC 999864846, established in CAMINO DE VERA SN EDIFICIO 3A, VALENCIA 46022, Spain,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

María Belén PICÓ-SIRVENT with ECAS id n0075tgw signed in the Participant Portal on 17/10/2025 at 11:57:55 (transaction id SigId-32195-ejE6s0f8hj4zyJy13zIuKUC992y3dV9SRwhravcbG89oihtSiUa1mCNDpMSXTzQzzoyabCIktpryvb3c1hezdrmW-m5stpJzr6TdQuM1vzgRVP7-0aQM94Cv74NKLFcVE6HUY9eqezXNVtVOLPBW16gkFZwj7GnruPFtFiD9d3rf5iztS8GvAixg4uWYInCWlTeNl0). Timestamp by third party at 2025.10.17 11:57:59 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

THE UNIVERSITY OF EDINBURGH (UEDIN), PIC 999974941, established in OLD COLLEGE, SOUTH BRIDGE, EDINBURGH EH8 9YL, United Kingdom,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Richard Covington with ECAS id n00jomjm signed in the Participant Portal on 14/10/2025 at 14:51:44 (transaction id SigId-6198-hvQEOfmtJHZpA3baiVFJnhhgHWcJ0lOMk4NXwIxsOHbgzx8fP50sgdbOCaPxByTczp68mjvuMxfcfOIrepxzZdG-m5stpJzr6TdQuM1vzgRVP7-PXi5BzhZRcH9ldELzNojhzY1zv0dDRqVUvvtCuu4TqmvNtEekbV3PfcFXhtqCmJdG804GlzHQO3VqGejVpp88AP). Timestamp by third party at 2025.10.14 14:51:49 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

FUNDACION DE LA COMUNITAT VALENCIANA PARA LA PROMOCION ESTRATEGICA EL DESARROLLO Y LA INNOVACION URBANA (VIC), PIC 953813514, established in PLAZA AYUNTAMIENTO 1, VALENCIA 46002, Spain,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

David Rosa with ECAS id n0035x55 signed in the Participant Portal on 13/10/2025 at 12:19:11 (transaction id SigId-22468-CYJr2V1CAMSJIIGFVCFVLnXxwM46PRhh9MtGiSCiEyeNSjFDzpLvzeDJKjcATdwOcg3xCZdkxqyPTmNLZLliNq-R2zIpfT8xjM5V8d9R1Id1q-Vgc8fSzHy3nT3rZ955iTtAv61iLJyMpQPvOj9rzjCzgIY6iQai99Fkzh2zVXJR4vQyWyofCzczWQviUucVQIMsnG). Timestamp by third party at 2025.10.13 12:19:16 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

EMPRESA MUNICIPAL DE TRANSPORTES DE VALENCIA SA (EMT), PIC 965524324, established in PLAZA DEL CORREO VIEJO 5, VALENCIA 46001, Spain,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Josep PALMI with ECAS id n006n3z0 signed in the Participant Portal on 16/10/2025 at 10:06:35 (transaction id SigId-21196-xpxDziRGqB MXl4F34bniNXdqAOXaWAGSCDXVpsMKgH70eCKHCeAlFTptZ3vgAGl 6JBt1Hr7HzhcmzZrysHGovhG-m5stpJzr6TdQuM1vzgRVP7-NCL7GW WBkNECoBivvGvv6P5CLCMGnEixFu6G8GWfI34bUzY5KrNbOHjqHFA MzM0zOqaR6TTzzdXOLLkcUY7lsn1). Timestamp by third party at 2025.10.16 10:06:39 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

FUNDACIO DE LA COMUNITAT VALENCIANA VALENCIA CLIMA I ENERGIA (VCE), PIC 935397773, established in C/JOAN VERDEGUER, 16 NAVE 2, VALENCIA 46024, Spain,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Carlos Sanchez with ECAS id n007ogua signed in the Participant Portal on 16/10/2025 at 14:33:22 (transaction id SigId-24810-46CY NFuN2W7MlIpNEw2WdHYeTciGOe0iSfUA43ztGHipTorxr8j0pzLL5zY tITzyGzgj2OdtyMvbkU6F6uziSCwm-m5stpJzr6TdQuM1vzgRVP7-zzz qA2RUllziF7j9mBdsGrau8oaprqULWo8jFA8reMcyo8KykvqI5Ylrkpjf 1kwxn94W4nsEqHQFZ39x3MeWZra). Timestamp by third party at 2025.10.16 14:33:28 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

AGENZIA PER LA PROMOZIONE DELLA RICERCA EUROPEA (APRE), PIC 999514191, established in VIA CAVOUR 71, ROMA 00184, Italy,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Marco FALZETTI with ECAS id nflzetma signed in the Participant Portal on 04/11/2025 at 17:46:55 (transaction id SigId-18679-QzfQa ExpTe02oWcWJzTVKixNGveNskuhhmBkWoPV9F4PojFBaTdUxaKoa1l DZXzu1tlA5zI0J8SKX1s34PavDzzG-POMaLlcnzRyEwEegvuDHAK-Pc0s ZDtLzrbzUT5wcbxc7GrDByeRmOqqoIBr9uy9lm07ybkgEHOvJoTnQx 5msn6B2of00qqZcO5HfncfETAJ5U). Timestamp by third party at 2025.11.04 17:46:59 CET

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

ENGINEERING - INGEGNERIA INFORMATICA SPA (ENG), PIC 999960488, established in PIAZZALE DELL'AGRICOLTURA 24, ROMA 00144, Italy,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Fabio Momola with ECAS id n00iok1e signed in the Participant Portal on 14/10/2025 at 09:34:14 (transaction id SigId-1861-tGVY5EJZt0o76pYfhECIaJykwYwNBKn8LV7OOuaZ70wSXmKmkKsmEaiL3xBYM3gn9Lvv044zPuhhJ1L6RE72Bu-m5stpJzr6TdQuM1vzgRVP7-5IluPiE5uXh4SfzgOl2aVkqI3JD5WY9dFP0GqDwfOG2ZlYjF0EvLMa1BuGpZmqRlB5uLN4S8EBFPitgD1QhYoq). Timestamp by third party at 2025.10.14 09:34:18 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

MUNICIPIA SPA (MUN), PIC 899334143, established in VIA ANDRIANO OLIVETTI 7, TRENTO 38122, Italy,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

