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|-------------------------------|--|
| Proposta | n. PDET-2024-855 del 04/11/2024 |
| Determinazione dirigenziale | n. DET-2024-831 del 05/11/2024 |
| Oggetto | Struttura Idro-Meteo-Clima. Affidamento, alla ditta Neri Dario di Neri Mirko & C. Snc, del servizio di catering da svolgersi a Bologna il 7 novembre 2024 per il “2° stakeholder workshop” nell’ambito del progetto TRANSCEND - CUP J49I23000780006 - CIG: B3F96C5C07. |
| Dirigente adottante | Struttura Idro-Meteo-Clima - Alberoni Pier Paolo |
| Dirigente proponente | Alberoni Pier Paolo |
| Responsabile del procedimento | Alessandrini Cinzia |

Questo giorno *05/11/2024* Il Responsabile di STRUTTURA IDRO-METEO-CLIMA, Alberoni Pier Paolo, ai sensi del Regolamento Arpae per l’adozione degli atti di gestione delle risorse dell’Agenzia, approvato con D.D.G. n. 114 del 23/10/2020 e dell’art. 4, comma 2 del D.Lgs. 30 marzo 2001, n. 165 determina quanto segue.

VISTI:

- la D.D.G. n. 129 del 29/12/2023 "Direzione Amministrativa. Servizio Amministrazione, Bilancio e Controllo Economico. Approvazione del Bilancio Pluriennale di Previsione per l’Agenzia per la Prevenzione, l’Ambiente e l’Energia dell’Emilia-Romagna per il triennio 2024-2026, del Piano Investimenti 2024-26, del Bilancio economico preventivo per l’esercizio 2024, del Budget Generale e della Programmazione di Cassa 2024"
- la D.D.G. n. 130 del 29/12/2023 "Direzione Amministrativa. Servizio Amministrazione, Bilancio e Controllo Economico. Approvazione delle Linee Guida e assegnazione dei budget di esercizio e investimenti per l'anno 2024 ai centri di responsabilità dell’Agenzia per la Prevenzione, l’Ambiente e l’Energia dell’Emilia-Romagna"
- il Regolamento per l’adozione degli atti di gestione dell’Agenzia approvato con D.D.G. n. 114 del 23/10/2020;
- il Regolamento per la disciplina dei contratti pubblici di servizi e forniture di Arpae approvato con D.D.G. n. 136 del 29/12/2023;

RICHIAMATI:

- il D. Lgs. n. 36 del 31/03/2023 “Codice dei contratti pubblici”;
- l’art. 50 del D.lgs. 36/2023 il quale disciplina le procedura di affidamento dei contratti pubblici sotto soglia comunitaria;

PREMESSO:

- che con D.D.G 121/2022 Arpae ha preso atto dell’approvazione del progetto Horizon Europe “Transformational and Robust Adaptation to water Scarcity and Climate change under Deep uncertainty” - TRANSCEND – ID 101084110;
- che la Struttura Idro-Meteo-Clima, in particolare l’Osservatorio Clima, è partner del progetto Horizon Europe TRANSCEND, e all’interno dello stesso progetto è *work package leader* del WP6 sulla comunicazione e disseminazione, oltre ad essere *living lab leader* di uno dei 7 laboratori: il bacino del Reno.
- che la Struttura Idro-Meteo-Clima, in particolare l’Osservatorio Clima, deve organizzare il “2° Stakeholder Workshop” nell’ambito del progetto TRANSCEND in qualità di *living lab leader* del bacino del Reno, come previsto nel Grant Agreement di progetto (Allegato A, part B, pag 25);
- che il “2° Stakeholder Workshop” si terrà a Bologna, il 7 novembre 2024, presso la sala B situata alla Terza Torre della Regione Emilia-Romagna, Viale della Fiera n. 8;

CONSIDERATO:

- che, per la realizzazione del Workshop in questione, risulta opportuno provvedere all'affidamento del servizio di catering per circa n. 40 partecipanti, da tenersi nella sala C, terza Torre della Regione Emilia-Romagna, Viale della Fiera 8;

VALUTATO:

- che è stato acquisito dal sistema SATER il seguente codice identificativo di gara (CIG): B3F96C5C07;
- che, sono stati condotti accertamenti volti ad appurare l'esistenza di rischi da interferenza nell'esecuzione degli appalti in oggetto e, non essendo stati riscontrati i suddetti rischi, non è necessario provvedere alla redazione del DUVRI. Non sussistono conseguentemente costi per la sicurezza;
- che, il servizio citato non rientra nelle categorie merceologiche oggetto dei Criteri Ambientali Minimi di cui all'art. 130 del D.Lgs 36/2023;
- che, per il servizio di catering, è stata richiesta via mail un'offerta alle seguenti società del settore:
 - NERI DARIO DI NERI MIRKO & C. SNC, PG/2024/0195030;
 - LA CASONA GROUP SRL, PG/2024/0195029;
 - DETTAGLI CATERING, PG/2024/0195028;
- che in relazione alla suddetta richiesta sono pervenute le offerte economiche, conservate agli atti, delle seguenti ditte:

| Protocollo | DENOMINAZIONE | Offerta economica a persona (IVA 10% inclusa) |
|-----------------------------------|--------------------------------------|--|
| PG/2024/0170019 del 20/09/2024 | NERI DARIO DI NERI MIRKO & C. SNC | offerta 1: lunch buffet + coffee break 24,90 euro offerta 2: lunch buffet + coffee break 29,50 euro |
| PG/2024/0187285 del 16/10/2024 | LA CASONA GROUP SRL | lunch buffet 22,00 euro coffee break 7,15 euro tot: 29,15 euro |
| PG/2024/0187286 del 16/10/2024 | DETTAGLI CATERING - Gerist S.r.l | lunch buffet 30,80 euro coffee break 8,80 euro tot: 39,60 euro |

DATO ATTO:

- che il responsabile del procedimento ha proceduto alla valutazione delle offerte presentate per il servizio di catering;
- che è stato scelto il preventivo opzione n. 2 della ditta Neri Dario di Neri Mirko & C. Snc che ha presentato un'offerta con il rapporto qualità/prezzo confrontabile alla ditta La Casona Group e l'unica offerta completamente rispondente alla richiesta di menù interamente vegetariano, in linea

con le scelte del Servizio Osservatorio Clima, organizzatore del workshop e partner del progetto Transcend, che ha anche il ruolo di sensibilizzare al tema dei cambiamenti climatici ponendo attenzione alla riduzione delle emissioni di gas climalteranti anche evitando o riducendo il consumo di carne;

CONSIDERATO:

- che è stato acquisito il DURC online della ditta Neri Dario di Neri Mirko & C risultato regolare;
- che si procederà alla pubblicazione del presente provvedimento sul sito dell'Amministrazione, al link "Provvedimenti di scelta del contraente";

RITENUTO pertanto:

- di affidare, ai sensi dell'art. 50 comma 1 lett. b) del D.Lgs. n. 36/2023, il servizio di catering alla ditta Neri Dario di Neri Mirko & C. Snc per un ammontare pari ad Euro 1.298,00 (IVA inclusa);

SU PROPOSTA:

- del dott. Pier Paolo Alberoni, ai sensi del Regolamento per l'adozione degli atti di gestione delle risorse dell'Agenzia, approvato con D. D. G. n. 114/2020, il quale ha espresso il proprio parere favorevole in merito alla regolarità amministrativa del presente provvedimento;

DATO ATTO:

- che Responsabile del procedimento, ai sensi dell'art. 15 del D.Lgs. n. 36/2023 è la dott.ssa Cinzia Alessandrini;
- del parere di regolarità contabile espresso, ai sensi del Regolamento per l'adozione degli atti di gestione dell'Agenzia, approvato con D.D.G. n. 114 del 23/10/2020 dalla referente amministrativa rag. Daniela Ranieri;

DETERMINA

per tutto quanto esposto in premessa:

1. di provvedere, all'organizzazione del "2° stakeholder workshop" nell'ambito del progetto TRANSCEND da svolgersi a Bologna il 7 novembre 2024, come previsto nel Grant Agreement di progetto (Allegato A, parte B pag 25);
2. di affidare, ai sensi dell'art. 50 comma 1 lett. b) del D.Lgs. n. 36/2023, il servizio di catering alla ditta Neri Dario di Neri Mirko & C. Snc per un ammontare pari ad Euro 1.298,00 (IVA inclusa);
3. di dare atto che al Responsabile unico del progetto sono assegnate le funzioni ed i compiti di cui all'art. 15 del D.Lgs. n. 36/2023;
4. di dare atto che il costo relativo al presente provvedimento, pari complessivamente ad Euro

1.298,00 (Iva inclusa), avente natura di “Servizi Accessori a Convegni”, trova copertura nel Budget 2024, con riferimento al progetto TRANSCEND;

5. di demandare al RUP tutti gli adempimenti in materia di trasparenza di cui alla normativa vigente.

IL DIRIGENTE ADOTTANTE

Firmato digitalmente

Alberoni Pier Paolo

Si dichiara che sono parte integrante del presente provvedimento gli allegati riportati a seguire ¹, come file separati dal testo del provvedimento sopra riportato:

¹ L'impronta degli allegati rappresentata nel timbro digitale QRCode in elenco è quella dei file pre-esistenti alla firma digitale con cui è stato adottato il provvedimento



EUROPEAN RESEARCH EXECUTIVE AGENCY (REA)

REA.B – Green Europe
B.2 – Farm to fork, Communities Development and Climate Action

GRANT AGREEMENT

Project 101084110 — TRANSCEND

PREAMBLE

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

on the one part,

the **European Research Executive Agency (REA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and

on the other part,

1. 'the coordinator':

UNIVERSIDAD DE SALAMANCA (USAL), PIC 999846610, established in CALLE PATIO DE ESCUELAS 1, SALAMANCA 37008, Spain,

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

2. **FONDAZIONE CENTRO EURO-MEDITERRANEOSUI CAMBIAMENTI CLIMATICI (CMCC)**, PIC 999419422, established in VIA MARCO BIAGI 5, LECCE 73100, Italy,

3. **UPPSALA UNIVERSITET (UU)**, PIC 999985029, established in VON KRAEMERS ALLE 4, UPPSALA 751 05, Sweden,

4. **FRESH-THOUGHTS CONSULTING GMBH (FTC)**, PIC 952610423, established in HUTTELDORFER STRASSE 215/29, WIEN 1140, Austria,

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

6. **STIFTELSEN THE STOCKHOLM ENVIRONMENT INSTITUTE (SEI)**, PIC 999450268, established in BOX 24218, STOCKHOLM 104 51, Sweden,

7. **AGENZIA REGIONALE PER LA PREVENZIONE, L'AMBIENTE E L'ENERGIA DELL'EMILIA-ROMAGNA (ARPAE)**, PIC 999454633, established in VIA PO 5, BOLOGNA 40139, Italy,

8. **SLOVENSKA AGENTURA ZIVOTNEHO PROSTREDIA (SAŽP)**, PIC 998833057, established in TAJOVSKÉHO 28, BANSKA BYSTRICA 975 90, Slovakia,

9. **SEVEN ENGINEERING CONSULTANTS OE (SEVEN)**, PIC 959306430, established in KALLIDROMIOU ODOS 91, ATHINA 10683, Greece,

10. **American University of Beirut (AUB)**, PIC 998331082, established in BLISS STREET, BEIRUT 1107 2020, Lebanon,

11. **KRITI (KRI)**, PIC 961026337, established in Plateia Eleftherias, Heraklion 71201, Greece,

12. **SLOVENSKY VODOHOSPODARSKY PODNIK STATNY PODNIK (SVP)**, PIC 996897713, established in RADNICNE NAMESTIE 8, BANSKA STIAVNICA 969 55, Slovakia,

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)

Annex 1 Description of the action¹

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 |
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| <p>Worldwide, water resources management is increasingly challenged by water scarcity and climate change, which can trigger and aggravate other ecological (e.g. pests) and socioeconomic threats (e.g. commodity price fluctuations) via feedback loops and cascading impacts across systems. In this context, planning for the future is rife with uncertainties for which conventional decision-making methods and policies are inadequate. The objective of TRANSCEND is to identify and catalyze the adoption of Transformational Adaptation Policies (TAP) to water scarcity, including innovative allocation systems and economic instruments, that are robust and adaptable to uncertainty and change, while simultaneously achieving equitable and sustainable economic growth and welfare. To this end, TRANSCEND will develop a groundbreaking ecosystem of innovation that combines three key pillars: (i) a knowledge network for stakeholder engagement and knowledge sharing, (ii) an actionable modeling suite that integrates interdisciplinary socio-ecological science and ensemble forecasting to guide TAP design, and (iii) an accounting and monitoring toolbox that supports implementation and enforcement of TAP in practice. TRANSCEND will apply the ecosystem of innovation to design and implement TAP in 7 labs: Júcar River Basin (RB) (Spain); Reno RB (Italy); Tympaki RB (Greece); Nitra RB (Slovakia); Caplina-Mauri-Desaguadero RB (Peru, Chile & Bolivia); Orontes RB (Lebanon, Syria & Turkey); and Mahanadi RB (Indian states of Chhattisgarh & Odisha). TRANSCEND will leverage this diverse set of demonstrators to initiate adoption of the ecosystem of innovation in 8+ inspiration labs, train 160+ transformation agents, and mainstream uncertainty analysis in key national and European Green Deal strategies. This will provide the knowledge and tools to catalyze robust and systemic transformations to water scarcity and climate change globally, with a clear impact pathway towards TAP adoption in 100+ basins by 2030.</p> |

Keywords:

- Integrated management of water

Project number: 101084110

Project name: Transformational and Robust Adaptation to water Scarcity and Climate change under Deep uncertainty

Project acronym: TRANSCEND

Call: HORIZON-CL6-2022-CLIMATE-01

Topic: HORIZON-CL6-2022-CLIMATE-01-01

Type of action: HORIZON Innovation Actions

Granting authority: European Research Executive Agency

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

Project starting date: fixed date: 1 January 2023

Project end date: 31 December 2026

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 | USAL | UNIVERSIDAD DE SALAMANCA | ES | 999846610 | 705 750.00 | 705 750.00 |
| 2 | BEN | CMCC | FONDAZIONE CENTRO EURO-MEDITERRANEOSUI CAMBIAMENTI CLIMATICI | IT | 999419422 | 702 187.50 | 702 187.50 |
| 3 | BEN | UU | UPPSALA UNIVERSITET | SE | 999985029 | 602 625.00 | 602 625.00 |

| N° | Role | Short name | Legal name | Ctry | PIC | Total eligible costs (BEN and AE) | Max grant amount |
|--------------|---------|------------|--|------|-----------|-----------------------------------|------------------|
| 4 | BEN | FTC | FRESH-THOUGHTS CONSULTING GMBH | AT | 952610423 | 102 500.00 | 71 750.00 |
| 5 | BEN | UPV | UNIVERSITAT POLITECNICA DE VALENCIA | ES | 999864846 | 465 062.50 | 465 062.50 |
| 6 | BEN | SEI | STIFTELSEN THE STOCKHOLM ENVIRONMENT INSTITUTE | SE | 999450268 | 517 875.00 | 517 875.00 |
| 7 | BEN | ARPAE | AGENZIA REGIONALE PER LA PREVENZIONE, L'AMBIENTE E L'ENERGIA DELL'EMILIA-ROMAGNA | IT | 999454633 | 334 250.00 | 334 250.00 |
| 8 | BEN | SAŽP | SLOVENSKA AGENTURA ZIVOTNEHO PROSTREDIA | SK | 998833057 | 296 750.00 | 296 750.00 |
| 9 | BEN | SEVEN | SEVEN ENGINEERING CONSULTANTS OE | EL | 959306430 | 272 268.75 | 190 588.00 |
| 10 | BEN | AUB | American University of Beirut | LB | 998331082 | 226 750.00 | 226 750.00 |
| 11 | BEN | KRI | KRITI | EL | 961026337 | 217 500.00 | 217 500.00 |
| 12 | BEN | SVP | SLOVENSKY VODOHOSPODARSKY PODNIK STATNY PODNIK | SK | 996897713 | 31 250.00 | 0.00 |
| 13 | AP | IRAP | INSTITUTE FOR RESOURCE ANALYSIS AND POLICY | IN | 908624318 | 0.00 | 0.00 |
| 14 | AP (IO) | ASU | AZ Board of Regents on behalf of Arizona State University | US | 902651155 | 0.00 | 0.00 |
| 15 | AP | UoM | THE UNIVERSITY OF MANCHESTER | UK | 999903840 | 0.00 | 0.00 |
| Total | | | | | | 4 474 768.75 | 4 331 088.00 |

Coordinator:

- UNIVERSIDAD DE SALAMANCA (USAL)

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) |
|-----------------------------------|------------------|--------------------------------|---------------------------------------|
| 4 474 768.75 | 70, 100 | 4 331 088.00 | 4 331 088.00 |

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
- 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) | 2 309 769.23 |

Reporting and payment modalities (art 21, 22):

Mutual Insurance Mechanism (MIM): Yes

MIM contribution: 5% of the maximum grant amount (216 554.40), 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 conditions (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:

ES3800491843432410186463

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 \geq EUR 430 000.00

Special threshold for beneficiaries with a systems and process audit(see Article 24): financial statement: requested EU contribution to costs \geq 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)

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:

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 187 of EU Financial Regulation 2018/1046⁴ 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(36) of EU Financial

⁴ For the definition, see Article 187 Regulation (EU, Euratom) 2018/1046 of the European Parliament and of the Council of 18 July 2018 on the financial rules applicable to the general budget of the Union, amending Regulations (EU) No 1296/2013, (EU) No 1301/2013, (EU) No 1303/2013, (EU) No 1304/2013, (EU) No 1309/2013, (EU) No 1316/2013, (EU) No 223/2014, (EU) No 283/2014, and Decision No 541/2014/EU and repealing Regulation (EU, Euratom) No 966/2012 ('EU Financial Regulation') (OJ L 193, 30.7.2018, p. 1): "**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 136(1) and 141(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".