ETRA INVESTIGACION Y DESARROLLO SA (ETRA), PIC 999926441, established in CALLE TRES FORQUES 147, VALENCIA 46014, Spain,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Antonio ORTIN LOPEZ with ECAS id nortinan signed in the Participant Portal on 14/10/2025 at 10:01:12 (transaction id SigId-2227-0kaDvacRdd4gEzyc5VfzkDU1v8EfbRhjHHEr2tsU5Dumc14klKb4zaB3aW2IW0IK8xapLVcxsrqzW0SD2v4Fh1e-m5stpJzr6TdQuM1vzgRVP7-7FNKe8ayHPzO4StIoIZXefvTKy1sLnDpU6ni30zon9gAf1K3eAQe15sniPVxxNYTn4KgoNRCi4wqfiAA9ENoVq). Timestamp by third party at 2025.10.14 10:01:20 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

CEFRIEL SOCIETA CONSORTILE A RESPONSABILITA LIMITATA SOCIETA BENEFIT (CEF), PIC 999647178, established in VIALE SARCA 226, MILANO 20126, Italy,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Alessandro De Biasio with ECAS id n00i0oc6 signed in the Participant Portal on 12/10/2025 at 20:41:37 (transaction id SigId-18935-48fk6D BTmNkzN2VbFYZDlDLu0YzSxmWVxtUMAAPLMQOqgykPlEs0pyqQm qaBAVO7xJXWUjZtMNwYgqj2EV47F0-R2zIpfT8xjM5V8d9R1Id1q-Z2AJ Q2KXEQBxmtPDiWHD9KIbaiocvroxjpzvJBB9HMEbJkPozs28Nditg097f cbgj9Bc2InQhyTgs5AppQl5iD). Timestamp by third party at 2025.10.12 20:41:41 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

KENTYOU (KENT), PIC 894317400, established in 93 COURS BERRIAT, GRENOBLE 38000, France,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

SERVIZI ALLA STRADA SPA (SAS), PIC 904144567, established in VIA GUGLIELMO MARCONI 18/20, FIRENZE 50131, Italy,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Andrea Garofalo with ECAS id n00i7g11 signed in the Participant Portal on 14/10/2025 at 14:57:01 (transaction id SigId-6271-VPizQIr MGOWM7hnXdr7RtzHQneGIkAMNQdHcKd9FxDsotjO9JQJAHU7ssvb TPy6E8SFpC09u06zxp88n4zrYa4O-m5stpJzr6TdQuM1vzgRVP7-Wy1t RxhLpUNjWbF5ziWURNylHrhJW6tZgKrrLJzGIRIkYjmlPJCaACTkeUf5Z aAHiN86Hw7xAEozdHWXOqNQH3G). Timestamp by third party at 2025.10.14 14:57:07 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

SPES CONSULTING SRL (SPES), PIC 953750464, established in VIA XII OTTOBRE 1, GENOVA GE 16121, Italy,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Chiara Tavella with ECAS id npessiad signed in the Participant Portal on 13/10/2025 at 10:37:31 (transaction id SigId-20913-wgo1nVt8fCB6LDg1O0JlmFc1NFzL7PLuaf6nzx7JL5vOszkb4pVqTWQwp65gYFt3wzIPoUQHwyPpFRvKEajXoiy-R2zIpfT8xjM5V8d9R1Id1q-g5S3rGAcDJ0w0AQzJngi6d1fegPfKtxLYo3CfID6zeJuyWAmv6xGgvl0h1vXpKRQlmI8UdMBDzR4zQfVzvZG6VW). Timestamp by third party at 2025.10.13 10:37:48 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

REMOTED OY (REM), PIC 885139066, established in HUPPIONMAENKATU 5 A 7, TAMPERE 33720, Finland,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Mika Rytkönen with ECAS id n00aquvu signed in the Participant Portal on 12/10/2025 at 15:20:01 (transaction id SigId-18795-m6yRtDj1kjQ5i2yCKlvLZUOiUe8lbR542EJxXUV8Cc6wUlBlO3HMdu5MJNbnlxszxMBWfj8jHzijhzzmL2wuhiC-R2zIpfT8xjM5V8d9R1Id1q-SDDjnrH1qijw5IHsPljM7RCMTswOs1loyJ0jnJJv5C5D1GnYXnzbzmSC1ukpihCpSme5x0HebpbYBD9zqVQWgPG). Timestamp by third party at 2025.10.12 15:20:04 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

DIADIKASIA BUSINESS CONSULTING SYMVOULOI EPICHEIRISEON AE (DBC), PIC 983764495, established in KIFISSIAS AVE 296 & NAVARINOU 40 HALANDRI, ATHINA 15232, Greece,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Konstantinos TSIAKATARAS with ECAS id ntsiakko signed in the Participant Portal on 13/10/2025 at 08:15:07 (transaction id SigId-19426-d2EtX26MczlPpAhLQnOUNyl9eQ93usQVZ7a5CcgMJzNl09Pym1tjSGuwfTUirdEdjlrzuH2TTFdjzqxbm3zkro6-R2zIpfT8xjM5V8d9R1Id1q-FSAoUrRZ3KCgfozgRD8YtxwpTTPs3axHOFPxFBFdkHuYfSgzaYaMwTMA2LkzYcXc6ibzo5XXe0VDYMapzOH9u8k). Timestamp by third party at 2025.10.13 08:15:11 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

LATITUDO 40 SRL (LAT), PIC 910401164, established in VIA UGO NIUTTA 36, NAPOLI 80128, Italy,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Gaetano Volpe with ECAS id n003bvww signed in the Participant Portal on 14/10/2025 at 15:17:45 (transaction id SigId-6588-AjuuGzGbyRhj18HwqHF0WGx9hnsTh7GsKYXXSULPSDQtksCzzImyJzkgeO9SlUjrFxBPY9sPgNX0hnBiJwPavUm-m5stpJzr6TdQuM1vzgRVP7-0ARIzG1XnlwjJsgHO7mbFg1Uqrv0mrtJTeM6X71VHRxwduX8K1QEu88jAIxwg39Df6nmaHyfCnRAE1lc2OHrXy). Timestamp by third party at 2025.10.14 15:17:48 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

PLUSVALUE ITALY SRL SOCIETA BENEFIT (PV), PIC 888902181, established in CORSO MONFORTE 41, MILANO 20122, Italy,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Filippo ADDARII with ECAS id naddarif signed in the Participant Portal on 13/10/2025 at 15:00:11 (transaction id SigId-24495-XJ3mQG4AsekYQ3bzUaOloR727q6vSZzlafW8hGj7yGtNVuxdGkDbMOtlXjoaN8aHIUKvS0OVaeQm5phF61bC6E-R2zIpfT8xjM5V8d9R1Id1q-rHB5daHx3ZO0fzoxwEGLvF9h9CiNBUS8DgHtcfKzinstNAUMNbtjbeuBb9lisfqwLDWNlODzxPZrdFET2Gpzyfi). Timestamp by third party at 2025.10.13 15:00:16 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

OPEN & AGILE SMART CITIES (OASC), PIC 914842115, established in LUXEMBURGSTRAAT 19, BRUXELLES 1000, Belgium,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Karl-Filip Coenegrachts with ECAS id n009wsj6 signed in the Participant Portal on 13/10/2025 at 11:35:47 (transaction id SigId-21838-CSlzZbJgkTdEg2fJWUUyzgkRGUzkZZNmtw5BMLcYhxnKdtr0NDpzpceAliDklRwZ0QF5l0Ko2hFitVDOFKrPRjy-R2zIpfT8xjM5V8d9R1Id1q-4CB6YrGczTFSeIt4VI3E4TZmNvavDVpKcGulRaxTL7zmXxHT5mJWhvTW5Fc0ilFKGFFm0YWzrriR6wnzRoTnx0e). Timestamp by third party at 2025.10.13 12:35:50 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

STICHTING CLIMATE-KIC INTERNATIONAL FOUNDATION (CKIC), PIC 878875582, established in PLANTAGE MIDDENLAAN 45, AMSTERDAM 1018 DC, Netherlands,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Ewa Patkiewicz with ECAS id n00fkfaj signed in the Participant Portal on 12/10/2025 at 15:19:11 (transaction id SigId-18794-vYiIvWVuLbWjL39ZPM7wOsyMx4qOYKXlQE8pfCFAJMT7xGvebhAzZaHWbBvd6fhUWZBqGox0g3UcSNr3hrsNdy-R2zIpfT8xjM5V8d9R1Id1q-9nEO9YkrPEluIpwnRgr3FoQEy0vrP5WApxV56lJMPbZsAsUYmTFRkADacpKqrcgngnhwhO1Dsvd0FKbTSE2gzG). Timestamp by third party at 2025.10.12 15:19:14 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

EIT URBAN MOBILITY FOUNDATION (EIT UM), PIC 882621237, established in Calle Pamplona 104, 3, BARCELONA 08018, Spain,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Francisco Ibanez with ECAS id n00drl6f signed in the Participant Portal on 13/10/2025 at 11:35:46 (transaction id SigId-21837-BDBL1rD28fHBAY1LgSmXynslCdm0eZOpT0kEQi12xa2nKWNKHmowo3lnyxzmaLI6t52LJIuBRWt2NUXzvzomqUG-R2zIpfT8xjM5V8d9R1Id1q-XhMtzmWJAqVwCZGyCWzm5aEmCjxQdzyfrL30WeYiBtguWeNH5AV6TvaUdOLUTh11SarlpvI1AJM71LqZjohUc9m). Timestamp by third party at 2025.10.13 11:35:50 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

Czech Smart City Cluster, z.s. (CSCC), PIC 907068826, established in Újezd 450/40, Praha 118 00, Czechia,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Martin Babuska with ECAS id n00i6o65 signed in the Participant Portal on 12/10/2025 at 18:47:37 (transaction id SigId-18882-0e5tNUpYeUssSKdgaNrczkopzGwFa2sOwnZfLD3vl1TeeIzvkX7VmefIDZfLzozU4MlQYKe4zcSXGNyyDqFdGH5m-R2zIpfT8xjM5V8d9R1Id1q-svp6SuPoBTjQ4cvjDkf0wMI3SwnzlMhw8cqJk4AA5Pwv9JdLXUYuvVD4tds7kYakFXFMKP2r1Me0gfzV1C46BA). Timestamp by third party at 2025.10.12 18:47:42 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

AYUNTAMIENTO DE VALENCIA (VLC), PIC 984507903, established in PLAZA AYUNTAMIENTO 1, VALENCIA 46002, Spain,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

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SIGNATURE

For the beneficiary

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

COMUNE DI FIRENZE (FLO), PIC 969024472, established in PIAZZA SIGNORIA 1, FIRENZE 50122, Italy,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Vincenzo Tartaglia with ECAS id n002ojju signed in the Participant Portal on 13/10/2025 at 10:38:12 (transaction id SigId-20927-L1svt EEHg7pgqGvPkEO7ANfjRIAtOKSrit1zKc7fZPxUzzmyjV4mZWgj6WxS MUFmDVfTEiQPfrvKqPbCNUEeRe0-R2zIpfT8xjM5V8d9R1Id1q-sj9x G9belxyK1VL7DVL7RizMdoeXOZ0GxBpcm7wC2BCi49Lr2olezRlOZst vzlzbgcZ7dOn1nQQxzKEpv55S628). Timestamp by third party at 2025.10.13 11:38:16 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

TAMPEREEN KAUPUNKISEUDUN ELINKEINOJA KEHITYSYHTIO BUSINESS TAMPERE OY (BT), PIC 897506372, established in KELLOPORTINKATU 1 B, TAMPERE 33100, Finland,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Harri Ojala with ECAS id n005l7ax signed in the Participant Portal on 14/10/2025 at 14:29:34 (transaction id SigId-5885-wfYZyaEu0XHFDTkcQTPAzMcPAEDLahJypk6Ke4xxztZoZ3gqNwpMalEzMZla3rBtWcMoDYndgo9JzJuAHLo2MPG-m5stpJzr6TdQuM1vzgRVP7-UoEHavjwNqwg1B9RynsgzpCGiMyrkDiv4RAJRKoRu86yYFrTL5bdW0O2QXTnyS12kQXx80DzR95dZ7B37zY9LzG). Timestamp by third party at 2025.10.14 14:29:38 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

THE CITY OF EDINBURGH COUNCIL (CEC), PIC 953520671, established in HIGH STREET, EDINBURGH EH1 1YJ, United Kingdom,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