Regulation 2018/1046, i.e. non-financial resources made available free of charge by third parties.

Fraud — Fraud within the meaning of Article 3 of EU Directive 2017/1371⁵ and Article 1 of the Convention on the protection of the European Communities' financial interests, drawn up by the Council Act of 26 July 1995⁶, 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 2988/95⁷.

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 136(1)(c) of EU Financial Regulation 2018/1046.

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 **101084110 — TRANSCEND** ('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

5.1 Form of grant

The grant is an action grant⁸ which takes the form of a budget-based mixed actual cost grant (i.e. a

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 For the definition, see Article 180(2)(a) EU Financial Regulation 2018/1046: '**action grant**' means an EU grant to finance "an action intended to help achieve a Union policy objective".

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 entities⁹ 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)¹⁰ 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
- 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

⁹ 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.

¹⁰ See Article 125 EU Financial Regulation 2018/1046.

- 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 enterprises¹¹ not receiving a salary) or **natural person beneficiaries** (i.e. beneficiaries that are 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.

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

¹¹ 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 Recommendation) and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million.

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
- 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 grant¹² 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
- (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.

¹² For the definition, see Article 180(2)(b) of EU Financial Regulation 2018/1046: ‘**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”.

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’¹³ (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)

¹³ For the definition, see Article 187(2) EU Financial Regulation 2018/1046: “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.”

- 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’:

- **INSTITUTE FOR RESOURCE ANALYSIS AND POLICY (IRAP)**, PIC 908624318
- **AZ Board of Regents on behalf of Arizona State University (ASU)**, PIC 902651155
- **THE UNIVERSITY OF MANCHESTER (UoM)**, PIC 999903840

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 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/EC¹⁴
- 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).

¹⁴ 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 or similar national regulations (OJ L 157, 9.6.2006, p. 87).

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
- 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 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 154 EU Financial Regulation 2018/1046).

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 suspension (Article 31): certain costs incurred during grant suspension are eligible (notably, minimum costs necessary for a possible resumption of the action and costs relating to contracts which were entered into before the pre-information letter was received and which could not reasonably be suspended, reallocated or terminated on legal grounds)
- 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 whose assessment has not yet been updated to cover (the new rules on) data protection may rely on their internal systems, rules and procedures, provided that they ensure that personal data is:

- processed lawfully, fairly and in a transparent manner in relation to the data subject
- 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 personal data.

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 2015/444¹⁵ 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

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.

¹⁵ 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).

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 2018/1725¹⁶.

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 2016/679¹⁷).

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.

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.

¹⁶ 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).

¹⁷ 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 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

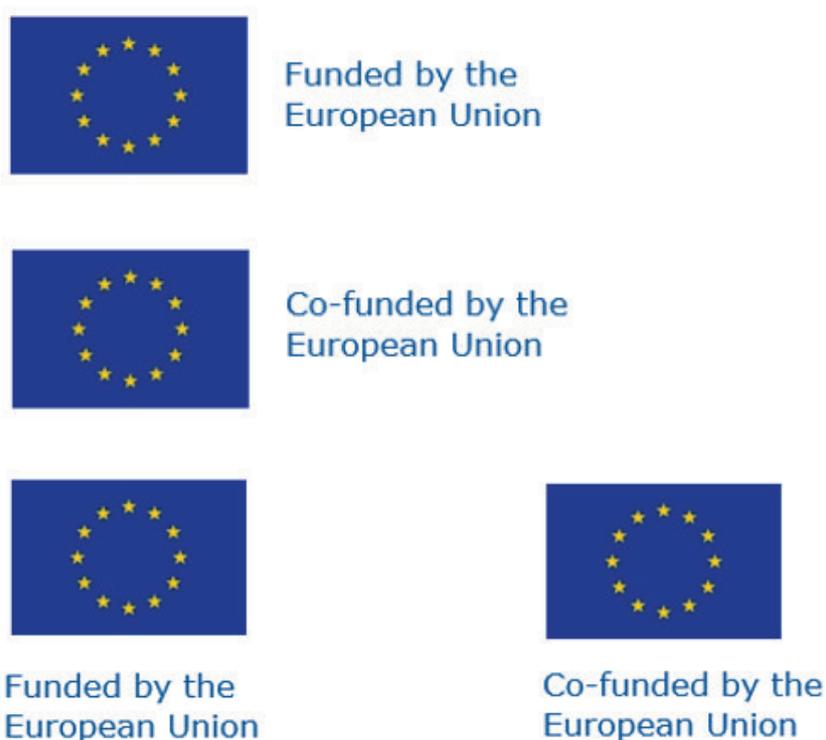
Unless otherwise agreed with the granting authority, the beneficiaries must promote the action and its

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):



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 continuously 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:

$$\left\{ \begin{array}{l} \text{total accepted EU contribution for the beneficiary} \\ \text{minus} \\ \text{prefinancing and interim payments received (if any)} \end{array} \right\}.$$

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:

$$\left\{ \begin{array}{l} \text{final grant amount} \\ \text{minus} \\ \text{prefinancing and interim payments made (if any)} \end{array} \right\}.$$

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:

$$\left\{ \left\{ \begin{array}{l} \text{total accepted EU contribution for the beneficiary} \\ \text{divided by} \\ \text{total accepted EU contribution for the action} \end{array} \right\} \right.$$

$$\left. \begin{array}{l} \text{multiplied by} \\ \text{final grant amount for the action} \end{array} \right\},$$

$$\text{minus}$$

$$\left\{ \text{prefinancing and interim payments received by the beneficiary (if any)} \right\}$$

and

(b) dividing the debt:

$$\left\{ \begin{array}{l} \text{amount calculated according to point (a) for the beneficiary concerned} \\ \text{divided by} \\ \text{the sum of the amounts calculated according to point (a) for all the beneficiaries identified according to} \\ \text{point (a)} \end{array} \right.$$

$$\left. \begin{array}{l} \text{multiplied by} \\ \text{the amount to be recovered} \end{array} \right\}.$$

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:

$$\left\{ \begin{array}{l} \text{\{total accepted EU contribution for the beneficiary} \\ \text{divided by} \\ \text{total accepted EU contribution for the action\}} \\ \text{multiplied by} \\ \text{final grant amount for the action\}}. \end{array} \right.$$

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 2018/1046.

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 2015/2366¹⁸ 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

¹⁸ 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 29) 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/EC¹⁹ (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).

¹⁹ 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 or similar national regulations (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.

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.

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 883/2013²⁰ and No 2185/96²¹
- 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 257 of EU Financial Regulation 2018/1046.

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

²⁰ 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).

²¹ Council Regulation (Euratom, EC) No 2185/1996 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).

- (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), 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), 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), 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), 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 135 to 145 EU Financial Regulation 2018/1046 and Articles 4 and 7 of Regulation 2988/95²²).

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

²² 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 1182/71²³, 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.

²³ 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

José Miguel Mateos Roco with ECAS id n0075qpc signed in the Participant Portal on 30/09/2022 at 11:30:40 (transaction id SigId-6149-PzUGNRua3OsfLrFVph8yvRjv9HJO7a3tg48hyM5tDkc2wNofpnzWy1yRkdBjcmfgXHuoq3fWIEIN4WIGjKdU-yntOf97TTHqrzkhVT9AWTC-nQRwufdXzmR1wUpyZIRAX79dB6I7VSF7N0dVvhcHZnW4nmIAK0W2e7w6AnWUMkEmglxcOLPtWP4UfKxPI83G Tm). Timestamp by third party at 2022.09.30 12:30:45 CEST

For the granting authority

Signed by Matthias LANGEMEYER with ECAS id langemi as an authorised representative on 30-09-2022 17:26:42 (transaction id SigId-11107-1DyYbAtRyZ9VMNQFp3rWu4kV2gXmHO5Nwf1GXVimHePwG9QDUXpPTYwO67GC8fyiFtHth1S0q9zXF9N0EcEX4-yntOf97TTHqrzkhVT9AWTC-zKLxIHsNIInzuMOhavQQPsXjCMc4sBzzGW2iN8MN6Txgx9LiejdvXRHWmGIOQmGHZMpfDKpgsdamSCDEUS9mQOU) 2022.09.30 17:26:47 CEST



ANNEX 1



Horizon Europe (HORIZON)

Description of the action (DoA)

Part A

Part B

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 | |
|---|--|
| <i>Grant Preparation (General Information screen) — Enter the info.</i> | |
| Project number: | 101084110 |
| Project name: | Transformational and Robust AdaptatioN to water Scarcity and ClimatE chaNge under Deep uncertainty |
| Project acronym: | TRANSCEND |
| Call: | HORIZON-CL6-2022-CLIMATE-01 |
| Topic: | HORIZON-CL6-2022-CLIMATE-01-01 |
| Type of action: | HORIZON-IA |
| Service: | REA/B/02 |
| Project starting date: | fixed date: 1 January 2023 |
| 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.

Worldwide, water resources management is increasingly challenged by water scarcity and climate change, which can trigger and aggravate other ecological (e.g. pests) and socioeconomic threats (e.g. commodity price fluctuations) via feedback loops and cascading impacts across systems. In this context, planning for the future is rife with uncertainties for which conventional decision-making methods and policies are inadequate. The objective of TRANSCEND is to identify and catalyze the adoption of Transformational Adaptation Policies (TAP) to water scarcity, including innovative allocation systems and economic instruments, that are robust and adaptable to uncertainty and change, while simultaneously achieving equitable and sustainable economic growth and welfare. To this end, TRANSCEND will develop a groundbreaking ecosystem of innovation that combines three key pillars: (i) a knowledge network for stakeholder engagement and knowledge sharing, (ii) an actionable modeling suite that integrates interdisciplinary socio-ecological science and ensemble forecasting to guide TAP design, and (iii) an accounting and monitoring toolbox that supports implementation and enforcement of TAP in practice. TRANSCEND will apply the ecosystem of innovation to design and implement TAP in 7 labs: Júcar River Basin (RB) (Spain); Reno RB (Italy); Tympaki RB (Greece); Nitra RB (Slovakia); Caplina-Mauri-Desaguadero RB (Peru, Chile & Bolivia); Orontes RB (Lebanon, Syria & Turkey); and Mahanadi RB (Indian states of Chhattisgarh & Odisha). TRANSCEND will leverage this diverse set of demonstrators to initiate adoption of the ecosystem of innovation in 8+ inspiration labs, train 160+ transformation agents, and mainstream uncertainty analysis in key national and European Green Deal strategies. This will provide the knowledge and tools to catalyze robust and systemic transformations to water scarcity and climate change globally, with a clear impact pathway towards TAP adoption in 100+ basins by 2030.

LIST OF PARTICIPANTS

PARTICIPANTS

Grant Preparation (Beneficiaries screen) — Enter the info.

| Number | Role | Short name | Legal name | Country | PIC |
|--------|------|------------|--|---------|-----------|
| 1 | COO | USAL | UNIVERSIDAD DE SALAMANCA | ES | 999846610 |
| 2 | BEN | CMCC | FONDAZIONE CENTRO EURO-MEDITERRANEOSUI CAMBIAMENTI CLIMATICI | IT | 999419422 |
| 3 | BEN | UU | UPPSALA UNIVERSITET | SE | 999985029 |
| 4 | BEN | FTC | FRESH-THOUGHTS CONSULTING GMBH | AT | 952610423 |
| 5 | BEN | UPV | UNIVERSITAT POLITECNICA DE VALENCIA | ES | 999864846 |
| 6 | BEN | SEI | STIFTELSEN THE STOCKHOLM ENVIRONMENT INSTITUTE | SE | 999450268 |
| 7 | BEN | ARPAE | AGENZIA REGIONALE PER LA PREVENZIONE, L'AMBIENTE E L'ENERGIA DELL'EMILIA-ROMAGNA | IT | 999454633 |
| 8 | BEN | SAŽP | SLOVENSKA AGENTURA ZIVOTNEHO PROSTREDIA | SK | 998833057 |
| 9 | BEN | SEVEN | SEVEN ENGINEERING CONSULTANTS OE | EL | 959306430 |

| PARTICIPANTS | | | | | |
|---|-------------|-------------------|--|----------------|------------|
| <i>Grant Preparation (Beneficiaries screen) — Enter the info.</i> | | | | | |
| Number | Role | Short name | Legal name | Country | PIC |
| 10 | BEN | AUB | American University of Beirut | LB | 998331082 |
| 11 | BEN | KRI | KRITI | EL | 961026337 |
| 12 | BEN | SVP | SLOVENSKY VODOHOSPODARSKY PODNIK STATNY PODNIK | SK | 996897713 |
| 13 | AP | IRAP | INSTITUTE FOR RESOURCE ANALYSIS AND POLICY | IN | 908624318 |
| 14 | AP | ASU | AZ Board of Regents on behalf of Arizona State University | US | 902651155 |
| 15 | AP | UoM | THE UNIVERSITY OF MANCHESTER | UK | 999903840 |



LIST OF WORK PACKAGES

| Work packages | | | | | | |
|---|---|-------------------------|-------------------------------|--------------------|------------------|---|
| <i>Grant Preparation (Work Packages screen) — Enter the info.</i> | | | | | | |
| Work Package No | Work Package name | Lead Beneficiary | Effort (Person-Months) | Start Month | End Month | Deliverables |
| WP1 | NETWORK: Strategic guidance of Knowledge Networks | 2 - CMCC | 101.00 | 1 | 48 | D1.1 – Stakeholder mapping by lab D1.2 – Rules of Engagement D1.3 – Guidance for scenathons D1.4 – Knowledge networks mid-term report D1.5 – Knowledge networks final report |
| WP2 | CO-CREATION: Co-creation in labs | 6 - SEI | 136.00 | 1 | 44 | D2.1 – Blueprints of the modelling suite by lab D2.2 – Co-creation Report I D2.3 – Co-creation Report II D2.4 – Co-creation Report III |
| WP3 | MODELING: Actionable modeling suite | 3 - UU | 136.00 | 1 | 36 | D3.1 – White paper: methods and models D3.2 – Modeling suite prototype and sourcebook D3.3 – Database of plausible futures and sourcebook |
| WP4 | MONITORING: Monitoring, accounting and scenarios | 15 - UoM | 81.00 | 1 | 44 | D4.1 – White paper: monitoring and enforcement D4.2 – White paper: socioeconomic scenarios by lab D4.3 – Database of TAP monitoring and sourcebook D4.4 – Water accounting and impact assessment toolbox prototype D4.5 – Scenarios database and sourcebook |

| Work packages | | | | | | |
|---|--|-------------------------|-------------------------------|--------------------|------------------|---|
| <i>Grant Preparation (Work Packages screen) — Enter the info.</i> | | | | | | |
| Work Package No | Work Package name | Lead Beneficiary | Effort (Person-Months) | Start Month | End Month | Deliverables |
| WP5 | KNOWLEDGE 4 POLICY: Governance, policy and financial mechanisms for TAP adoption and upscaling | 1 - USAL | 68.00 | 1 | 48 | D4.6 – Populated water accounting and impact assessment toolbox D5.1 – White paper: governance/policy enablers/barriers D5.2 – White paper: financing mechanisms D5.3 – Policy notebook |
| WP6 | EXPLOITATION: Exploitation, dissemination and communication | 7 - ARPAAE | 102.00 | 1 | 48 | D6.1 – Detailed and revised PDEC and IPR strategy D6.2 – Data Management Plan D6.3 – First Exploitation, dissemination and communication report D6.4 – Data Management Plan - Update D6.5 – Second exploitation, dissemination and communication report & business plan D6.6 – Third exploitation, dissemination and communication report & legacy strategy D6.7 – Data Management Plan - Final version |
| WP7 | COORDINATION | 1 - USAL | 54.00 | 1 | 48 | D7.1 – Inception Report and roadmap D7.2 – Ethics Management Plan |

Work package WP1 – NETWORK: Strategic guidance of Knowledge Networks

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|----------------------------|---|-------------------------|---------|
| Work Package Number | WP1 | Lead Beneficiary | 2. CMCC |
| Work Package Name | NETWORK: Strategic guidance of Knowledge Networks | | |
| Start Month | 1 | End Month | 48 |

Objectives

- (1) Initiate and manage the knowledge networks that will enable stakeholders to contribute to co-creation process;
- (2) Design, facilitate and guide stakeholder engagement and science-policy interactions, so as to stimulate knowledge exchange, peer learning, partnerships, consensus building, and adoption of TAP.

Description

Description of work: WP1 will initiate and manage 7 local & regional knowledge networks, one in each lab; and a horizontal network ('network of networks') connecting the key partners & stakeholders across the labs. The WP will stimulate exchange of knowledge among peers, enhance capability and adaptive efficiency, and organize safe collaboration and experimentation spaces. WP1 will methodologically guide and oversee co-creation in WP2, and identify and address gaps and barriers hampering stakeholder engagement in knowledge networks.

-TASK 1.1 COMPETENCE: Understanding of context and relational competence (months 1-5) (lead: CMCC, co-lead: SEI, contributors: ARPAE, UoM, SAŽP, UPV, AUB, KRI). This task will map the complementary knowledge, expertise and skills that enable mutually beneficial knowledge sharing and co-creation. We will map stakeholders and identify their competences; assess strategic complementarities and synergies; invite new stakeholders to join; and establish the knowledge networks that will carry out co-creation processes in WP2.

-TASK 1.2 AWARENESS: Awareness raising (months 1-12) (lead: SEI, co-lead: CMCC, contributors: UU, ARPAE, UoM, SAŽP, SEVEN, USAL). This task will design and implement strategies to build awareness on the benefits and opportunities for value-added co-creation in knowledge networks. Awareness raising activities will be articulated through training events (see Section 2.2.1). Where appropriate, we will implement debiasing and debunking exercises to address misinformation. The purpose of this task is to enhance stakeholders' willingness to engage in knowledge co-creation, and prepare stakeholders for the information and data that will be conveyed in science-policy exchanges in WP2.

-TASK 1.3 SHARING: Knowledge sharing (months 4-44) (lead: SEI, co-lead: CMCC, contributors: FTC, ARPAE, UoM, SAŽP, UPV, KRI, USAL). This task will define and organize the spaces where relational competences are shared and utilized. This includes defining the structure of workshops and meetings, and organizing stakeholder and science-policy interactions in scenathons. The objective is to develop fruitful knowledge sharing spaces that stimulate the co-creation of transformational concepts and ideas, and catalyze TAP design, assessment and implementation in WP2.

-TASK 1.4 GOVERNANCE: Rules of Engagement and governance bodies (months 4-44) (lead: CMCC, co-lead: USAL, contributors: SEI, UU, FTC, ARPAE, UoM, SAŽP, UPV, AUB, KRI). This task will define clear Rules of Engagement building on the UNFCCC's Talanoa Dialogue; and manage governance bodies in each lab, as well as the international network board or 'network of networks'. The objective is to create and enforce respectful and constructive exchanges throughout the entire co-creation process in WP2. Governance bodies will actively participate in dissemination, exploitation and communication activities in T6.1.

-TASK 1.5 ADAPTATION: Adaptive efficiency (months 8-48) (lead: USAL, co-lead: UPV, contributors: CMCC, ARPAE, UoM, KRI, SAŽP). This task will assess and enhance the ability of knowledge networks and institutions to learn from and adapt to changes in the climatic, scientific, technological and policy landscape. The task will build on inputs from co-creation activities (WP2) and transaction costs monitoring (input from T4.3) to assess the adaptive performance of knowledge networks; and identify and stimulate the development of dynamic capabilities that can lead to adaptive efficiency and improvement and growth in innovations (TAP). This task will foster lasting and adaptive TAP (WP2) and inform the legacy strategy (T6.4).

-TASK 1.6 INTEGRATION: Integration of stakeholder needs and recommendations (months 8-48) (lead: ARPAE, co-lead: CMCC, contributors: SEI, UoM, SAŽP, UPV, AUB, SEVEN, USAL). This task will build on the applied co-creation exercises in WP2 to identify gaps and barriers hampering stakeholder engagement in knowledge networks, and fine-tune methods in T1.1-5. We will continuously monitor stakeholder engagement through Impact Champions (e.g., on gender balance, see Section 1.2.5); gather feedback from stakeholders; and ensure that the project team takes into account and responds adequately to stakeholder recommendations. The impact champion team will meet online 3 months before and 1 month after each workshop to chart progress.

Work package WP2 – CO-CREATION: Co-creation in labs

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|----------------------------|----------------------------------|-------------------------|--------|
| Work Package Number | WP2 | Lead Beneficiary | 6. SEI |
| Work Package Name | CO-CREATION: Co-creation in labs | | |
| Start Month | 1 | End Month | 44 |

Objectives

Objectives

- (1) Design and implement 7 robust TAP (one per lab) to water scarcity and climate change under deep uncertainty;
- (2) Develop partnerships that create and operationalize novel financing mechanisms;
- (3) Design and demonstrate institutional and technical feasibility and performance of a transition towards sustainable and inclusive growth in 7 water-scarce labs under deep uncertainty.

Description

Description of work: WP2 is dedicated to the design and implementation of robust TAP in labs. In each lab, we will run 3 ‘stock-taking’ co-creation iterations in which stakeholders and scientists co-design scenarios and TAP, co-develop modeling efforts, and co-evaluate TAP performance (T2.1-2.3). Based on this iterative process, we will co-identify and co-implement one robust TAP in each lab (T2.4). Work in local labs will be supported by cross-fertilization across labs through knowledge sharing activities in international workshops and webstivals.

-TASK 2.1 CO-DEVELOPMENT: Co-development of modeling suite (months 1-36) (lead: UPV, co-lead: UU, contributors: CMCC, SEI, ARPAE, UoM, IRAP, AUB, USAL, SEVEN, KRI, SAŽP, SVP). Building on inputs from the review on socio-ecological and ensemble modeling in T3.1, stakeholders and scientists will identify the relevant systems in each lab (including climatic, hydrologic, agricultural, and micro- and macro-economic systems, as well as other relevant systems), the key relationships between them, and the systems’ models that will populate the ensemble. The upshot will be the blueprints of an actionable modeling suite for each lab. Building upon these blueprints and follow-up stakeholder feedback during co-creation iterations, scientists will develop, calibrate and validate the modeling suite in T3.2.

-TASK 2.2 CO-DESIGN: Co-design of TAP and scenarios (months 8-36) (lead: USAL, co-lead: SEI, contributors: all). In this task, stakeholders and scientists will co-design TAP and scenarios. The co-design of TAP will build on inputs from the white papers and policy briefs on governance (T5.1) and financing mechanisms (T5.2) for TAP; while the co-design of scenarios will build on the tailored climate and socioeconomic scenarios by lab developed in T4.4. TAP and scenarios will be used as inputs to run simulations with the modeling suite in T3.3. Simulation results from T3.3 will be used in turn to fine-tune TAP and scenarios over three iterations.

-TASK 2.3 CO-EVALUATION: Co-evaluation of TAP performance (months 19-36) (lead: SEI, co-lead: UPV, contributors: CMCC, ARPAE, UoM, IRAP, AUB, USAL, SEVEN, KRI, SAŽP). We will combine the mechanistic modeling outputs from the modeling suite simulations (T3.3) with heuristics and inductive reasoning (leveraging on stakeholders’ expertise to speculate upon the consequences of a given TAP) to co-evaluate TAP performance in labs. We will seek vulnerabilities and tradeoffs in TAP performance; and address them by iteratively revising TAP design in T2.2. We will also explore new scenarios (T2.2) and revise the blueprint (T2.1) as new information is made available. This ‘stock-taking’ co-creation process will take place over 3 iterations, which will lead to a number of candidate TAP in each lab.

-TASK 2.4 CO-IDENTIFICATION & CO-IMPLEMENTATION: Co-identification and co-implementation of robust TAP on the ground (months 36-44) (lead: UoM, co-lead: SEI, contributors: CMCC, ARPAE, UPV, IRAP, AUB, USAL, SEVEN, KRI, SVP, SAŽP). For each lab, we will co-identify among the candidate TAP in T2.3 the one with the highest potential in terms of i) robustness and ii) contribution to equitable and sustainable economic and welfare growth; and co-implement this robust TAP on the ground. This includes the operationalization of partnerships and novel financing mechanisms to secure sustainable investment into TAP; as well as measures to address regulatory, bureaucratic, policy and other obstacles that may emerge during TAP implementation. We will attentively monitor early TAP performance building on inputs from monitoring toolkits developed in T4.3, recognize risks and limitations, and issue a timely response to such contingencies. Outcomes from T2.4 will be a critical input for upscaling (T5.3) and legacy (T6.4) activities.

Work package WP3 – MODELING: Actionable modeling suite

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| Work Package Number | WP3 | Lead Beneficiary | 3. UU |
| Work Package Name | MODELING: Actionable modeling suite | | |
| Start Month | 1 | End Month | 36 |

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| Objectives |
| <p>Objectives</p> <p>(1) Develop shared interdisciplinary understanding of current state of socio-ecological modeling under deep uncertainty;</p> <p>(2) Develop one actionable modeling suite by lab;</p> <p>(3) Apply the modeling suites to evaluate quantitatively the performance of alternative TAP in each lab.</p> |

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| Description |
| <p>Description of work: WP3 will develop and refine 7 modeling suites, one per lab, to inform TAP design and evaluation. Modeling suites will be applied to assess impacts of TAP under alternative scenarios and setups of the suite, so as to identify TAP that deliver robust performance under deep uncertainty.</p> <p>-TASK 3.1 METHODS: Socio-ecological models and methods for assessing policy performance under deep uncertainty (months 1-7) (lead: USAL, co-lead: UU, contributors: UoM, SEI, CMCC, IRAP, UPV, SEVEN). This task will conduct a desk review of methods and models for assessing the socioeconomic and ecological impacts of policies under deep uncertainty. This will include a critical assessment of existing protocols for the interconnection of socioeconomic and ecological systems (two-way feedbacks); and of the models and techniques used in cutting-edge ensemble experiments (such as CMIP and ISIMIP). This task will also examine how socio-ecological models can be better integrated with ensemble forecasting methods. The desk review will be synthesized into a white paper describing available models and methods, and their key strengths and weaknesses and barriers for adoption. This task will inform the co-development of the blueprints of the modeling suite in T2.1.</p> <p>-TASK 3.2 SUITE: Actionable modeling suite (months 8-36) (lead: UU, co-lead: UoM, contributors: USAL, UPV, SEI, CMCC, ARPAE, SEVEN, KRI, SVP, AUB, IRAP). Building upon the blueprints co-developed alongside stakeholders in T2.1, this task will assemble, calibrate, and validate an actionable modeling suite in each lab using a protocol-based modular approach. Modularity means that models at each system level will be run independently in modules; and then connected through sets of bidirectional protocols, which are defined as rules designed to manage interrelationships among systems' modules (i.e. two-way feedbacks). Each module will be populated with multiple models of climatic (CMIP6 and downscaled projections in CORDEX), hydrologic (i.a. SUMMA, VIC, HBV, GR4J), agricultural (i.a. AquaCrop-OS, DSSAT, APSIM, WOFOST), microeconomic (econometric and mathematical programming models such as PMP, PMAUP, LP) and macroeconomic systems (CMCC, USAL & UoM input-output and computable general equilibrium models, e.g. ICES); as well as models of other relevant systems (see e.g. CMIP6, ISIMIP, as well as water quality and ecological models to explore pollution-related problems in labs such as the Nitra RB) identified during co-development. Protocols for the interconnection of modules will be implemented using established open-source programming and frameworks to further enhance and support scalability (e.g. OpenMI standard). Leveraging data provided by the water accounting and monitoring toolbox developed in T4.3, we will parameterize, calibrate and validate the modeling suite in each lab. The upshot will be 7 actionable modeling suites (one per lab) that can be readily used to formulate and address locally relevant problems. We will periodically update the modeling suites to rigorously address the needs for improvement identified by stakeholders in T2.1. The suite will be used to run simulations on TAP performance in T3.3.</p> <p>-TASK 3.3 OUTPUTS: Modeling TAP performance and uncertainties (months 15-36) (lead: UU, co-lead: UoM, contributors: USAL, UPV, SEI, CMCC, SEVEN, KRI, SAŽP, AUB). This task will apply the modeling suite in T3.2 to quantify the performance of TAP under a range of potential future scenarios (T2.2). We will produce, for each lab and over time, projections and uncertainty bounds of: i) relevant stressors from climatic changes, ii) quantitative and qualitative status of surface and groundwater bodies, iii) ecological impacts on key ecosystems and ecosystem services; iv) socioeconomic impacts on water users, v) wider macroeconomic impacts (e.g. agro-industry), and vi) other key variables identified by stakeholders. We will simulate alternative TAP (including alternative combinations and sequencing of policies), scenarios and initial states (multi-scenario), using alternative setups of the modeling suite (multi-system, multi-model). In doing so, simulation outputs will support the evaluation and identification of robust TAP that address critical vulnerabilities and tipping points, including risks of ecosystem collapse and socio-economic conflict (input for T2.3-4).</p> |

Work package WP4 – MONITORING: Monitoring, accounting and scenarios

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|----------------------------|--|-------------------------|---------|
| Work Package Number | WP4 | Lead Beneficiary | 15. UoM |
| Work Package Name | MONITORING: Monitoring, accounting and scenarios | | |
| Start Month | 1 | End Month | 44 |

| Objectives |
|--|
| <p>(1) Document approaches, challenges and opportunities for monitoring, enforcement and control in the implementation of TAP, including issues of illegal water use and ex-post learning and evaluation;</p> <p>(2) Develop a database of performance indicators to support monitoring and implementation of TAP in labs;</p> <p>(3) Design and populate an interactive water accounting and impact assessment toolbox to enable stakeholders in each lab to objectively monitor TAP performance against key indicators;</p> <p>(4) Construct plausible future climate and socio-economic development scenarios, including monitoring and enforcement capacity, tailored to each lab.</p> |

| Description |
|---|
| <p>WP4 will identify the critical information and data needs to enable stakeholders to monitor, appraise, and enforce TAP in labs. The WP will critically review and document existing monitoring and enforcement approaches and their performance, determine decision-relevant indicator variables and metrics for user-prioritized TAP, and construct an interactive monitoring and accounting toolbox; and design future scenarios to inform TAP design and evaluation.</p> <p>-TASK 4.1 APPROACHES: Monitoring and enforcement approaches (months 1-7) (lead: UoM, co-lead: UPV, contributors: USAL, SEI, ARPAE, SEVEN, KRI, IRAP, AUB, SAŽP, SVP). This task will critically review the approaches taken to monitoring and enforcing performance and outcomes of water policies in labs and other regions globally. Through desk literature surveys and dive case studies, the review will provide a state-of-the-art overview of how regulators ensure compliance with, and enforcement of, policy objectives, including challenges associated with illegal water use and learning from ex-post policy outcomes. Lessons and opportunities for strengthening implementation of TAP through refinements to policy design and monitoring (including via use of novel data systems and resources such as Copernicus) will be identified and documented. This task will be used as an input for T4.2 and T4.3.</p> <p>-TASK 4.2 INDICATORS: Monitoring indicators (months 1-12) (lead: UoM, co-lead: SEVEN, contributors: SEI, UPV, USAL, IRAP, ARPAE, AUB, KRI, SAŽP). This task will identify and define the key indicators of water use, water availability, water-related impacts (both socio-economic and environmental), and institutional performance (including transaction costs) that are needed to support the design, evaluation, implementation, and enforcement of TAP. In consultation with stakeholders, information will be synthesized about the types and status of existing monitoring infrastructure (e.g. water metering, surface/groundwater gauging, socio-economic surveys, etc.) and data systems (e.g. water rights inventories, land cover mapping) that can support TAP design and performance evaluation. Building on inputs from the review of monitoring approaches in T4.1, an inventory of key data gaps and monitoring deficiencies will be identified and developed across labs, including known water challenges such as illegal abstractions.</p> <p>-TASK 4.3 TOOLS: Monitoring tools (months 6-44) (lead: UoM, co-lead: UPV, contributors: SEVEN, AUB, USAL): This task will design, develop, and implement an innovative data-driven water accounting and impact assessment toolbox that will support TAP co-implementation (T2.4) in labs, along with supporting parameterization, calibration and validation of socio-ecological models (T3.2). By assimilating and integrating data from a range of currently disparate sources, including local monitoring, regional and global datasets, and earth observation products, the toolbox will enable stakeholders to track performance of TAP and their socio-economic impacts across sectors, space and time addressing priority data needs (T4.2) and gaps in existing monitoring infrastructure (T4.1). The toolbox will be fully open-source and built around established open data resources (including Copernicus archives) and water accounting methods (e.g., FAO's Water Accounting Plus (WA+) framework) to ensure monitoring of TAP options and outcomes is objective and transparent, and able to continuously evolve over time. Design of the toolbox will be tailored to the needs of lab stakeholders building on co-creation processes in WP2, with an interactive web-based visualization dashboard provided to enable rapid and flexible access to the toolbox and underlying data during and beyond the project.</p> <p>-TASK 4.4 SCENARIOS: Climate and socioeconomic scenarios (months 1-36) (lead: CMCC, co-lead: UoM, contributors: UPV, SEI, ARPAE, SEVEN, UU): This task will draw upon future global and regional climate, land use and socioeconomic projections (including CMIP6, ISIMIP, LUMIP) and observed historic lab development trajectories to develop bias corrected and downscaled climate, land use and socioeconomic scenarios for each lab. These scenarios will be further tailored to each lab through co-design (T2.2), considering emerging information on trajectories of natural-human systems (e.g., land use changes) from monitoring tools and data (T4.3). As part of scenario co-design, socio-</p> |

economic scenarios for TAP analysis will consider alternative strategies and pathways for monitoring, enforcement, and compliance control of TAP. This will ensure scenario analysis provides a realistic picture of expected TAP performance and robustness given variable capacities and costs of implementation.