George King with ECAS id n00aqs1i signed in the Participant Portal on 13/10/2025 at 08:58:50 (transaction id SigId-19730-7LZjeQLGVR gG9OQGsjXSZZo0ZoxmPbbupk39guzPO8K9XFha7nu7paQv5MPxv 9aoc7jgMI6bRBpftsY2ewnCbq-R2zIpfT8xjM5V8d9R1Id1q-urtZlk73 Qu0Ra3u0qarNSTcNChkGZzP4KHtYA45ld3mI5VzZHk4eZEwn05GW ZDFqazuUGW2RgYGEQLOzfHzdHSb). Timestamp by third party at 2025.10.13 08:58:53 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

VILLE DE BRUXELLES (BRU), PIC 950386407, established in RUE DES HALLES 4, BRUXELLES 1000, Belgium,

hereby agrees

to become beneficiary

in Agreement No 101239472 — URBAN-FLOW ('the Agreement')

between THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS ASBL (LC) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Ann-Sophie DENEYER with ECAS id ndenanns signed in the Participant Portal on 13/10/2025 at 09:25:46 (transaction id SigId-20021-zYRP1seuEUGnzrqOh1KeEZDwIIC9rYD4LDYU1R0M3f4XHFCHQiEKbOOq5NqMYKykw4zRNsF1hQEFpwRhggWtkCm-R2zIpfT8xjM5V8d9R1Id1q-iOncgyykmtkpIwceyJY9qL1Kzs5bihzHzQ4MkzbYCQrg1FEpg7XUzLPfrYMa243zrSYfRaziyuKvHjkSH7AMAEcC). Timestamp by third party at 2025.10.13 09:25:49 CEST

Associated with document Ref. Ares(2025)8627308 - 10/10/2025

FINANCIAL STATEMENT FOR [PARTICIPANT NAME] FOR REPORTING PERIOD [NUMBER]

	Eligible[1] costs (per budget category)																	EU contribution[2]				Revenues
	Direct costs															Indirect costs	Total costs	EU contribution to eligible costs			Total requested EU contribution	Income generated by the action
	A. Personnel costs				B. Subcontracting costs	C. Purchase costs			D. Other cost categories							E. Indirect costs[2]		Funding rate %[3]	Maximum EU contribution[4]	Requested EU contribution		
	A.1 Employees (or equivalent) A.2 Natural persons under direct contract A.3 Seconded persons		A.4 SME owners and natural person beneficiaries	A.6 Personnel unit cost	B. Subcontracting	C.1 Travel and subsistence	C.2 Equipment	C.3 Other goods, works and services	D.1 Financial support to third parties	D.2 Internally invoiced goods and services	D.3 Transnational access to research infrastructure unit costs	D.4 Virtual access to research infrastructure unit costs	*[OPTION for HE PCP/PPI:* D.5 PCP/PPI procurement costs]	*[OPTION for Euratom Programme Cofund Actions:* D.6 Euratom Cofund staff mobility costs]	*[OPTION for HE ERC Grants:* D.7 ERC additional funding]	*[OPTION for HE ERC Grants:* D.8 ERC additional funding (subcontracting, FSTP and internally invoiced goods and services)]	E. Indirect costs						
Forms of funding	Actual costs	Unit costs (usual accounting practices)	Unit costs[5]	Unit costs[5]	Actual costs	Actual costs	Actual costs	Actual costs	Actual costs	Unit costs (usual accounting practices)	Unit costs[5]	Unit costs[5]	Actual costs	Unit costs[5]	Actual costs	Actual costs	Flat-rate costs[6]					
	a1	a2	a3	a5	b	c1	c2	c3	d1a	d2	d3	d4	d5	d6	d7	d8	e = 0,25 * (a1 + a2 + a3 + a5 ~~+ b~~ + c1 + c2 + c3 ~~+ d1a + d2 + d3 + d4 + d5~~~~[+ d6]~~ + d7 ~~[+ d8]~~)	f = a+b+c+d+e	U	g = f*U%	h	m	n
XX – [short name beneficiary/affiliated entity]																						

The beneficiary/affiliated entity hereby confirms that:

The information provided is complete, reliable and true.

The costs and contributions declared are eligible (see Article 6).

The costs and contributions can be substantiated by adequate records and supporting documentation that will be produced upon request or in the context of checks, reviews, audits and investigations (see Articles 19, 20 and 25).

For the last reporting period: that all the revenues have been declared (see Article 22).

① Please declare all eligible costs and contributions, even if they exceed the amounts indicated in the estimated budget (see Annex 2). Only amounts that were declared in your individual financial statements can be taken into account lateron, in order to replace costs/contributions that are found to be ineligible.

[1] See Article 6 for the eligibility conditions. All amounts must be expressed in EUR (see Article 21 for the conversion rules).

[2] If you have also received an EU operating grant during this reporting period, you cannot claim indirect costs - unless you can demonstrate that the operating grant does not cover any costs of the action. This requires specific accounting tools. Please contact us immediately via the Funding & Tenders Portal for details.

[3] See Data Sheet for the reimbursement rate(s).

[4] This is the *theoretical* amount of EU contribution to costs that the system calculates automatically (by multiplying the reimbursement rates by the costs declared). The amount you request (in the column 'requested EU contribution') may be less.

[5] See Annex 2a 'Additional information on the estimated budget' for the details (units, cost per unit).

[6] See Data Sheet for the flat-rate.

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ANNEX 5

SPECIFIC RULES

CONFIDENTIALITY AND SECURITY (— ARTICLE 13)

Sensitive information with security recommendation

Sensitive information with a security recommendation must comply with the additional requirements imposed by the granting authority.

Before starting the action tasks concerned, the beneficiaries must have obtained all approvals or other mandatory documents needed for implementing the task. The documents must be kept on file and be submitted upon request by the coordinator to the granting authority. If they are not in English, they must be submitted together with an English summary.

For requirements restricting disclosure or dissemination, the information must be handled in accordance with the recommendation and may be disclosed or disseminated only after written approval from the granting authority.

EU classified information

If EU classified information is used or generated by the action, it must be treated in accordance with the security classification guide (SCG) and security aspect letter (SAL) set out in Annex 1 and Decision 2015/444[1] and its implementing rules — until it is declassified.

Deliverables which contain EU classified information must be submitted according to special procedures agreed with the granting authority.

Action tasks involving EU classified information may be subcontracted only with prior explicit written approval from the granting authority and only to entities established in an EU Member State or in a non-EU country with a security of information agreement with the EU (or an administrative arrangement with the Commission).