Work package WP5 – KNOWLEDGE 4 POLICY: Governance, policy and financial mechanisms for TAP adoption and upscaling

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|----------------------------|--|-------------------------|---------|
| Work Package Number | WP5 | Lead Beneficiary | 1. USAL |
| Work Package Name | KNOWLEDGE 4 POLICY: Governance, policy and financial mechanisms for TAP adoption and upscaling | | |
| Start Month | 1 | End Month | 48 |

Objectives

- (1) Document TAP performance and examine governance, policy and financial enablers and barriers for TAP;
- (2) Synthesize and upscale the results obtained in labs to inform supra-national (notably EU) and national strategies for water resources management, climate adaptation, disaster risk reduction, sustainable development, and ecosystem protection in the EU and beyond.

Description

Description of work: WP5 will analyze governance, policy and financial barriers and enablers for TAP, and identify good practice and reforms for unlocking the potential of TAP and scaling up. It will produce white papers and targeted policy briefs to support co-creation in labs (WP2); followed by a report on major policy directions for TAP upscaling leveraging on co-creation experiences in labs.

-TASK 5.1 POLICY: Governance & policy mechanisms and opportunities for TAP adoption (months 1-36) (lead: USAL, co-lead: FTC, contributors: CMCC, UPV, SEI, SAŽP, KRI, ASU). We will conduct desk literature surveys (including case studies, demonstration projects, published reports and gray literature), interviews and deep dive case studies to document the performance of economic instruments, water allocation systems, nature-based solutions, digital technologies, non-conventional water sources and resilience instruments; examine governance/policy enablers, as well as opportunities and barriers for TAP adoption; and assess transferability. The purpose is to provide tailored analyses by lab that synthesize the diffuse literature and experience on TAP to render it relevant for TAP co-design in T5.2. Analyses will be revised iteratively building on co-design outcomes (T2.2) and taking into account new information from other ongoing HE projects, Missions and Partnerships (T7.3). TAP analyses will be digested into a white paper and lab-specific policy briefs produced ahead of each workshop.

-TASK 5.2 FINANCING: Financing mechanisms to support TAP (months 1-36) (lead: CMCC, co-lead: UoM, contributors: USAL, SEI, SEVEN, ASU, SAŽP). This task will assess ways to finance TAP costs in an equitable and sustainable manner (just financing). This includes financing mechanisms to smoothen the transition to transformational water pricing policies (such as environmental and resource cost recovery), taking into consideration the opportunities available in various EU and national funding mechanisms and policies. A targeted desktop literature survey will be conducted based on data available in on-line repositories, knowledge networks, academic and gray literature, and interviews. The product will be a 'primer' on the financial materiality of TAP that informs co-design in T2.2. Analyses will be adjusted iteratively building on co-design outcomes (T2.2) and taking into account new information from other ongoing HE projects, Missions and Partnerships (T7.3). Analyses will be digested into a white paper, and lab-specific policy briefs produced ahead of each workshop.

-TASK 5.3 UPSCALING: Synthesis and upscaling of key results and recommendations (months: 36-48), lead: USAL, co-lead: SAŽP, contributors: ARPAE, UoM, FTC, UPV, SEI, KRI, AUB. This task will identify legal, policy, regulatory, financial and technical barriers, and reform options for TAP upscaling in the EU and beyond. The assessment will include (1) qualitative desk-based mapping and interpretive analysis, designed to identify key legal, policy, financial, institutional and monitoring barriers for TAP adoption building on T5.1-2 and WP4; and (2) in-reach from co-creation with stakeholders in WP2 (notably T2.2 and T2.4), as well as from key expert groups and policy platforms and networks with whom we will engage (T6.3 & T7.3), so as to identify and synthesize stakeholder and expert opinion concerning legal, policy, financial, institutional and monitoring barriers for TAP adoption. Furthermore, we will develop in partnership with these groups a diverse and flexible suite of reform options to address the barriers identified above. The primary but not exclusive focus will be on reform options at national and EU-level, including policy development options available to relevant authorities in their areas of competence. We will mainstream the assessment of TAP barriers and reform options

into national and supranational (EGD) adaptation strategies/plans, as well as water resources management, disaster risk reduction, sustainable development, and ecosystem protection strategies. The second international workshop will act as the focal point of stakeholder and expert consultation in this context, complemented with consultations conducted in webinars and outreach events. All these materials will be developed into a Policy Notebook (D5.3) meant as a guidance for policy and practice.

Work package WP6 – EXPLOITATION: Exploitation, dissemination and communication

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|----------------------------|---|-------------------------|----------|
| Work Package Number | WP6 | Lead Beneficiary | 7. ARPAE |
| Work Package Name | EXPLOITATION: Exploitation, dissemination and communication | | |
| Start Month | 1 | End Month | 48 |

Objectives

- (1) Design and monitor the Plan for the Dissemination and Exploitation including Communication activities (PDEC); the Data Management Plan (DMP); and the Intellectual Property Rights agreement (IPR);
- (2) Design and deploy high-quality and tailored dissemination, exploitation and communication activities;
- (3) Ensure sustainable adoption of the ecosystem of innovation in living labs;
- (4) Replicate the adoption of the ecosystem of innovation, by establishing inspiration labs across the world that explore robust TAP adoption.

Description

Description of work: WP6 will implement a range of activities enabling an effective exploitation, dissemination, and communication of TRANSCEND methods and results. Together with WP1 and WP2, WP6 will work towards improving awareness of the value added of a knowledgeable deployment of TAP, contributing to its greater uptake. To this end, WP6 will oversee the preparation and implementation of the PDEC, develop and supervise the DMP and the IPR agreement, develop and execute dissemination and outreach strategy, and explore the extension and sustainability of the ecosystem of innovation and its monitoring toolbox and modeling suite through legacy actions.

-TASK 6.1 PLAN: Strategic direction of the PDEC and IPR management plan (months 1-48), lead: USAL, co-lead: ARPAE, contributors: all. This task will develop, oversee and ensure execution (and annual revision) of the project's PDEC and the IPR agreement. We will work closely with lab governance bodies (T1.4) to mobilize stakeholders and engage them in exploitation, dissemination and communication activities, and revise and update the PDEC in our periodic reports to take advantage of emerging synergies across and beyond labs. We will develop visual identity, and design and conduct the strategic supervision of the project website and app (Virtual Forum) to ensure effective communication and information exchange within and across labs.

TASK 6.2 DMP: Data Management Plan (months 1-48), lead: UU, co-lead: UoM, contributors: USAL, UPV, AUB, SEVEN, SEI, CMCC, ARPAE, SAŽP. This task will develop, monitor, and update the DMP (D6.2, D6.4 & D6.7) that defines protocols for collecting, storing and accessing the project's data, including guidelines to make data findable, accessible, interoperable, and re-usable (FAIR) (Section 1.2.7), and open (Section 1.2.6). TRANSCEND will generate large and innovative databases that comprise primary and secondary data (Section 1.2.7), including a groundbreaking database of plausible futures (D3.3) that complements major ongoing efforts in the international scientific community to inform decision-makers and society on water resources management and climate change adaptation. Beyond informing co-creation processes in labs, we will work in partnership with CMIP6 and ISIMIP to ensure wide dissemination of this data across scientists and decision-makers. Moreover, we will embed the database of plausible futures into the core functionality of the Water Risk Filter and other major industry platforms, so as to create tailored results that are user- and industry-relevant. These efforts will be instrumental towards achieving a lasting legacy of our results (input to T6.4). All datasets, except for data held sensitive under the EU's data protection law, will be open access via FAO Aquastat, EEA's WISE and Climate Adapt portal, after the completion of all internal quality checks.

-TASK 6.3 ACTIVITIES: Tailored dissemination and exploitation activities (months 7-48), lead: ARPAE, co-lead: CMCC, contributors: all. This task will implement dissemination and exploitation activities laid down in the PDEC and develop high-quality dissemination and exploitation products tailored in content and format to decision-makers, other stakeholders, citizens and the academia, both within and beyond the geographical area of influence of labs (see Table 2.2.c for a list of exploitation and dissemination measures). All partners will be responsible for carrying out actions for the relevant audiences and stakeholders according to their expertise and geographical context, building on the experiences gained through co-creation in labs. The main communication language for all activities and materials will be English,

with labs' national and regional languages being used to facilitate stakeholder and citizen engagement. Dissemination and exploitation activities will be designed based on the contributions from all WPs and especially WP2 & 5.

-TASK 6.4 LEGACY: Legacy and exploitation beyond the lifespan of the project (months 37-48), lead: CMCC, co-lead: UoM, contributors: USAL, SEI, ARPAE, SAŽP, KRI. This task will ensure a lasting footprint and preserve the legacy of the project. This will include maintenance of outreach platforms and knowledge networks, prolonged (if not perpetual) accessibility of the project's outcomes via major open access portals and repositories, and proper management of the IPR beyond the lifespan of the project. We will explore and develop means to ensure the lasting adoption, replication and update of the ecosystem of innovation (including a business plan—D6.4), maintenance of training platforms, and the identification of 8+ “inspiration labs” where we will adopt and initiate the ecosystem of innovation. This task will also design strategies to ensure the dynamic capabilities identified and stimulated in T1.5 are further strengthened into the future, so as to enhance adaptive efficiency in knowledge networks and lasting improvement and growth in innovations/TAP. Our thorough legacy strategy (D6.5) will be designed based on the contributions from all WPs and especially WP1, 2 & 7.

Work package WP7 – COORDINATION

| | | | |
|----------------------------|--------------|-------------------------|---------|
| Work Package Number | WP7 | Lead Beneficiary | 1. USAL |
| Work Package Name | COORDINATION | | |
| Start Month | 1 | End Month | 48 |

Objectives

- (1) Ensure rapid initiation of the project activities and set up the management bodies;
- (2) Sound, effective and efficient coordination and management of the project, internal communication, performance & impact assessment and management of contingency risks;
- (3) Manage areas of special attention and strategic importance, including ethical aspects and equity and collaboration across relevant HE projects, Missions and Partnerships.

Description

Description of work: WP7 will ensure sound legal, contractual, financial, administrative and ethical management, in compliance with the Grant Agreement (GA) and the Consortium Agreement (CA). WP7 includes project coordination and management; impact assessment and progress monitoring; periodic review; identification of risk of underachievement and contingency planning; quality control; communication among the consortium partners and with the EC; coordination of management bodies; and the management of areas of strategic importance. WP7 will also organize all internal meetings, including the annual General Assemblies of the project.

-TASK 7.1 START: Initial implementation activities (months 1-2) (lead USAL, contributors: all). This task will ensure a well-prepared and smooth start of project activities. This includes conducting the negotiations with the EC and promptly responding to all requests towards signing and implementing the GA; implementation of the CA; and preparation of the Inception Report (IR) and roadmap (D7.1). The IR and roadmap will further refine the work plan, specifying in detail the roles and responsibilities of each partner within each task and WP. The period up to the release of the IR will also allow for organizing the kick-off meeting at the premises of the coordinator in Salamanca (month 2) and making operational the project management bodies (see T7.2).

-TASK 7.2 COORD: Coordination, management and performance & impact assessment (months 1-48) (lead: USAL, contributors: all). This task will cover (1) project coordination and management; (2) periodic review; (3) contingency planning; (4) impact assessments and monitoring of project's objectives; (5) communication with the EC; (6) communication with partners; (7) quality control management, and (8) organization of General Assemblies that will be held at partners' premises in Uppsala (month 12), Heraklion (month 24), Valencia (month 35) and Venice (final project conference, month 48). This task will produce periodic (month 18, 36 and 48) progress reports to inform the EC on the implementation of TRANSCEND, including an assessment of ethical aspects, impacts, and contingency risks and measures. The project coordinator Dr. Pérez-Blanco will work side-by-side with deputy Dr. Pindado, project manager Mrs Gil-Ingelmo and USAL financial & legal departments, which will appoint an ethics mentor, forming a coordination unit that assures strategic guidance and effective implementation of these tasks in collaboration with partners and the project management bodies. The project management bodies include:

>Management Board composed of WP leads and co-leads, will meet online every 3 months to monitor and review the

progress and results, conduct quality control (internal review), proactively identify critical risks & challenges, and revise the contingency risk measures.

>Project Steering Committee, a collegial decision-making body composed of one representative from each consortium member, will meet every 6 months to deliberate on strategic choices such as GA/CA amendments.

>External Advisory Board composed of outstanding science, finance and policy experts, will provide advice on scientific direction and impacts, help to identify existing synergies, support impactful exploitation, and conduct quality control (external review, supported by stakeholders as part of our open-science strategy—see Section 1.2.6).

-TASK 7.3 MANAGEMENT: Management areas of special attention and strategic importance (months 1-48) (lead: USAL, contributors: CMCC, UU, UPV, SEI, UoM). This task will manage areas of special attention and strategic importance, including:

>Ethics and responsible research and innovation (RRI). We will oversee compliance with principles of ethical conduct, equal opportunities and RRI. This includes ensuring gender balance is pursued and achieved in labs and the Consortium. Collection and treatment of sensible data will be compliant with General Data Protection Regulation rules (2016/679). A thorough screening of any potential concern will be conducted in D7.2 and revised in periodic progress reports alongside the ethics mentor appointed by USAL.

>Collaboration with other HE projects, Missions and Partnerships to exploit synergies and avoid redundancies, and contribute jointly to the HE Program objectives and priorities (feeding into all WPs & tasks and especially T5.1-3).

STAFF EFFORT

| Staff effort per participant | | | | | | | | | |
|--|--------|--------|--------|-------|-------|--------|-------|---------------------|--------|
| <i>Grant Preparation (Work packages - Effort screen) — Enter the info.</i> | | | | | | | | | |
| Participant | WP1 | WP2 | WP3 | WP4 | WP5 | WP6 | WP7 | Total Person-Months | |
| 1 - USAL | 10.00 | 10.00 | 22.00 | 7.00 | 16.00 | 12.00 | 16.00 | 16.00 | 93.00 |
| 2 - CMCC | 14.00 | 10.00 | 12.00 | 4.00 | 6.00 | 12.00 | 4.00 | 4.00 | 62.00 |
| 3 - UUI | 4.00 | 10.00 | 24.00 | 2.00 | | 8.00 | 4.00 | 4.00 | 52.00 |
| 4 - FTC | 1.00 | 1.00 | | | 4.00 | 1.00 | 1.00 | 1.00 | 8.00 |
| 5 - UPV | 10.00 | 17.00 | 13.00 | 12.00 | 5.00 | 7.00 | 3.00 | 3.00 | 67.00 |
| 6 - SEI | 12.00 | 21.00 | 12.00 | 5.00 | 5.00 | 8.00 | 4.00 | 4.00 | 67.00 |
| 7 - ARPAAE | 8.00 | 9.00 | 3.00 | 4.00 | 2.00 | 13.00 | 3.00 | 3.00 | 42.00 |
| 8 - SAŽP | 11.00 | 12.00 | 4.00 | 6.00 | 15.00 | 11.00 | 3.00 | 3.00 | 62.00 |
| 9 - SEVEN | 8.00 | 9.00 | 11.00 | 9.00 | 3.00 | 4.00 | 3.00 | 3.00 | 47.00 |
| 10 - AUB | 7.00 | 8.00 | 3.00 | 4.00 | 2.00 | 4.00 | 3.00 | 3.00 | 31.00 |
| 11 - KRI | 7.00 | 10.00 | 9.00 | 6.00 | 4.00 | 9.00 | 3.00 | 3.00 | 48.00 |
| 12 - SVP | | 3.00 | 3.00 | 2.00 | | 1.00 | 1.00 | 1.00 | 10.00 |
| 13 - IRAP | | 5.00 | 3.00 | 3.00 | | 1.00 | 1.00 | 1.00 | 13.00 |
| 14 - ASU | | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | 4.00 |
| 15 - UoM | 9.00 | 10.00 | 17.00 | 17.00 | 5.00 | 10.00 | 4.00 | 4.00 | 72.00 |
| Total Person-Months | 101.00 | 136.00 | 136.00 | 81.00 | 68.00 | 102.00 | 54.00 | 54.00 | 678.00 |