EU classified information may not be disclosed to any third party (including participants involved in the action implementation) without prior explicit written approval from the granting authority.

ETHICS (— ARTICLE 14)

Ethics and research integrity

The beneficiaries must carry out the action in compliance with:

- ethical principles (including the highest standards of research integrity)

[1] Commission Decision 2015/444/EC, Euratom of 13 March 2015 on the security rules for protecting EU classified information (OJ L 72, 17.3.2015, p. 53).

and

- applicable EU, international and national law, including the EU Charter of Fundamental Rights and the European Convention for the Protection of Human Rights and Fundamental Freedoms and its Supplementary Protocols.

No funding can be granted, within or outside the EU, for activities that are prohibited in all Member States. No funding can be granted in a Member State for an activity which is forbidden in that Member State.

The beneficiaries must pay particular attention to the principle of proportionality, the right to privacy, the right to the protection of personal data, the right to the physical and mental integrity of persons, the right to non-discrimination, the need to ensure protection of the environment and high levels of human health protection.

The beneficiaries must ensure that the activities under the action have an exclusive focus on civil applications.

The beneficiaries must ensure that the activities under the action do not:

- aim at human cloning for reproductive purposes
- intend to modify the genetic heritage of human beings which could make such modifications heritable (with the exception of research relating to cancer treatment of the gonads, which may be financed)
- intend to create human embryos solely for the purpose of research or for the purpose of stem cell procurement, including by means of somatic cell nuclear transfer, or
- lead to the destruction of human embryos (for example, for obtaining stem cells).

Activities involving research on human embryos or human embryonic stem cells may be carried out only if:

- they are set out in Annex 1 or
- the coordinator has obtained explicit approval (in writing) from the granting authority.

In addition, the beneficiaries must respect the fundamental principle of research integrity — as set out in the European Code of Conduct for Research Integrity[2].

This implies compliance with the following principles:

- reliability in ensuring the quality of research reflected in the design, the methodology, the analysis and the use of resources
- honesty in developing, undertaking, reviewing, reporting and communicating research in a transparent, fair and unbiased way
- respect for colleagues, research participants, society, ecosystems, cultural heritage and the environment

[2] European Code of Conduct for Research Integrity of ALLEA (All European Academies).

- accountability for the research from idea to publication, for its management and organisation, for training, supervision and mentoring, and for its wider impacts

and means that beneficiaries must ensure that persons carrying out research tasks follow the good research practices including ensuring, where possible, openness, reproducibility and traceability and refrain from the research integrity violations described in the Code.

Activities raising ethical issues must comply with the additional requirements formulated by the ethics panels (including after checks, reviews or audits; see Article 25).

Before starting an action task raising ethical issues, the beneficiaries must have obtained all approvals or other mandatory documents needed for implementing the task, notably from any (national or local) ethics committee or other bodies such as data protection authorities.

The documents must be kept on file and be submitted upon request by the coordinator to the granting authority. If they are not in English, they must be submitted together with an English summary, which shows that the documents cover the action tasks in question and includes the conclusions of the committee or authority concerned (if any).

VALUES (— ARTICLE 14)

Gender mainstreaming

The beneficiaries must take all measures to promote equal opportunities between men and women in the implementation of the action and, where applicable, in line with the gender equality plan. They must aim, to the extent possible, for a gender balance at all levels of personnel assigned to the action, including at supervisory and managerial level.

INTELLECTUAL PROPERTY RIGHTS (IPR) — BACKGROUND AND RESULTS — ACCESS RIGHTS AND RIGHTS OF USE (— ARTICLE 16)

Definitions

Access rights — Rights to use results or background.

Dissemination — The public disclosure of the results by appropriate means, other than resulting from protecting or exploiting the results, including by scientific publications in any medium.

Exploit(ation) — The use of results in further research and innovation activities other than those covered by the action concerned, including among other things, commercial exploitation such as developing, creating, manufacturing and marketing a product or process, creating and providing a service, or in standardisation activities.

Fair and reasonable conditions — Appropriate conditions, including possible financial terms or royalty-free conditions, taking into account the specific circumstances of the request for access, for example the actual or potential value of the results or background to which access is requested and/or the scope, duration or other characteristics of the exploitation envisaged.

FAIR principles — ‘findability’, ‘accessibility’, ‘interoperability’ and ‘reusability’.

Open access — Online access to research outputs provided free of charge to the end-user.

Open science — An approach to the scientific process based on open cooperative work, tools and diffusing knowledge.

Research data management — The process within the research lifecycle that includes the organisation, storage, preservation, security, quality assurance, allocation of persistent identifiers (PIDs) and rules and procedures for sharing of data including licensing.

Research outputs — Results to which access can be given in the form of scientific publications, data or other engineered results and processes such as software, algorithms, protocols, models, workflows and electronic notebooks.

Scope of the obligations

For this section, references to ‘beneficiary’ or ‘beneficiaries’ do not include affiliated entities (if any).

Agreement on background — Background free from restrictions

The beneficiaries must identify in a written agreement the background as needed for implementing the action or for exploiting its results.

Where the call conditions restrict control due to strategic interests reasons, background that is subject to control or other restrictions by a country (or entity from a country) which is not one of the eligible countries or target countries set out in the call conditions and that impact the exploitation of the results (i.e. would make the exploitation of the results subject to control or restrictions) must not be used and must be explicitly excluded in the agreement on background — unless otherwise agreed with the granting authority.

Results free from restrictions

Where the call conditions restrict control due to strategic interests reasons, the beneficiaries must ensure that the results of the action are not subject to control or other restrictions by a country (or entity from a country) which is not one of the eligible countries or target countries set out in the call conditions — unless otherwise agreed with the granting authority.

Ownership of results

Results are owned by the beneficiaries that generate them.

However, two or more beneficiaries own results jointly if:

- they have jointly generated them and
- it is not possible to:
    - establish the respective contribution of each beneficiary, or
    - separate them for the purpose of applying for, obtaining or maintaining their protection.

The joint owners must agree — in writing — on the allocation and terms of exercise of their joint ownership (‘joint ownership agreement’), to ensure compliance with their obligations under this Agreement.

Unless otherwise agreed in the joint ownership agreement or consortium agreement, each joint owner may grant non-exclusive licences to third parties to exploit the jointly-owned results (without any right to sub-license), if the other joint owners are given:

- at least 45 days advance notice and
- fair and reasonable compensation.