LIST OF DELIVERABLES

| Deliverables | | | | | | |
|---|--|------------------------|-------------------------|----------------------------------|----------------------------|-------------------------|
| <i>Grant Preparation (Deliverables screen) — Enter the info.</i> | | | | | | |
| <i>The labels used mean:</i> | | | | | | |
| <i>Public — fully open (🚩 automatically posted online)</i> | | | | | | |
| <i>Sensitive — limited under the conditions of the Grant Agreement</i> | | | | | | |
| <i>EU classified — RESTREINT-UE/EU-RESTRICTED, CONFIDENTIEL-UE/EU-CONFIDENTIAL, SECRET-UE/EU-SECRET under Decision 2015/444</i> | | | | | | |
| Deliverable No | Deliverable Name | Work Package No | Lead Beneficiary | Type | Dissemination Level | Due Date (month) |
| D1.1 | Stakeholder mapping by lab | WP1 | 2 - CMCC | R — Document, report | PU - Public | 7 |
| D1.2 | Rules of Engagement | WP1 | 2 - CMCC | R — Document, report | PU - Public | 7 |
| D1.3 | Guidance for scenathons | WP1 | 6 - SEI | R — Document, report | PU - Public | 11 |
| D1.4 | Knowledge networks mid-term report | WP1 | 6 - SEI | R — Document, report | PU - Public | 24 |
| D1.5 | Knowledge networks final report | WP1 | 2 - CMCC | R — Document, report | PU - Public | 48 |
| D2.1 | Blueprints of the modelling suite by lab | WP2 | 5 - UPV | R — Document, report | PU - Public | 8 |
| D2.2 | Co-creation Report I | WP2 | 6 - SEI | R — Document, report | PU - Public | 18 |
| D2.3 | Co-creation Report II | WP2 | 6 - SEI | R — Document, report | PU - Public | 36 |
| D2.4 | Co-creation Report III | WP2 | 6 - SEI | R — Document, report | PU - Public | 44 |
| D3.1 | White paper: methods and models | WP3 | 1 - USAL | R — Document, report | PU - Public | 7 |
| D3.2 | Modeling suite prototype and sourcebook | WP3 | 1 - USAL | OTHER | PU - Public | 16 |
| D3.3 | Database of plausible futures and sourcebook | WP3 | 3 - UU | DATA — data sets, microdata, etc | PU - Public | 36 |
| D4.1 | White paper: monitoring and enforcement | WP4 | 15 - UoM | R — Document, report | PU - Public | 7 |



| Deliverables | | | | | | |
|---|--|------------------------|-------------------------|----------------------------------|----------------------------|-------------------------|
| <i>Grant Preparation (Deliverables screen) — Enter the info.</i> | | | | | | |
| <i>The labels used mean:</i> | | | | | | |
| <i>Public — fully open (⚠ automatically posted online)</i> | | | | | | |
| <i>Sensitive — limited under the conditions of the Grant Agreement</i> | | | | | | |
| <i>EU classified — RESTREINT-UE/EU-RESTRICTED, CONFIDENTIEL-UE/EU-CONFIDENTIAL, SECRET-UE/EU-SECRET under Decision 2015/444</i> | | | | | | |
| Deliverable No | Deliverable Name | Work Package No | Lead Beneficiary | Type | Dissemination Level | Due Date (month) |
| D4.2 | White paper: socioeconomic scenarios by lab | WP4 | 2 - CMCC | R — Document, report | PU - Public | 7 |
| D4.3 | Database of TAP monitoring and sourcebook | WP4 | 15 - UoM | DATA — data sets, microdata, etc | PU - Public | 12 |
| D4.4 | Water accounting and impact assessment toolbox prototype | WP4 | 15 - UoM | OTHER | PU - Public | 18 |
| D4.5 | Scenarios database and sourcebook | WP4 | 2 - CMCC | DATA — data sets, microdata, etc | PU - Public | 36 |
| D4.6 | Populated water accounting and impact assessment toolbox | WP4 | 15 - UoM | DATA — data sets, microdata, etc | PU - Public | 44 |
| D5.1 | White paper: governance/policy enablers/barriers | WP5 | 1 - USAL | R — Document, report | PU - Public | 7 |
| D5.2 | White paper: financing mechanisms | WP5 | 2 - CMCC | R — Document, report | PU - Public | 18 |
| D5.3 | Policy notebook | WP5 | 1 - USAL | R — Document, report | PU - Public | 48 |
| D6.1 | Detailed and revised PDEC and IPR strategy | WP6 | 1 - USAL | R — Document, report | PU - Public | 4 |
| D6.2 | Data Management Plan | WP6 | 3 - UU | DMP — Data Management Plan | PU - Public | 6 |
| D6.3 | First Exploitation, dissemination and communication report | WP6 | 2 - CMCC | R — Document, report | PU - Public | 18 |

**Deliverables**

Grant Preparation (Deliverables screen) — Enter the info.

The labels used mean:

Public — fully open (⚠ automatically posted online)

Sensitive — limited under the conditions of the Grant Agreement

EU classified — RESTREINT-UE/EU-RESTRICTED, CONFIDENTIEL-UE/EU-CONFIDENTIAL, SECRET-UE/EU-SECRET under Decision [2015/444](#)

| Deliverable No | Deliverable Name | Work Package No | Lead Beneficiary | Type | Dissemination Level | Due Date (month) |
|----------------|--|-----------------|------------------|----------------------------|---------------------|------------------|
| D6.4 | Data Management Plan - Update | WP6 | 15 - UoM | DMP — Data Management Plan | PU - Public | 24 |
| D6.5 | Second exploitation, dissemination and communication report & business plan | WP6 | 7 - ARPAAE | R — Document, report | PU - Public | 36 |
| D6.6 | Third exploitation, dissemination and communication report & legacy strategy | WP6 | 2 - CMCC | R — Document, report | PU - Public | 48 |
| D6.7 | Data Management Plan - Final version | WP6 | 3 - UUU | DMP — Data Management Plan | PU - Public | 48 |
| D7.1 | Inception Report and roadmap | WP7 | 1 - USAL | R — Document, report | PU - Public | 2 |
| D7.2 | Ethics Management Plan | WP7 | 5 - UPV | R — Document, report | PU - Public | 6 |

Deliverable D1.1 – Stakeholder mapping by lab

| | | | |
|---------------------------|----------------------------|----------------------------|-------------|
| Deliverable Number | D1.1 | Lead Beneficiary | 2. CMCC |
| Deliverable Name | Stakeholder mapping by lab | | |
| Type | R — Document, report | Dissemination Level | PU - Public |
| Due Date (month) | 7 | Work Package No | WP1 |

| |
|----------------------------|
| Description |
| Stakeholder mapping by lab |

Deliverable D1.2 – Rules of Engagement

| | | | |
|---------------------------|----------------------|----------------------------|-------------|
| Deliverable Number | D1.2 | Lead Beneficiary | 2. CMCC |
| Deliverable Name | Rules of Engagement | | |
| Type | R — Document, report | Dissemination Level | PU - Public |
| Due Date (month) | 7 | Work Package No | WP1 |

| |
|---------------------|
| Description |
| Rules of Engagement |

Deliverable D1.3 – Guidance for scenathons

| | | | |
|---------------------------|-------------------------|----------------------------|-------------|
| Deliverable Number | D1.3 | Lead Beneficiary | 6. SEI |
| Deliverable Name | Guidance for scenathons | | |
| Type | R — Document, report | Dissemination Level | PU - Public |
| Due Date (month) | 11 | Work Package No | WP1 |

| |
|-------------------------|
| Description |
| Guidance for scenathons |

Deliverable D1.4 – Knowledge networks mid-term report

| | | | |
|---------------------------|------------------------------------|----------------------------|-------------|
| Deliverable Number | D1.4 | Lead Beneficiary | 6. SEI |
| Deliverable Name | Knowledge networks mid-term report | | |
| Type | R — Document, report | Dissemination Level | PU - Public |
| Due Date (month) | 24 | Work Package No | WP1 |

| |
|------------------------------------|
| Description |
| Knowledge networks mid-term report |

Deliverable D1.5 – Knowledge networks final report

| | | | |
|---------------------------|---------------------------------|----------------------------|-------------|
| Deliverable Number | D1.5 | Lead Beneficiary | 2. CMCC |
| Deliverable Name | Knowledge networks final report | | |
| Type | R — Document, report | Dissemination Level | PU - Public |
| Due Date (month) | 48 | Work Package No | WP1 |

| |
|---------------------------------|
| Description |
| Knowledge networks final report |

Deliverable D2.1 – Blueprints of the modelling suite by lab

| | | | |
|---------------------------|--|----------------------------|-------------|
| Deliverable Number | D2.1 | Lead Beneficiary | 5. UPV |
| Deliverable Name | Blueprints of the modelling suite by lab | | |
| Type | R — Document, report | Dissemination Level | PU - Public |
| Due Date (month) | 8 | Work Package No | WP2 |

| |
|--|
| Description |
| Blueprints of the modelling suite by lab |

Deliverable D2.2 – Co-creation Report I

| | | | |
|---------------------------|----------------------|----------------------------|-------------|
| Deliverable Number | D2.2 | Lead Beneficiary | 6. SEI |
| Deliverable Name | Co-creation Report I | | |
| Type | R — Document, report | Dissemination Level | PU - Public |
| Due Date (month) | 18 | Work Package No | WP2 |

| |
|----------------------|
| Description |
| Co-creation Report I |

Deliverable D2.3 – Co-creation Report II

| | | | |
|---------------------------|-----------------------|----------------------------|-------------|
| Deliverable Number | D2.3 | Lead Beneficiary | 6. SEI |
| Deliverable Name | Co-creation Report II | | |
| Type | R — Document, report | Dissemination Level | PU - Public |
| Due Date (month) | 36 | Work Package No | WP2 |

| |
|-----------------------|
| Description |
| Co-creation Report II |

Deliverable D2.4 – Co-creation Report III

| | | | |
|---------------------------|------------------------|----------------------------|-------------|
| Deliverable Number | D2.4 | Lead Beneficiary | 6. SEI |
| Deliverable Name | Co-creation Report III | | |
| Type | R — Document, report | Dissemination Level | PU - Public |
| Due Date (month) | 44 | Work Package No | WP2 |

| |
|------------------------|
| Description |
| Co-creation Report III |

Deliverable D3.1 – White paper: methods and models

| | | | |
|---------------------------|---------------------------------|----------------------------|-------------|
| Deliverable Number | D3.1 | Lead Beneficiary | 1. USAL |
| Deliverable Name | White paper: methods and models | | |
| Type | R — Document, report | Dissemination Level | PU - Public |
| Due Date (month) | 7 | Work Package No | WP3 |

| |
|---------------------------------|
| Description |
| White paper: methods and models |

Deliverable D3.2 – Modeling suite prototype and sourcebook

| | | | |
|---------------------------|---|----------------------------|-------------|
| Deliverable Number | D3.2 | Lead Beneficiary | 1. USAL |
| Deliverable Name | Modeling suite prototype and sourcebook | | |
| Type | OTHER | Dissemination Level | PU - Public |
| Due Date (month) | 16 | Work Package No | WP3 |

| |
|---|
| Description |
| Modeling suite prototype and sourcebook |

Deliverable D3.3 – Database of plausible futures and sourcebook

| | | | |
|---------------------------|--|----------------------------|-------------|
| Deliverable Number | D3.3 | Lead Beneficiary | 3. UU |
| Deliverable Name | Database of plausible futures and sourcebook | | |
| Type | DATA — data sets, microdata, etc | Dissemination Level | PU - Public |
| Due Date (month) | 36 | Work Package No | WP3 |

| |
|--|
| Description |
| Database of plausible futures and sourcebook |

Deliverable D4.1 – White paper: monitoring and enforcement

| | | | |
|---------------------------|---|----------------------------|-------------|
| Deliverable Number | D4.1 | Lead Beneficiary | 15. UoM |
| Deliverable Name | White paper: monitoring and enforcement | | |
| Type | R — Document, report | Dissemination Level | PU - Public |
| Due Date (month) | 7 | Work Package No | WP4 |

| |
|---|
| Description |
| White paper: monitoring and enforcement |

Deliverable D4.2 – White paper: socioeconomic scenarios by lab

| | | | |
|---------------------------|---|----------------------------|-------------|
| Deliverable Number | D4.2 | Lead Beneficiary | 2. CMCC |
| Deliverable Name | White paper: socioeconomic scenarios by lab | | |
| Type | R — Document, report | Dissemination Level | PU - Public |
| Due Date (month) | 7 | Work Package No | WP4 |

| |
|---|
| Description |
| White paper: socioeconomic scenarios by lab |

Deliverable D4.3 – Database of TAP monitoring and sourcebook

| | | | |
|---------------------------|---|----------------------------|-------------|
| Deliverable Number | D4.3 | Lead Beneficiary | 15. UoM |
| Deliverable Name | Database of TAP monitoring and sourcebook | | |
| Type | DATA — data sets, microdata, etc | Dissemination Level | PU - Public |
| Due Date (month) | 12 | Work Package No | WP4 |

| |
|---|
| Description |
| Database of TAP monitoring and sourcebook |

Deliverable D4.4 – Water accounting and impact assessment toolbox prototype

| | | | |
|---------------------------|--|----------------------------|-------------|
| Deliverable Number | D4.4 | Lead Beneficiary | 15. UoM |
| Deliverable Name | Water accounting and impact assessment toolbox prototype | | |
| Type | OTHER | Dissemination Level | PU - Public |
| Due Date (month) | 18 | Work Package No | WP4 |

| |
|--|
| Description |
| Water accounting and impact assessment toolbox prototype |

Deliverable D4.5 – Scenarios database and sourcebook

| | | | |
|---------------------------|-----------------------------------|----------------------------|-------------|
| Deliverable Number | D4.5 | Lead Beneficiary | 2. CMCC |
| Deliverable Name | Scenarios database and sourcebook | | |
| Type | DATA — data sets, microdata, etc | Dissemination Level | PU - Public |
| Due Date (month) | 36 | Work Package No | WP4 |

| |
|-----------------------------------|
| Description |
| Scenarios database and sourcebook |

Deliverable D4.6 – Populated water accounting and impact assessment toolbox

| | | | |
|---------------------------|--|----------------------------|-------------|
| Deliverable Number | D4.6 | Lead Beneficiary | 15. UoM |
| Deliverable Name | Populated water accounting and impact assessment toolbox | | |
| Type | DATA — data sets, microdata, etc | Dissemination Level | PU - Public |
| Due Date (month) | 44 | Work Package No | WP4 |

| |
|--|
| Description |
| Populated water accounting and impact assessment toolbox |

Deliverable D5.1 – White paper: governance/policy enablers/barriers

| | | | |
|---------------------------|--|----------------------------|-------------|
| Deliverable Number | D5.1 | Lead Beneficiary | 1. USAL |
| Deliverable Name | White paper: governance/policy enablers/barriers | | |
| Type | R — Document, report | Dissemination Level | PU - Public |
| Due Date (month) | 7 | Work Package No | WP5 |

| |
|--|
| Description |
| White paper: governance/policy enablers/barriers |

Deliverable D5.2 – White paper: financing mechanisms

| | | | |
|---------------------------|-----------------------------------|----------------------------|-------------|
| Deliverable Number | D5.2 | Lead Beneficiary | 2. CMCC |
| Deliverable Name | White paper: financing mechanisms | | |
| Type | R — Document, report | Dissemination Level | PU - Public |
| Due Date (month) | 18 | Work Package No | WP5 |

| |
|-----------------------------------|
| Description |
| White paper: financing mechanisms |

Deliverable D5.3 – Policy notebook

| | | | |
|---------------------------|----------------------|----------------------------|-------------|
| Deliverable Number | D5.3 | Lead Beneficiary | 1. USAL |
| Deliverable Name | Policy notebook | | |
| Type | R — Document, report | Dissemination Level | PU - Public |
| Due Date (month) | 48 | Work Package No | WP5 |

| |
|--------------------|
| Description |
| Policy notebook |

Deliverable D6.1 – Detailed and revised PDEC and IPR strategy

| | | | |
|---------------------------|--|----------------------------|-------------|
| Deliverable Number | D6.1 | Lead Beneficiary | 1. USAL |
| Deliverable Name | Detailed and revised PDEC and IPR strategy | | |
| Type | R — Document, report | Dissemination Level | PU - Public |
| Due Date (month) | 4 | Work Package No | WP6 |

| |
|--|
| Description |
| Detailed and revised PDEC and IPR strategy |

Deliverable D6.2 – Data Management Plan

| | | | |
|---------------------------|----------------------------|----------------------------|-------------|
| Deliverable Number | D6.2 | Lead Beneficiary | 3. UU |
| Deliverable Name | Data Management Plan | | |
| Type | DMP — Data Management Plan | Dissemination Level | PU - Public |
| Due Date (month) | 6 | Work Package No | WP6 |

| |
|----------------------|
| Description |
| Data Management Plan |

Deliverable D6.3 – First Exploitation, dissemination and communication report

| | | | |
|---------------------------|--|----------------------------|-------------|
| Deliverable Number | D6.3 | Lead Beneficiary | 2. CMCC |
| Deliverable Name | First Exploitation, dissemination and communication report | | |
| Type | R — Document, report | Dissemination Level | PU - Public |
| Due Date (month) | 18 | Work Package No | WP6 |

| |
|--|
| Description |
| First exploitation, dissemination and communication report |

Deliverable D6.4 – Data Management Plan - Update

| | | | |
|---------------------------|-------------------------------|----------------------------|-------------|
| Deliverable Number | D6.4 | Lead Beneficiary | 15. UoM |
| Deliverable Name | Data Management Plan - Update | | |
| Type | DMP — Data Management Plan | Dissemination Level | PU - Public |
| Due Date (month) | 24 | Work Package No | WP6 |

| |
|-------------------------------|
| Description |
| Data Management Plan - Update |

Deliverable D6.5 – Second exploitation, dissemination and communication report & business plan

| | | | |
|---------------------------|---|----------------------------|-------------|
| Deliverable Number | D6.5 | Lead Beneficiary | 7. ARPAE |
| Deliverable Name | Second exploitation, dissemination and communication report & business plan | | |
| Type | R — Document, report | Dissemination Level | PU - Public |
| Due Date (month) | 36 | Work Package No | WP6 |

| |
|---|
| Description |
| Second exploitation, dissemination and communication report & business plan |

Deliverable D6.6 – Third exploitation, dissemination and communication report & legacy strategy

| | | | |
|---------------------------|--|----------------------------|-------------|
| Deliverable Number | D6.6 | Lead Beneficiary | 2. CMCC |
| Deliverable Name | Third exploitation, dissemination and communication report & legacy strategy | | |
| Type | R — Document, report | Dissemination Level | PU - Public |
| Due Date (month) | 48 | Work Package No | WP6 |

| |
|--|
| Description |
| Third exploitation, dissemination and communication report & legacy strategy |

Deliverable D6.7 – Data Management Plan - Final version

| | | | |
|---------------------------|--------------------------------------|----------------------------|-------------|
| Deliverable Number | D6.7 | Lead Beneficiary | 3. UU |
| Deliverable Name | Data Management Plan - Final version | | |
| Type | DMP — Data Management Plan | Dissemination Level | PU - Public |
| Due Date (month) | 48 | Work Package No | WP6 |

| |
|--------------------|
| Description |
|--------------------|

Data Management Plan - Final version

Deliverable D7.1 – Inception Report and roadmap

| | | | |
|---------------------------|------------------------------|----------------------------|-------------|
| Deliverable Number | D7.1 | Lead Beneficiary | 1. USAL |
| Deliverable Name | Inception Report and roadmap | | |
| Type | R — Document, report | Dissemination Level | PU - Public |
| Due Date (month) | 2 | Work Package No | WP7 |

Description

Inception Report and roadmap

Deliverable D7.2 – Ethics Management Plan

| | | | |
|---------------------------|------------------------|----------------------------|-------------|
| Deliverable Number | D7.2 | Lead Beneficiary | 5. UPV |
| Deliverable Name | Ethics Management Plan | | |
| Type | R — Document, report | Dissemination Level | PU - Public |
| Due Date (month) | 6 | Work Package No | WP7 |

Description

Ethics Management Plan



LIST OF MILESTONES

| Milestones | | | | | | |
|--|--|------------------------|-------------------------|--|-------------------------|--|
| <i>Grant Preparation (Milestones screen) — Enter the info.</i> | | | | | | |
| Milestone No | Milestone Name | Work Package No | Lead Beneficiary | Means of Verification | Due Date (month) | |
| 1 | First local workshop | WP1 | 2-CMCC | Workshop minutes and video online in Virtual Forum | 8 | |
| 2 | Second local workshop | WP1 | 2-CMCC | Workshop minutes and video online in Virtual Forum | 19 | |
| 3 | Third local workshop | WP1 | 2-CMCC | Workshop minutes and video online in Virtual Forum | 30 | |
| 4 | Fourth local workshop | WP1 | 2-CMCC | Workshop minutes and video online in Virtual Forum | 36 | |
| 5 | First International Workshop | WP1 | 2-CMCC | Workshop minutes and video online in Virtual Forum | 25 | |
| 6 | Second International workshop | WP1 | 2-CMCC | Workshop minutes and video online in Virtual Forum | 42 | |
| 7 | Draft of first report on co-creation | WP2 | 6-SEI | Presented at workshops; available online | 17 | |
| 8 | Draft of second report on co-creation | WP2 | 6-SEI | Presented at workshops; available online | 35 | |
| 9 | Draft of third report on co-creation | WP2 | 6-SEI | Presented at workshops; available online | 43 | |
| 10 | Modeling suite - beta version | WP3 | 3-UU | Online; shared with partners and stakeholders | 13 | |
| 11 | Intermediate database of simulation | WP3 | 3-UU | Online; shared with partners and stakeholders | 25 | |
| 12 | Toolbox - beta version | WP4 | - | Online; shared with partners and stakeholders | 12 | |
| 13 | Intermediate scenarios database | WP4 | - | Online; shared with partners and stakeholders | 25 | |
| 14 | Intermediate accounting and impact assessment database | WP4 | - | Online; shared with partners and stakeholders | 40 | |



| Milestones | | | | | | |
|--|-------------------------------|------------------------|-------------------------|---|-------------------------|--|
| <i>Grant Preparation (Milestones screen) — Enter the info.</i> | | | | | | |
| Milestone No | Milestone Name | Work Package No | Lead Beneficiary | Means of Verification | Due Date (month) | |
| 15 | Draft white paper: governance | WP5 | 1-USAL | Online; shared with partners and stakeholders | 6 | |
| 16 | Draft white paper: financing | WP5 | 1-USAL | Online; shared with partners and stakeholders | 17 | |
| 17 | Draft Policy Notebook | WP5 | 1-USAL | Online; shared with partners and stakeholders | 47 | |
| 18 | Virtual Forum Launched | WP6 | 7-ARPAE | Online; shared with partners and stakeholders | 3 | |
| 19 | First Summer School | WP6 | 7-ARPAE | Online (including event video); shared with partners and stakeholders | 24 | |
| 20 | Second Summer School | WP6 | 7-ARPAE | Online (including event video); shared with partners and stakeholders | 36 | |
| 21 | Citizen-science first event | WP6 | 7-ARPAE | Online; shared by partners' social media | 20 | |
| 22 | Citizen-science second event | WP6 | 7-ARPAE | Online; shared by partners' social media | 40 | |
| 23 | Business plan draft | WP6 | 7-ARPAE | Online & shared across partners and stakeholders; included in D6.5 | 32 | |
| 24 | Kick-off meeting | WP7 | 1-USAL | Meeting reports, minutes and video online | 2 | |
| 25 | First General Assembly | WP7 | 1-USAL | Meeting reports, minutes and video online | 12 | |
| 26 | Second General Assembly | WP7 | 1-USAL | Meeting reports, minutes and video online | 24 | |
| 27 | Third General Assembly | WP7 | 1-USAL | Meeting reports, minutes and video online | 35 | |
| 28 | Final General Assembly | WP7 | 1-USAL | Meeting reports, minutes and video online | 48 | |



LIST OF CRITICAL RISKS

| Critical risks & risk management strategy <i>Grant Preparation (Critical Risks screen) — Enter the info.</i> | | | |
|--|--|---------------------------|---|
| Risk number | Description | Work Package No(s) | Proposed Mitigation Measures |
| 1 | Mobility restrictions (Lhigh, S medium, very well managed) | WP6, WP2 | <ul style="list-style-type: none"> • Online Virtual Forum (website, mobile app) encompassing all project communication channels, access to workshops and meetings; • Stakeholders and partners under mobility restrictions will participate in workshops and meetings through the Virtual Forum; • Local workshops can be postponed up to 4 months in the event of mobility restrictions; after this period workshops held online; • Large meeting rooms to keep social distancing; well-designed and empirically tested COVID-19 protocols will be enforced; • General assemblies can be relocated following mobility restrictions; • Remote access to key infrastructures available (e.g. supercomputer). |
| 2 | Weak, inconsistent or unbalanced stakeholder engagement (L low, S high, well managed) | WP6, WP1, WP2 | <ul style="list-style-type: none"> • Key expertise in stakeholder-driven co-creation (see Section 3.2); • Continued & efficient online meetings, periodic in-person meetings; • WP1 continuously monitors & enhances stakeholder engagement, including Impact Champions and integration of stakeholder needs (T1.6). |
| 3 | Policy instability and institutional paralysis interrupt and/or delay co-creation in labs, such as Orontes, Mahanadi and Caplina-MauriDesaguadero (L medium, S high, well managed) | WP2 | <ul style="list-style-type: none"> • Engagement of crisis-resilient informal (i.e. non-institutionalized) stakeholders (e.g. farmer communities) on top of formal ones; • Institutions represented by a knowledgeable civil servant, on top of a policy representative, to ensure continuity; • Explore informal TAP (e.g. mutual funds, voluntary reallocation, quotas); • Tested contingency planning & successfully implemented int'l projects, including during periods of civil disorder (AUB, SEI, IRAP); • Local network manager and scientific coordinator in labs for effective monitoring and knowledgeable management |
| 4 | Socioeconomic and ecological value of TAP either low or inconclusive (L low, S medium, and avertable) | WP5, WP2 | <ul style="list-style-type: none"> • Preliminary TAP carefully chosen, building upon previous research, stakeholder feedback and thorough assessment; • Co-design TAP and identify and address what genuine public policy concerns prevent the adoption of TAP; |



Critical risks & risk management strategy

Grant Preparation (Critical Risks screen) — Enter the info.

| Risk number | Description | Work Package No(s) | Proposed Mitigation Measures |
|-------------|--|-----------------------------------|--|
| 5 | Deep uncertainty prevents consensus (L low, S high, very well managed) | WP5, WP2 | <ul style="list-style-type: none"> • Meticulous analysis of barriers and how to overcome them (WP5). • Clear expectations and awareness established from the beginning; • Talanoa dialogue for constructive and empathic engagement; • Experimental learning towards effective co-creation in scenathons; • Mechanistic models and heuristics used to inform decision-making. |
| 6 | Data quality and gaps (L very low, S medium, and addressed) | WP4, WP3 | <ul style="list-style-type: none"> • Ex-ante data availability checks already conducted in labs; • Stakeholders in labs agreed to make relevant data available; • Several models for the suite already validated in labs by partners; • Modular approach allows replacing models |
| 7 | Inadequate integration of interdisciplinary methods, indefensible results (L low, S high, and addressed) | WP4, WP3 | <ul style="list-style-type: none"> • Modular approach tested in key initiatives (CMIP6, ISIMIP) provides flexibility to link systems; • Key expertise on socio-ecological and ensemble modeling by partners; • Internal and external review mechanism; • Use of labs DSS fosters understanding, advocacy and acceptance of results. |
| 8 | Changes in the HE status of UK partners, or exit of a key partner (L and S very low and manageable) | WP6, WP4, WP5, WP1, WP3, WP2, WP7 | <ul style="list-style-type: none"> • UK's financial safety net mechanism will fund successful UK applicants for HE regardless of the outcome of UK association to HE; • Thematic areas covered by 3+ partners with excellent skills, which makes it possible to replace a partner without a significant risk for the achievement of the project objectives (see Section 3.2). |

PROJECT REVIEWS

| Project Reviews | | | |
|---|-----------------------|-----------------|--|
| <i>Grant Preparation (Reviews screen) — Enter the info.</i> | | | |
| Review No | Timing (month) | Location | Comments |
| RV1 | 21 | to be decided | Contact the Project Officer at least 3 months in advance |
| RV2 | 39 | to be decided | Contact the Project Officer at least 3 months in advance |
| RV3 | 49 | to be decided | Contact the Project Officer at least 3 months in advance |

Part B: technical description

TRANSCEND

TRANSFORMATIONAL AND ROBUST ADAPTATION TO WATER SCARCITY AND CLIMATE CHANGE UNDER DEEP UNCERTAINTY

List of participants

| Participant No. * | Participant organization name | Country |
|----------------------|--|----------|
| 1 USAL (Coordinator) | Universidad de Salamanca | Spain |
| 2 CMCC | Centro Euro-Mediterraneo sui Cambiamenti Climatici | Italy |
| 3 UU | Uppsala Universitet | Sweden |
| 4 FTC | Fresh Thoughts Consulting | Austria |
| 5 UPV | Universitat Politècnica de València | Spain |
| 6 SEI | Stockholm Environment Institute | Sweden |
| 7 ARPAE | Agenzia regionale per la prevenzione, l'ambiente e l'energia dell'Emilia-Romagna | Italy |
| 8 SAŽP | Slovak Environment Agency | Slovakia |
| 9 SEVEN | Solutions for the Environment and Engineering | Greece |
| 10 AUB | American University of Beirut | Lebanon |
| 11 KRI | Region of Crete | Greece |
| 12 SVP | Slovak Water Management Enterprise | Slovakia |
| 13 IRAP | Institute for Resource Analysis and Policy | India |
| 14 ASU | Arizona State University | US |
| 15 UoM | University of Manchester | UK |

Executive summary

Worldwide, water resources management is increasingly challenged by the systemic nature of water scarcity and climate change, which can trigger and aggravate other ecological (e.g. pests) and socioeconomic threats (e.g. commodity price fluctuations) via feedback loops and cascading impacts across systems. In this context, planning for the future is rife with uncertainties for which conventional decision-making methods and policies are inadequate. **The objective of TRANSCEND** is to identify and catalyze the adoption of Transformational Adaptation Policies (TAP) to water scarcity, including innovative allocation systems and economic instruments, that are **robust and adaptable** to uncertainty and change, while simultaneously achieving equitable and sustainable economic growth and welfare outcomes. To this end, TRANSCEND will develop a **groundbreaking ecosystem of innovation** that combines three key pillars: (i) a *knowledge network* for stakeholder engagement and knowledge sharing, (ii) an actionable *modeling suite* that integrates interdisciplinary socio-ecological science and ensemble forecasting to guide TAP design, and (iii) an *accounting and monitoring toolbox* that supports implementation and enforcement of TAP in practice. TRANSCEND will apply the ecosystem of innovation to design and *implement* TAP in **7 living labs** facing growing water scarcity: Júcar River Basin (RB) (Spain); Reno RB (Italy); Tympaki RB (Crete, Greece); Nitra RB (Slovakia); Caplina-Mauri-Desaguadero System (Peru, Chile and Bolivia); Orontes RB (Lebanon, Syria and Turkey); and Mahanadi RB (Indian states of Chhattisgarh and Odisha). TRANSCEND will leverage this diverse set of demonstrators to initiate adoption of the ecosystem of innovation in 8+ inspiration labs, train 160+ transformation agents on project methods, and mainstream uncertainty analysis in key national and European Green Deal strategies. This will provide the knowledge and tools to catalyze *robust* and systemic transformations to water scarcity and climate change in Europe -including the regions enrolled in the Mission on climate adaptation- and globally, with a clear impact pathway towards TAP adoption in 100+ basins by 2030.

History of changes

| Version | Changes | Date | By |
|---------|--|------------|--------------|
| v1 | Original submission | 23/02/2022 | All partners |
| v2 | 1. Reviewers' comments in the Evaluation Summary Report addressed. 2. UoM changes its status to Associated Partner and Union funding is replaced by resources provided by UKRI. Total EU funding is reduced accordingly and Part B revised for consistency throughout. 3. Tania Santos replaces Angélica Moncada as SEI's PI. | 15/07/2022 | USAL, UoM |
| v3 | 1. The justification for purchase costs for participants where these costs exceed 15% of personnel costs has been updated with further details. 2. Section 4 (Ethics Self-Assessment) has been added. | 12/08/2022 | USAL |
| v4 | 1. Sections 3.1.1 "Detailed work description" and 3.1.2 "List of critical risks" were inserted in part A, therefore have been removed (together with tables) from part B. Same for table 3.1.f. 2. The timing of the periodic reports in WP2 and 6 has been adjusted to the reporting periods. 4. Other typos identified by the Project Officer have been addressed. | 09/09/2022 | USAL |
| v5 | 1. Following guidance from the Project Officer, progress reports to inform the EC on the implementation of the project in month 18, 36 and 48 (D7.3-5) have been removed from the list of deliverables – they will be produced as a separate output to the EC. 2. Delivery dates for D2.2-4 and D6.3, 6.5, 6.6 have been adjusted to the reporting periods so that they are available for the progress report. 3. Mid-project (month 24) and end-of-the-project (month 48) updates for the DMP have been added as separate deliverables (D6.4 and D6.7, respectively). | 12/09/2022 | USAL |

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1. Excellence

1.1 Objectives and ambition

Water scarcity, exacerbated by climate change, is an “existential threat” to societies and nature in many parts of the world (UNDRR, 2021). Water-stressed regions have seen their annual GDP growth rates decline by as much as 2.5% due to water-related impacts, and this figure could more than double by 2050 (2030 Water Resources Group, 2020; UN, 2020). Avoiding this “misery in slow motion” (World Bank, 2017) calls for fundamental changes in water management through **Transformational Adaptation Policies (TAP)**, i.e., systemic (much larger scale) and/or paradigm shifts (truly new to a particular location) that integrate the adaptation of ecosystems and economic sectors to climate change with the coordinated development and management of water, land and related resources, leveraging on **water allocation systems and economic instruments** (UNEP, 2021; UN, 2020; OECD, 2021).