The joint owners may agree — in writing — to apply another regime than joint ownership.

If third parties (including employees and other personnel) may claim rights to the results, the beneficiary concerned must ensure that those rights can be exercised in a manner compatible with its obligations under the Agreement.

The beneficiaries must indicate the owner(s) of the results (results ownership list) in the final periodic report.

Protection of results

Beneficiaries which have received funding under the grant must adequately protect their results — for an appropriate period and with appropriate territorial coverage — if protection is possible and justified, taking into account all relevant considerations, including the prospects for commercial exploitation, the legitimate interests of the other beneficiaries and any other legitimate interests.

Exploitation of results

Beneficiaries which have received funding under the grant must — up to four years after the end of the action (see Data Sheet, Point 1) — use their best efforts to exploit their results directly or to have them exploited indirectly by another entity, in particular through transfer or licensing.

If, despite a beneficiary's best efforts, the results are not exploited within one year after the end of the action, the beneficiaries must (unless otherwise agreed in writing with the granting authority) use the Horizon Results Platform to find interested parties to exploit the results.

If results are incorporated in a standard, the beneficiaries must (unless otherwise agreed with the granting authority or unless it is impossible) ask the standardisation body to include the funding statement (see Article 17) in (information related to) the standard.

Additional exploitation obligations

Where the call conditions impose additional exploitation obligations (including obligations linked to the restriction of participation or control due to strategic assets, interests, autonomy or security reasons), the beneficiaries must comply with them — up to four years after the end of the action (see Data Sheet, Point 1).

Where the call conditions impose additional exploitation obligations in case of a public emergency, the beneficiaries must (if requested by the granting authority) grant for a limited period of time specified in the request, non-exclusive licences — under fair and reasonable conditions — to their results to legal entities that need the results to address the public emergency and commit to rapidly and broadly exploit the resulting products and services at fair and reasonable conditions. This provision applies up to four years after the end of the action (see Data Sheet, Point 1).

Additional information obligation relating to standards

Where the call conditions impose additional information obligations relating to possible standardisation, the beneficiaries must — up to four years after the end of the action (see Data Sheet, Point 1) — inform the granting authority, if the results could reasonably be expected to contribute to European or international standards.

Transfer and licensing of results

Transfer of ownership

The beneficiaries may transfer ownership of their results, provided this does not affect compliance with their obligations under the Agreement.

The beneficiaries must ensure that their obligations under the Agreement regarding their results are passed on to the new owner and that this new owner has the obligation to pass them on in any subsequent transfer.

Moreover, they must inform the other beneficiaries with access rights of the transfer at least 45 days in advance (or less if agreed in writing), unless agreed otherwise in writing for specifically identified third parties including affiliated entities or unless impossible under the applicable law. This notification must include sufficient information on the new owner to enable the beneficiaries concerned to assess the effects on their access rights. The beneficiaries may object within 30 days of receiving notification (or less if agreed in writing), if they can show that the transfer would adversely affect their access rights. In this case, the transfer may not take place until agreement has been reached between the beneficiaries concerned.

Granting licences

The beneficiaries may grant licences to their results (or otherwise give the right to exploit them), including on an exclusive basis, provided this does not affect compliance with their obligations.

Exclusive licences for results may be granted only if all the other beneficiaries concerned have waived their access rights.

Granting authority right to object to transfers or licensing — Horizon Europe actions

Where the call conditions in Horizon Europe actions provide for the right to object to transfers or licensing, the granting authority may — up to four years after the end of the action (see Data Sheet, Point 1) — object to a transfer of ownership or the exclusive licensing of results, if:

- the beneficiaries which generated the results have received funding under the grant
- it is to a legal entity established in a non-EU country not associated with Horizon Europe, and
- the granting authority considers that the transfer or licence is not in line with EU interests.

Beneficiaries that intend to transfer ownership or grant an exclusive licence must formally notify the granting authority before the intended transfer or licensing takes place and:

- identify the specific results concerned
- describe in detail the new owner or licensee and the planned or potential exploitation of the results, and
- include a reasoned assessment of the likely impact of the transfer or licence on EU interests, in particular regarding competitiveness as well as consistency with ethical principles and security considerations.

The granting authority may request additional information.

If the granting authority decides to object to a transfer or exclusive licence, it must formally notify the beneficiary concerned within 60 days of receiving notification (or any additional information it has requested).

No transfer or licensing may take place in the following cases:

- pending the granting authority decision, within the period set out above
- if the granting authority objects
- until the conditions are complied with, if the granting authority objection comes with conditions.

A beneficiary may formally notify a request to waive the right to object regarding intended transfers or grants to a specifically identified third party, if measures safeguarding EU interests are in place. If the granting authority agrees, it will formally notify the beneficiary concerned within 60 days of receiving notification (or any additional information requested).

Granting authority right to object to transfers or licensing — Euratom actions

Where the call conditions in Euratom actions provide for the right to object to transfers or licensing, the granting authority may — up to four years after the end of the action (see Data Sheet, Point 1) — object to a transfer of ownership or the exclusive or non-exclusive licensing of results, if:

- the beneficiaries which generated the results have received funding under the grant
- it is to a legal entity established in a non-EU country not associated to the Euratom Research and Training Programme 2021-2025 and
- the granting authority considers that the transfer or licence is not in line with the EU interests.

Beneficiaries that intend to transfer ownership or grant a licence must formally notify the granting authority before the intended transfer or licensing takes place and:

- identify the specific results concerned
- describe in detail the results, the new owner or licensee and the planned or potential exploitation of the results, and
- include a reasoned assessment of the likely impact of the transfer or licence on EU interests, in particular regarding competitiveness as well as consistency with ethical principles and security considerations (including the defence interests of the EU Member States under Article 24 of the Euratom Treaty).

The granting authority may request additional information.

If the granting authority decides to object to a transfer or licence, it will formally notify the beneficiary concerned within 60 days of receiving notification (or any additional information requested).

No transfer or licensing may take place in the following cases:

- pending the granting authority decision, within the period set out above
- if the granting authority objects
- until the conditions are complied with, if the granting authority objection comes with conditions.

A beneficiary may formally notify a request to waive the right to object regarding intended transfers or grants to a specifically identified third party, if measures safeguarding EU interests are in place. If the granting authority agrees, it will formally notify the beneficiary concerned within 60 days of receiving notification (or any additional information requested).