However, TAP have proven to be elusive (UN, 2020). New threats and correlations across complex and interconnected socioeconomic and ecological systems are emerging in ways that had not been anticipated, more quickly than previously thought possible. Consistently, decision makers and policy approaches to water resources management are “surprised and overwhelmed” by the systemic nature of water scarcity and climate change, which can trigger and aggravate other ecological (e.g., pests) and socioeconomic threats (e.g., commodity price fluctuations) via feedback loops and cascading impacts across systems (UNDRR, 2021). In this context, planning for the future is characterized by a high degree of uncertainty, or **deep uncertainty**, a situation where experts and policy makers do not know or cannot agree on (1) the external context of the system and its evolution, (2) how systems work and interrelate, and/or (3) how to value the desirability of alternative and potentially conflicting outcomes (Lempert et al., 2006).

Under deep uncertainty, standard decision-making based on probabilistic description of future conditions and optimization of expected performance is no longer appropriate, since it artificially reduces uncertainty and risks providing unrealistically precise information that can lead to maladaptation. Instead, **priority should be given to robustness**, through the identification of policies that deliver a satisfactory performance under most plausible futures (UNEP, 2021). However, despite significant advances in socio-ecological science (Li et al., 2020; Pande and Sivapalan, 2017) and ensemble forecasting ([CMIP6](#), [ISIMIP](#)) that allow for uncertainty assessment and management in complex systems, the standard practice for decision making in river basin planning relies on methods and models that *ignore or insufficiently address uncertainties within and across systems* (Saltelli, 2019).

The objective of TRANSCEND is to identify and catalyze the adoption of **robust TAP** that achieve equitable and sustainable economic and welfare growth. To this end, TRANSCEND will develop a **groundbreaking ecosystem of innovation** that combines an inclusive and transparent stakeholder engagement and knowledge sharing method, the *knowledge networks*, an *actionable modeling suite* that integrates interdisciplinary socio-ecological science and ensemble forecasting, and an *accounting and monitoring toolbox* that supports implementation and enforcement, so as to design, demonstrate performance and implement robust TAP in seven ‘*living labs*’ that catalyze similar processes elsewhere. Specifically, TRANSCEND will explore synergistic TAP that combine complementary and mutually reinforcing (1) economic instruments and (2) water allocation systems; while assessing the interplay between these two and (3) digital technologies (e.g., climate and irrigation services), (4) non-conventional water sources, (5) nature-based solutions, and (6) resilience instruments (e.g., insurance).

1.1.1 Objectives

The objective of TRANSCEND is to identify and catalyze the adoption of robust TAP that achieve equitable and sustainable economic and welfare growth. This main objective is built upon **six specific objectives (SO)** that are *measurable, verifiable and achievable*:

- **SO 01 - Inform:** Analyze models, scenarios and metrics currently used by key stakeholders engaged in water resources management under climate change, and enhance the integration of these models and methods with cutting-edge socio-ecological research and ensemble forecasting, to generate actionable science that informs transformational and robust adaptation towards equitable and sustainable growth [*Measure of verification—MoV: adoption of TRANSCEND modeling suite in 7 living labs*]
- **SO 02 - Demonstrate:** Design and demonstrate institutional and technical feasibility and performance of a transition towards sustainable and equitable economic and welfare growth in water-scarce areas under deep uncertainty [*MoV: transition feasibility and performance demonstrated under different natural and cultural environments in 7 labs*].

- **SO 03 - Transform:** Design, test, and inform the adoption of robust TAP to water scarcity under deep uncertainty, harnessing water allocation systems, economic instruments, digital technologies, non-conventional water resources, nature-based solutions, and resilience instruments [*MoV: 10+ TAP designed and tested per lab and 1 TAP adopted per lab*].
- **SO 04 - Finance:** Develop multi-sector and multi-stakeholder partnerships that create and operationalize novel financing mechanisms to secure sustainable investment into, and cost recovery of, TAP, including investments to update TAP in face of changes, taking into consideration national and EU financing mechanisms [*MoV: achieve sustained funding and resources to maintain and update TRANSCEND ecosystem of innovation and TAP in 5+ living labs*].
- **SO 05 - Institute:** Replicate adoption of the ecosystem of innovation by establishing during the project's lifetime "inspiration" labs across the world that explore robust TAP adoption [*MoV: establish 8+ "inspiration" labs that initiate development of TRANSCEND ecosystem of innovation*].
- **SO-06 - Upscale:** Synthesize and upscale the results obtained in the targeted labs to inform national and international strategies for water resources management, climate adaptation, disaster risk reduction, sustainable development, and ecosystem protection in the EU and beyond [*MoV: mainstream project results and methods in 7+ key national strategies and 4+ EU strategies (including Adaptation to Climate Change, Biodiversity, Farm to Fork and Common Implementation strategies)*].

The main and specific objectives of TRANSCEND have been assessed and **agreed with decision makers and other stakeholders in living labs** over a series of meetings between Dec 2021 and Feb 2022, who have judged them *achievable* within TRANSCEND's lifetime (see Figure 1.1 for a list of key decision makers engaged in the project).

1.1.2 Ambition

TRANSCEND will develop a **groundbreaking ecosystem of innovation** structured across three key pillars: ① knowledge networks, ② actionable modeling suite, and ③ monitoring and accounting toolbox; which will be empirically applied in ④ seven living labs. Below we describe how each of the three pillars and their application in labs will push TRANSCEND beyond the current state-of-the-art, so as to design and implement robust TAP.

① We will develop **knowledge networks** to actively engage stakeholders in TAP co-creation. Knowledge networks are purpose-driven partnerships for peer and mutual interaction, cross-disciplinary dialogues, communication, and cooperation across scientists and stakeholders. Each of the 7 knowledge networks (one per lab) will connect stakeholders and scientists with complementary competences to exchange fragmented knowledge and co-create value added via TAP design and implementation. Exchanges in knowledge networks will be conducted through *scenathons* or "scenario marathons", a type of serious game used to foster the understanding and integration of complex scientific modeling and related outputs into decision-making processes (FABLE, 2020); and managed through an inclusive, empathic, participatory and transparent conversation inspired in the Talanoa Dialogue (UNFCCC, 2018), so as to build understanding and constructive and respectful debate.

② We will develop an **actionable modeling suite** that enables stakeholders to characterize the *cascading uncertainties* across complex socio-ecological systems, and objectively design and assess performance of alternative TAP. The suite will incorporate multiple systems including climatic, hydrologic, agricultural, and micro- and macro-economic systems (*multi-system*), which will be interconnected using a modular approach. Modularity means that models at each system level are run independently in modules; and then interconnected through sets of protocols, which are rules designed to manage interrelationships among systems' modules (e.g. two-way feedbacks) (Essenfelder et al., 2018). Each system will be populated with multiple models (*multi-model*), which we will use to evaluate the impacts of multiple scenarios and TAP (*multi-scenario*). 7 modeling suites, one per lab, will be developed. Each suite will build on the Decision Support Systems (DSS) currently used by stakeholders in each lab, so as to foster understanding, advocacy and the systematic uptake of the modeling suite and acceptance of modeling results. These DSS include [WEAP](#), [AQUATOOL](#), [TOPKAPI](#), [MIKE](#), [RIBASIM](#) and [LISFLOOD](#), the most widely used DSS worldwide, which enhances the relevance and scalability of TRANSCEND methods and results.

③ We will develop a **monitoring and accounting toolbox** that supports stakeholders to monitor TAP performance, enforce rules related to water use and allocation, and trigger corrective action where TAP outcomes deviate from expectations during implementation. The toolbox will assimilate and integrate from local in-situ monitoring systems, earth observation imagery, along with regional and socio-economic and environmental data products to track key stakeholder-defined water management indicators. The toolbox will also support the calibration and validation of the

modeling suite. The toolbox will be customized in consultation with local stakeholders to reflect the specific data needs and policy goals in each of the 7 labs. An open-source web-based interface will be developed to enable continued evolution of the toolbox over time in response to future changes in the drivers, goals and objectives of water management policy within each basin lab, and also to support scaling of the tool to other regions globally.

④ The knowledge network, the modeling suite and the monitoring and accounting toolbox will be empirically applied in 7 **living labs**: the Júcar River Basin (RB) in Spain; the Reno RB in Italy; the Tympaki RB in the Island of Crete (Greece); the Nitra RB in Slovakia; the Caplina-Mauri-Desaguadero System across Peru, Chile and Bolivia; the Orontes RB across Lebanon, Syria and Turkey; and the Mahanadi RB between the Indian states of Chhattisgarh and Odisha (see Figure 1.1). Living labs were selected based on four criteria: i) the lab is under severe scarcity (Water Exploitation Index +/WEI+ exceeds 40%) and/or experiences recurrent and economically relevant drought episodes; ii) climate change projections show a decreasing trend in water supply and/or higher supply variability; iii) labs outside the EU are transboundary, either across countries (Orontes & Caplina-Mauri-Desaguadero labs) or states (Mahanadi lab); and iv) DSS in labs are widely used by other stakeholders worldwide. In each lab we have identified and contacted stakeholders, who are committed to work with us (including key decision makers—see Figure 1.1), and appointed local scientific coordinators (note that SEI, the scientific coordinator of the Caplina-Mauri-Desaguadero lab, participates in TRANSCEND through its Latin American Office).

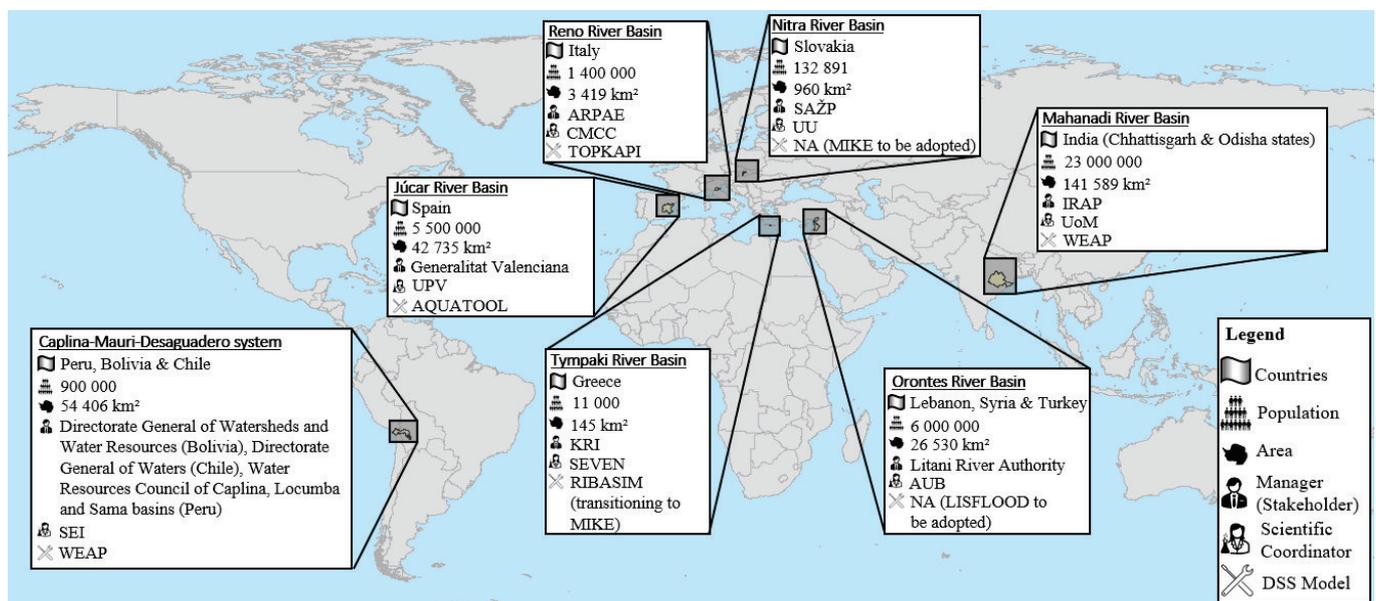


Figure 1.1: TRANSCEND living labs

1.1.3 Technology Readiness Levels (TRLs)

TRANSCEND will explore TAP that combine 1) water allocation systems (e.g. ‘unbundled’ allocation systems that first set the allocable renewable resources, and then allocate resources within this limit—via shares, priority rights, or others—, water allocation systems that recognize return flows and prevent negative impacts from higher consumptive rates on downstream users—via “net” consumption rights or ad-hoc reductions of withdrawal rights), 2) economic instruments (e.g., pricing, insurance, subsidies, payment for ecosystem services/PES, trading, penalties—e.g., against water theft), 3) digital technologies (e.g., irrigation and climate services), 4) non-conventional water (desalinated water, treated wastewater), 5) nature-based solutions (e.g., wetlands for water storage), and 6) resilience instruments that enable rapid and sound recovery when unfavorable events occur (e.g., insurance and mutual funds, state aid, solidarity fund). These management options and technologies are at different **starting Technology Readiness Levels (TRLs)**, including:

- *TRL 7 - prototype demonstrated in operational environment*: economic instruments including PES, decoupled subsidies (e.g., CAP green direct payments), pricing (financial cost recovery), trading and penalties; non-conventional water sources (desalination and treated wastewater); and digital technologies including irrigation and climate services.
- *TRL 6 - technology demonstrated in a relevant environment*: ‘unbundled’ water allocation systems; resilience instruments (insurance, state aid, solidarity); and nature-based solutions such as wetlands for water storage.

- **TRL 4-5 - technology validated in a lab/relevant environment**, pricing (environmental and resource costs recovery); and water allocation systems that recognize return flows.

TRANSCEND will combine the technologies and management options above into 7 synergistic TAP whose total value is larger than the sum of parts. Table 1.1 offers a preliminary description of TAP by lab, based on consultations with local stakeholders over a series of meetings between Dec 2021 and Feb 2022. These preliminary TAP will be assessed and updated alongside stakeholders during TRANSCEND. **This will deliver robust TAP at TRL 8 (system complete and qualified) at the end of the project.**

Table 1.1 Pressures, challenges and preliminary description of TAP in living labs

| Lab | Pressures and management challenges | TAP (to be assessed & updated) |
|--|--|--|
| ITALY – <i>Reno RB</i> | -Anthropic landscape with large irrigation-dependent ecosystems (wetlands, forests) through return flows; -Growing drought and scarcity due to climate change; -Irrigation modernization to mitigate economic losses reduces return flows; -Irrigation-dependent ecosystems at risk. | -Water allocation reform that recognizes return flows, unbundled rights; -PES to irrigators to prevent modernization; -Irrigation and climate services; -Insurance against extreme droughts. |
| SPAIN – <i>Júcar RB</i> | -Absolute scarcity, climate change expected to reduce water availability; -Frequency and intensity of drought episodes expected to increase; -Disputes between upper and lower basin farmers; -Groundwater depletion, theft. | -Water pricing and subsidies to improve technical efficiency... -...& allocation reform that recognizes return flows and adjusts water rights to avoid water depletion; -Non-conventional water resources; -PES via markets (buyback); -Enhanced monitoring using in-situ and satellite data, penalties for theft. |
| SLOVAKIA – <i>Nitra RB</i> | -100+ years of coal and lignite mining under transition as mines (14% of basin area) close in 2023; -Wetlands created by collapsed underground mines among areas with highest biodiversity in Slovakia; -Wetlands at risk of drying out if water supply from mines (>100 l/s) is not maintained; -Climate change will reduce water supply by up to 40% by 2030. | -Closed mines transition towards wetlands for protection of biodiversity, and water & carbon storage; -Pricing and subsidies to fund transition; -Centralized water allocation register; -Water allocation reform that recognizes return flows, unbundled rights. |
| GREECE – <i>Tympaki RB</i> | -72% of the basin is agricultural area, irrigation main water user, urban uses growing mainly due to tourism; -Faneromeni Dam built to cover irrigation water needs, yet demand still exceeds renewable supply; -Aquifer overdraft, saltwater intrusion, poor groundwater qualitative and quantitative status. | -Water pricing; -Unbundled rights, recognize return flows; -Enhanced monitoring using in-situ and satellite data, penalties for theft; -Insurance against droughts, explore EU solidarity fund against extreme droughts. |
| PERU, BOLIVIA & CHILE – <i>Caplina-Mauri-Desaguadero System</i> | -Transboundary system with limited cooperation; -Arid region, sensitive ecosystems to climate change (Poopó Lake in Bolivia); -Upstream (mining) v. downstream (irrigation, livestock) competition; -Inequity (small v. large permit holders). | -Inter-regional water allocation agreement, including groundwater; -Treated wastewater reuse, desalination; -Drought insurance & mutual funds; -Expand nature-based water retention areas and effective cost-recovery. |
| INDIA – <i>Mahanadi RB</i> | -Growing scarcity and floods (delta) under climate change; -Irrigation demand exceeds water supply; -Dispute between Chhattisgarh (upstream) and Odisha (downstream) states on water allocation (thermal plants, agriculture). | -Inter-state water allocation mechanisms & institutional structure; -Pricing and cross-subsidization to increase irrigation efficiency and develop water retention areas; |

| | | |
|---|--|--|
| | |  Associated with document Ref. Ares(2022)6748781 - 30/09/2022 -Introduce water rights that recognize return flows, explore trading. |
| LEBANON, SYRIA & TURKEY – Orontes RB | -Breadbasket for Lebanon (Beqaa Valley), Syria & Hatay (Turkey); -Imbalanced water allocation and use across countries; -Conflict, migration (mostly from Syria, including 3.6 million to SE Turkey, 200 000 to Beqaa Valley); -Growing competition between irrigation and domestic uses. | -Centralized water allocation register using remote sensing; -Transboundary water allocation agreement & institutional structure; -Quotas and voluntary reallocations for sustainable conjoint use; -Irrigation services, mutual funds. |

TRANSCEND will also produce a cutting-edge modeling suite that integrates socio-ecological system analysis and ensemble forecasting into existing DSS in labs. Recently, socio-ecological-inspired modeling has been used as a decision-support tool by stakeholders and demonstrated in a policy-relevant environment (TRL 6) (Pérez-Blanco et al., 2021a). Prototypes of ensemble forecasting models and methods to assess uncertainties have been also adopted to inform decisions in an operational environment (TRL 7) (Groves et al., 2013). Yet, the *integration* of the two approaches to assess the cascading uncertainties across socio-ecological systems remains concealed to the academic arena, and policy and industry applications are limited (TRL 4-5). We will employ, advance and demonstrate operability of a modeling suite that integrates cutting-edge socio-ecological research and ensemble forecasting into stakeholders’ DSS. In those labs where a DSS is not readily available (Orontes RB and Nitra RB), we collectively identified alongside stakeholders a suitable DSS whose adoption will be explored (LISFLOOD and MIKE, respectively) (see Figure 1.1). This will take the modeling and assessment of cascading uncertainties across socio-ecological systems **from TRL 4-5 at the beginning of the project to TRL 7 at the end of the project.**

1.2 Methodology

1.2.1 Concept and methodology

Below we describe the concepts, models and assumptions that underpin each of the three pillars of TRANSCEND’s ecosystem of innovation, the key challenges towards their adoption and how we will address them, and how implementing the ecosystem of innovation in labs will contribute to the project’s objectives.