Limitations to transfers and licensing due to strategic assets, interests, autonomy or security reasons of the EU and its Member States

Where the call conditions restrict participation or control due to strategic assets, interests, autonomy or security reasons, the beneficiaries may not transfer ownership of their results or grant licences to third parties which are established in countries which are not eligible countries or target countries set out in the call conditions (or, if applicable, are controlled by such countries or entities from such countries) — unless they have requested and received prior approval by the granting authority.

The request must:

- identify the specific results concerned
- describe in detail the new owner or licensee and the planned or potential exploitation of the results, and
- include a reasoned assessment of the likely impact of the transfer or license on the strategic assets, interests, autonomy or security of the EU and its Member States.

The granting authority may request additional information.

Access rights to results and background

Exercise of access rights — Waiving of access rights — No sub-licensing

Requests to exercise access rights and the waiver of access rights must be in writing.

Unless agreed otherwise in writing with the beneficiary granting access, access rights do not include the right to sub-license.

If a beneficiary is no longer involved in the action, this does not affect its obligations to grant access.

If a beneficiary defaults on its obligations, the beneficiaries may agree that that beneficiary no longer has access rights.

Access rights for implementing the action

The beneficiaries must grant each other access — on a royalty-free basis — to background needed to implement their own tasks under the action, unless the beneficiary that holds the background has — before acceding to the Agreement —:

- informed the other beneficiaries that access to its background is subject to restrictions, or
- agreed with the other beneficiaries that access would not be on a royalty-free basis.

The beneficiaries must grant each other access — on a royalty-free basis — to results needed for implementing their own tasks under the action.

Access rights for exploiting the results

The beneficiaries must grant each other access — under fair and reasonable conditions — to results needed for exploiting their results.

The beneficiaries must grant each other access — under fair and reasonable conditions — to background needed for exploiting their results, unless the beneficiary that holds the background has — before acceding to the Agreement — informed the other beneficiaries that access to its background is subject to restrictions.

Requests for access must be made — unless agreed otherwise in writing — up to one year after the end of the action (see Data Sheet, Point 1).

Access rights for entities under the same control

Unless agreed otherwise in writing by the beneficiaries, access to results and, subject to the restrictions referred to above (if any), background must also be granted — under fair and reasonable conditions — to entities that:

- are established in an EU Member State or Horizon Europe associated country
- are under the direct or indirect control of another beneficiary, or under the same direct or indirect control as that beneficiary, or directly or indirectly controlling that beneficiary and
- need the access to exploit the results of that beneficiary.

Unless agreed otherwise in writing, such requests for access must be made by the entity directly to the beneficiary concerned.

Requests for access must be made — unless agreed otherwise in writing — up to one year after the end of the action (see Data Sheet, Point 1).

Access rights for the granting authority, EU institutions, bodies, offices or agencies and national authorities to results for policy purposes — Horizon Europe actions

In Horizon Europe actions, the beneficiaries which have received funding under the grant must grant access to their results — on a royalty-free basis — to the granting authority, EU institutions, bodies, offices or agencies for developing, implementing and monitoring EU policies or programmes. Such access rights do not extend to beneficiaries' background.

Such access rights are limited to non-commercial and non-competitive use.

For actions under the cluster 'Civil Security for Society', such access rights also extend to national authorities of EU Member States for developing, implementing and monitoring their policies or programmes in this area. In this case, access is subject to a bilateral agreement to define specific conditions ensuring that:

- the access rights will be used only for the intended purpose and
- appropriate confidentiality obligations are in place.

Moreover, the requesting national authority or EU institution, body, office or agency (including the granting authority) must inform all other national authorities of such a request.

Access rights for the granting authority, Euratom institutions, funding bodies or the Joint Undertaking Fusion for Energy — Euratom actions

In Euratom actions, the beneficiaries which have received funding under the grant must grant access to their results — on a royalty-free basis — to the granting authority, Euratom institutions, funding bodies or the Joint Undertaking Fusion for Energy for developing, implementing and monitoring Euratom policies and programmes or for compliance with obligations assumed through international cooperation with non-EU countries and international organisations.

Such access rights include the right to authorise third parties to use the results in public procurement and the right to sub-license and are limited to non-commercial and non-competitive use.

Additional access rights

Where the call conditions impose additional access rights, the beneficiaries must comply with them.

COMMUNICATION, DISSEMINATION, OPEN SCIENCE AND VISIBILITY (— ARTICLE 17)

Dissemination

Dissemination of results

The beneficiaries must disseminate their results as soon as feasible, in a publicly available format, subject to any restrictions due to the protection of intellectual property, security rules or legitimate interests.

A beneficiary that intends to disseminate its results must give at least 15 days advance notice to the other beneficiaries (unless agreed otherwise), together with sufficient information on the results it will disseminate.

Any other beneficiary may object within (unless agreed otherwise) 15 days of receiving notification, if it can show that its legitimate interests in relation to the results or background would be significantly harmed. In such cases, the results may not be disseminated unless appropriate steps are taken to safeguard those interests.

Additional dissemination obligations

Where the call conditions impose additional dissemination obligations, the beneficiaries must also comply with those.

Open Science

Open science: open access to scientific publications

The beneficiaries must ensure open access to peer-reviewed scientific publications relating to their results. In particular, they must ensure that:

- at the latest at the time of publication, a machine-readable electronic copy of the published version or the final peer-reviewed manuscript accepted for publication, is deposited in a trusted repository for scientific publications

- immediate open access is provided to the deposited publication via the repository, under the latest available version of the Creative Commons Attribution International Public Licence (CC BY) or a licence with equivalent rights; for monographs and other long-text formats, the licence may exclude commercial uses and derivative works (e.g. CC BY-NC, CC BY-ND) and

- information is given via the repository about any research output or any other tools and instruments needed to validate the conclusions of the scientific publication.

Beneficiaries (or authors) must retain sufficient intellectual property rights to comply with the open access requirements.

Metadata of deposited publications must be open under a Creative Common Public Domain Dedication (CC 0) or equivalent, in line with the FAIR principles (in particular machine-actionable) and provide information at least about the following: publication (author(s), title, date of publication, publication venue); Horizon Europe or Euratom funding; grant project name, acronym and number; licensing terms; persistent identifiers for the publication, the authors involved in the action and, if possible, for their organisations and the grant. Where applicable, the metadata must include persistent identifiers for any research output or any other tools and instruments needed to validate the conclusions of the publication.

Only publication fees in full open access venues for scientific publications are eligible for reimbursement.

Open science: research data management

The beneficiaries must manage the digital research data generated in the action ('data') responsibly, in line with the FAIR principles and by taking all of the following actions:

- establish a data management plan ('DMP') (and regularly update it)

- as soon as possible and within the deadlines set out in the DMP, deposit the data in a trusted repository; if required in the call conditions, this repository must be federated in the EOSC in compliance with EOSC requirements

- as soon as possible and within the deadlines set out in the DMP, ensure open access — via the repository — to the deposited data, under the latest available version of the Creative Commons Attribution International Public License (CC BY) or Creative Commons Public Domain Dedication (CC 0) or a licence/dedication with equivalent rights, following the principle 'as open as possible as closed as necessary', unless providing open access would in particular:

    - be against the beneficiary's legitimate interests, including regarding commercial exploitation, or

- be contrary to any other constraints, in particular the EU competitive interests or the beneficiary's obligations under this Agreement; if open access is not provided (to some or all data), this must be justified in the DMP

- provide information via the repository about any research output or any other tools and instruments needed to re-use or validate the data.

Metadata of deposited data must be open under a Creative Common Public Domain Dedication (CC 0) or equivalent (to the extent legitimate interests or constraints are safeguarded), in line with the FAIR principles (in particular machine-actionable) and provide information at least about the following: datasets (description, date of deposit, author(s) and embargo); Horizon Europe or Euratom funding; grant project name, acronym and number; licensing terms; persistent identifiers for the dataset, the authors involved in the action, and, if possible, for their organisations and the grant. Where applicable, the metadata must include persistent identifiers for related publications and other research outputs.

Open science: additional practices

Where the call conditions impose additional obligations regarding open science practices, the beneficiaries must also comply with those.

Where the call conditions impose additional obligations regarding the validation of scientific publications, the beneficiaries must provide (digital or physical) access to data or other results needed for validation of the conclusions of scientific publications, to the extent that their legitimate interests or constraints are safeguarded (and unless they already provided (open) access at publication).

Where the call conditions impose additional open science obligations in case of a public emergency, the beneficiaries must (if requested by the granting authority) immediately deposit any research output in a trusted repository and provide open access to it under a CC BY licence, a Public Domain Dedication (CC 0) or equivalent. As an exception, if the access would be against the beneficiaries' legitimate interests, the beneficiaries must grant non-exclusive licenses — under fair and reasonable conditions — to legal entities that need the research output to address the public emergency and commit to rapidly and broadly exploit the resulting products and services at fair and reasonable conditions. This provision applies up to four years after the end of the action (see Data Sheet, Point 1).

Plan for the exploitation and dissemination of results including communication activities

Unless excluded by the call conditions, the beneficiaries must provide and regularly update a plan for the exploitation and dissemination of results including communication activities.

SPECIFIC RULES FOR CARRYING OUT THE ACTION (— ARTICLE 18)

Implementation in case of restrictions due to strategic assets, interests, autonomy or security of the EU and its Member States

Where the call conditions restrict participation or control due to strategic assets, interests, autonomy or security, the beneficiaries must ensure that none of the entities that participate as affiliated entities, associated partners, third parties giving in-kind contributions, subcontractors or recipients of financial support to third parties are established in countries which are not eligible countries or target countries set out in the call conditions (or, if applicable, are controlled by such countries or entities from such countries) — unless otherwise agreed with the granting authority.

The beneficiaries must moreover ensure that any cooperation with entities established in countries which are not eligible countries or target countries set out in the call conditions (or, if applicable, are controlled by such countries or entities from such countries) does not affect the strategic assets, interests, autonomy or security of the EU and its Member States.

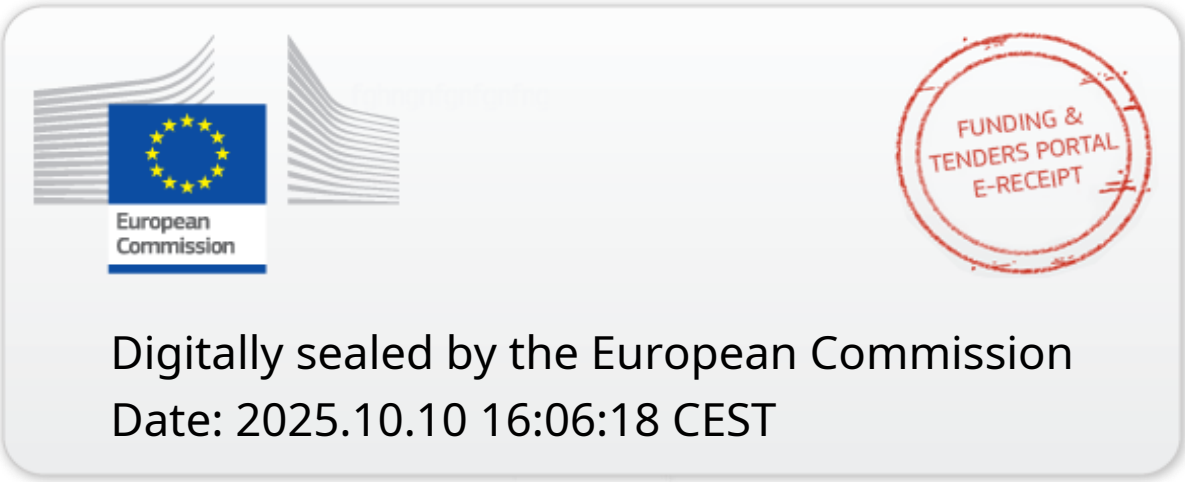
Recruitment and working conditions for researchers

The beneficiaries must take all measures to implement the principles set out in Annex II to the Council Recommendation on a European framework to attract and retain research, innovation and entrepreneurial talents in Europe[3] ('the European Charter for Researchers'), in particular regarding:

- working conditions
- transparent recruitment processes based on merit, and
- career development.

The beneficiaries must ensure that researchers and all participants involved in the action are aware of them.

[3] Council Recommendation C/2023/1640 of 18 December 2023 on a European framework to attract and retain research, innovation and entrepreneurial talents in Europe, Annex II (OJ C, C/2023/1640, 29.12.2023).



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