① **Knowledge networks.** The lack of a clear pathway that addresses all relevant steps in initiating and managing stakeholder engagement processes jeopardizes innovation and societal transformation (challenge 1). While many stakeholder engagement strategies such as serious games or science-policy dialogues have sprouted over the past years, it “remains unclear what the extent and modes of participation are in different contexts, and how to select the suitable methods to use in a given situation” (Moallemi et al., 2021). Recently, successful experiences have proposed the adoption of a process-based approach that conceptualizes the stages stakeholders need to go through to successfully initiate and manage engagement in **knowledge networks** (Eikebrokk et al., 2021). These stages include: 1) contextual understanding and relational competence, 2) awareness building, 3) knowledge sharing, 4) rules of engagement and governance, and 5) adaptive efficiency (Eikebrokk et al., 2021; Moallemi et al., 2021). TRANSCEND will follow these stages to establish a viable knowledge network in each lab that support the co-creation of TAP on the ground. The stages are conceptually represented in Figure 1.2a and described below.

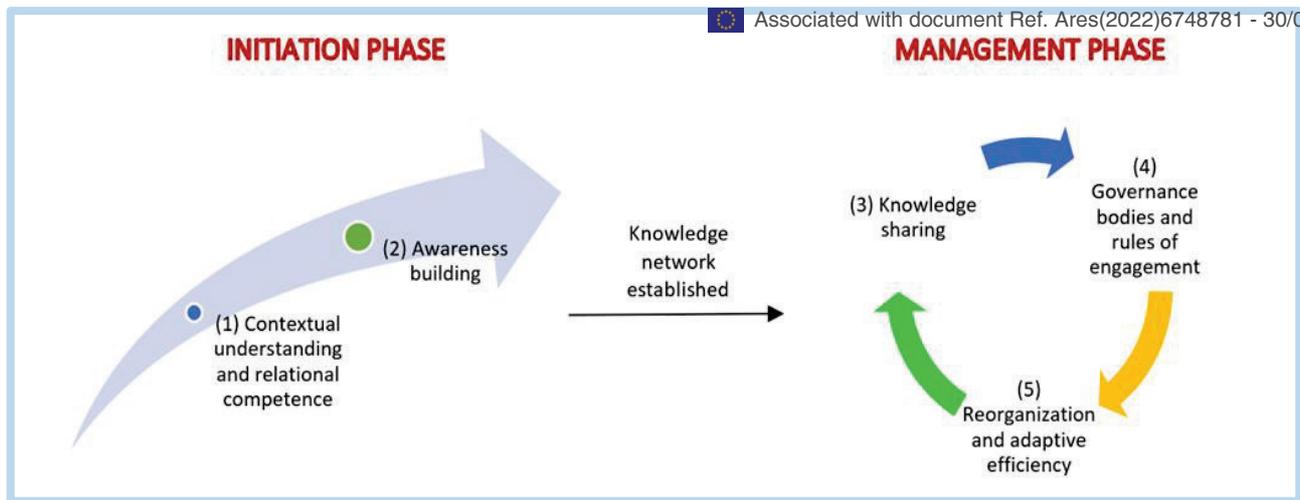


Figure 1.2a. Conceptual framework of the knowledge network

Contextual understanding and relational competence. Developing knowledge networks necessitates in depth understanding of the context and skills of the network members, so as to ensure that key competences are brought and utilized in co-creation processes. To this end, TRANSCEND will *thoroughly map stakeholders* (including public authorities and regulators, utilities, users, civil society organizations, industry, and scientists), and engage them in knowledge networks that pool complementary knowledge and resources to catalyze synergistic innovations.

Awareness building. We will build awareness about i) the benefits and opportunities of TAP and ii) the relevance of mainstreaming uncertainty in decision making. This includes making stakeholders aware of the need to consider ranges in their estimates, instead of point predictions; while addressing potential backfire effects (e.g. stakeholders perceive that scientific understanding is becoming less rather than more clear). To this end we will conduct and stimulate science-policy exchanges within networks, supported by training and, where appropriate, debiasing and debunking exercises to address misinformation (such as the belief that irrigation modernization and other engineering solutions can solve on their own the water crisis) (Pérez-Blanco et al., 2021b).

Knowledge sharing. We will define spaces and methods for knowledge sharing through well-defined and targeted engagement activities (workshops, technical meetings, virtual meetings). These will be supported by **scenathons**, or “scenario marathons”, a type of serious game used to foster the understanding of complex scientific modeling and its integration into decision-making processes via experimental learning (FABLE, 2020). TRANSCEND scenathons pursue three main goals: 1) delivering scientific knowledge and providing familiarity with complex socio-ecological systems and ensemble modeling; 2) identifying challenges and opportunities in managing water-scarce socio-ecological systems and implementing TAP solutions under *deep uncertainty*; and 3) achieving science-based consensus towards the adoption of robust TAP that generates added value.

Governance and rules of engagement. In TRANSCEND, the rules of engagement will build on the **Talanoa Dialogue** (UNFCCC, 2018), an empathic, inclusive and transparent conversation among participants to share stories, build trust, and make wise decisions for the collective good. In each lab, we will establish governance bodies and rules managing the interactions and behavior within the network. To build trust and communication among stakeholders, in each lab we have appointed a key public stakeholder as **network manager**. The network manager will govern the network supported by the scientific coordinator (see Figure 1.1). This includes managing possible tensions and competition among stakeholders following well-defined rules of engagement. Moreover, to foster interchange across labs, we will establish an *international network board* or ‘network of networks’ that includes all network managers and Consortium partners.

Adaptive efficiency. Networks will inevitably be subject to external pressures, some of which may be unfavorable and extreme. To minimize risks and speed up adaptation to change, we will study the organizational structures in place; monitor transaction costs (i.e. the institutional costs of administering, designing, monitoring, implementing and enforcing water policy arrangements); and design *adaptively efficient* networks that can identify and shift to superior alternatives as new information is made available, such as by adjusting its scope, changing its management, adapting to members joining/leaving the network, and *revising incumbent TAP* when they can be outperformed by alternative TAP (Garrick, 2015).

② **Actionable modeling suite.** There is a fundamental policy need to better understand the interconnected dynamics and co-evolution of complex socio-ecological systems, and their cascading uncertainties, and to represent them in actionable modeling tools that inform the adoption of robust TAP by stakeholders (challenge 2). To address this challenge, TRANSCEND will develop a socio-ecological modeling suite that enables stakeholders to explore, quantify, and negotiate trade-offs around the performance of alternative TAP options under deep uncertainty.

Recent advances in socio-ecological research have demonstrated the importance of considering the two-way feedbacks between environmental change and human behavior when seeking to design solutions to complex environmental challenges (Pande and Sivapalan, 2017). Ensemble experiments have also demonstrated the importance of characterizing uncertainty in modeling to formulate robust solutions (CMIP6, ISIMIP). Most recently, these two strands of literature have been combined into pioneering ensemble experiments that characterize the cascading uncertainties across complex socio-ecological systems, including human-water systems, using a modular approach (Dolan et al., 2021; Toimil et al., 2021). However, this research has not permeated yet to policy makers and the DSS used in river basin planning and management, which rarely account for socio-ecological feedbacks, and ignore or insufficiently address uncertainties within and across systems.

Reflecting scientific advances, our modeling suite will adopt a modular approach that captures the two-way feedbacks between socioeconomic and ecological systems (*multi-system*). Each system/module will be populated with multiple models (*multi-model*), which we will use to study the impacts of multiple scenarios and TAP (*multi-scenario*). Specifically, the suite will include models of climatic (CMIP6 and downscaled projections in CORDEX), hydrologic (i.a. SUMMA, VIC, HBV, GR4J), agricultural (i.a. AquaCrop-OS, DSSAT, APSIM, WOFOST), microeconomic (econometric and mathematical programming models such as PMP, PMAUP, LP), and macroeconomic systems (CMCC, USAL & UoM input-output and computable general equilibrium models, e.g. ICES); as well as other models (see e.g. CMIP6, ISIMIP, as well as water quality and ecological models to explore pollution-related problems in labs such as the Nitra RB) and systems deemed relevant by scientists and stakeholders during co-creation. Integration of models will be facilitated through established open-source programming and frameworks, for example the OpenMI standard, to further enhance and support scalability, in particular where seeking to build upon existing modular components that may be coded in different programming languages or run at different spatial/temporal resolutions. Partners have developed several of these models, and have pioneered their integration in coupled socio-ecological (e.g. Di Baldassarre et al., 2018) and ensemble experiments (e.g. Pérez-Blanco and Sapino, 2022).

The modeling infrastructure will build upon the DSS tools used by stakeholders for water resources planning in labs: WEAP (developed by SEI), AQUATOOL (developed by UPV), TOPKAPI (co-developed by ARPAE), MIKE, RIBASIM, LISFLOOD. By linking these DSS with recent advances in socio-ecological science and ensemble forecasting, we will deliver a **step change in the ability of planners to evaluate the co-evolution of complex socio-ecological systems and related uncertainties**, so as to identify robust TAP.

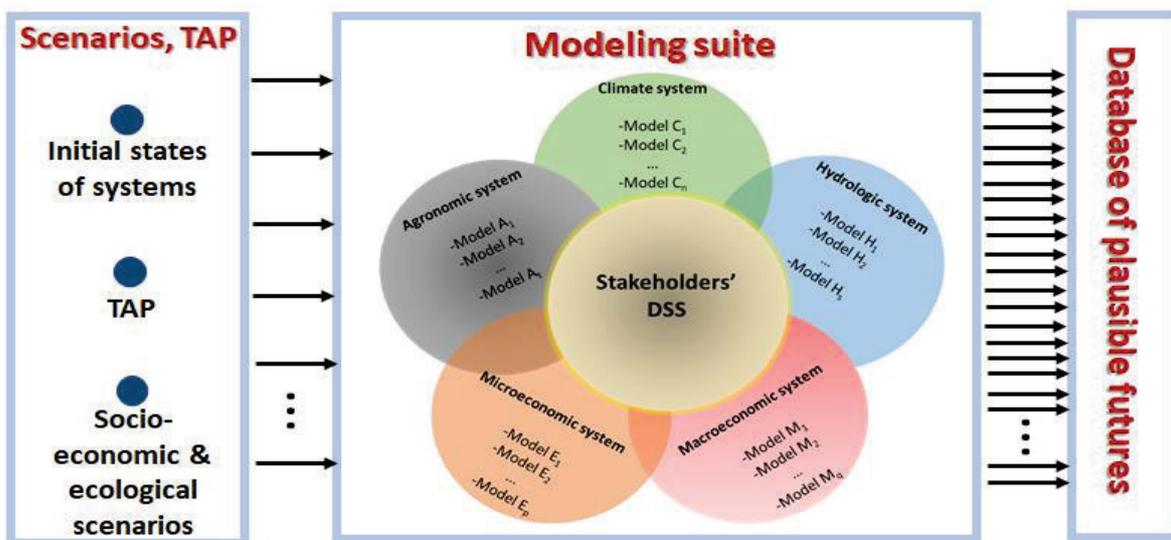


Figure 1.2b: TRANSCEND modeling suite

③ **Monitoring and accounting toolbox.** While socio-ecological and ensemble modeling can guide design of TAP, implementation of policies in the real-world requires knowledge and tools that enable stakeholders to monitor performance, enforce rules related to water use and allocation, and trigger corrective action where outcomes deviate from expectations. Yet, in almost all water-scarce regions globally, water managers lack reliable or complete information to effectively monitor and review policies post-implementation, weakening ability to effectively manage current and future water scarcity and conflict ([challenge 3](#)). Key examples of this issue are the widespread prevalence of illegal water use in many basins that has been shown to undermine official allocation policies (e.g., Loch et al., 2020), along with failure to detect and learn from suboptimal socio-economic and environmental outcomes of water policies (Grafton et al., 2018; Higginbottom et al., 2020).

In TRANSCEND, we will address these challenges through the development of a **data-driven monitoring and accounting toolbox** that enables stakeholders to track critical user-defined indicators of water availability, water use (differentiating between beneficial/non-beneficial consumption and return flows), and socio-economic impacts of TAP over space and time, while also providing critical baseline and historical data to parameterize, calibrate and validate socio-ecological models used for ex-ante TAP design and assessment. The toolbox will focus on adding value to existing data resources and monitoring systems already used by stakeholders in each lab (e.g., in-situ metering, flow gauging, etc.) by integrating these data with existing open-source high-resolution regional and global hydro-climatic (e.g. [ERA-5 Land](#)) and socio-economic (e.g. Chi et al., 2022) databases along with novel earth observation derived metrics (e.g. satellite-based ET and land cover products such as [SEN-ET](#) or [WaPOR](#)) to provide a comprehensive scientifically-grounded solution to existing gaps in monitoring of water policies (e.g. following [FAO's Water Accounting Plus \(WA+\) framework](#)).

Monitoring tools will be developed based on open-source programming and datasets. A customizable web-based interface (e.g. Google Earth Engine apps) will be created to simplify updating and refinement during and after the project, while also enabling the toolbox to be tailored to differing data needs across basins and over time as water management challenges evolve over time. These features are particularly important in the context of planning under deep uncertainty, where TAP solutions may need to be refined over time as changes in climate or socio-economic conditions occur or as new information is gained about feedbacks between environmental change and users behavior.

④ **Living labs.** The knowledge networks (Pillar ①), the actionable modeling suite (Pillar ②), and the accounting and monitoring toolbox (Pillar ③) will be applied and empirically tested in 7 living labs. Integration of these three pillars will provide the logistics and scientific foundations to guide and drive a **co-creation process**, where stakeholders and scientists share knowledge and exchange points of view, so as to identify opportunities for value-added creation, build consensus, and effect decision-making around TAP design and implementation. This will contribute to the [stated objective](#) of the EC Mission on Climate Adaptation of achieving systemic societal transformations to climate change ([challenge 4](#)).

Co-creation processes in living labs will be realized through the following tangible steps: 1) stakeholders and scientists *co-design* scenarios and relevant TAP, including financing mechanisms and partnerships to create and operationalize sustainable investment into, and cost recovery of, TAP ([contribution to SO-04](#)); 2) stakeholders and scientists *co-develop* modeling efforts ([contribution to SO-01](#)); 3) stakeholders and scientists *co-evaluate* TAP performance; 4) stakeholders and scientists *co-identify* TAP with the highest potential ([contribution to SO-03](#)); and 5) stakeholders and scientists *co-implement* TAP on the ground ([contribution to SO-02](#)) (Figure 1.2c). Note that as a result of continuous interaction and deliberation among stakeholders and scientists in the ecosystem of innovation, a likely outcome of the co-evaluation stage is to reset the co-creation process by considering alternative scenarios and TAP (co-design) and model setups (co-development). The result is an **iterative 'stock-taking' co-creation process**, where stakeholders and scientists share knowledge, learn from each other, and collectively create value, until consensus is built and a suitable TAP is collectively identified and implemented. We will run 3 complete co-creation iterations per lab, each happening in the period between local workshops (see Section 2.2.2).

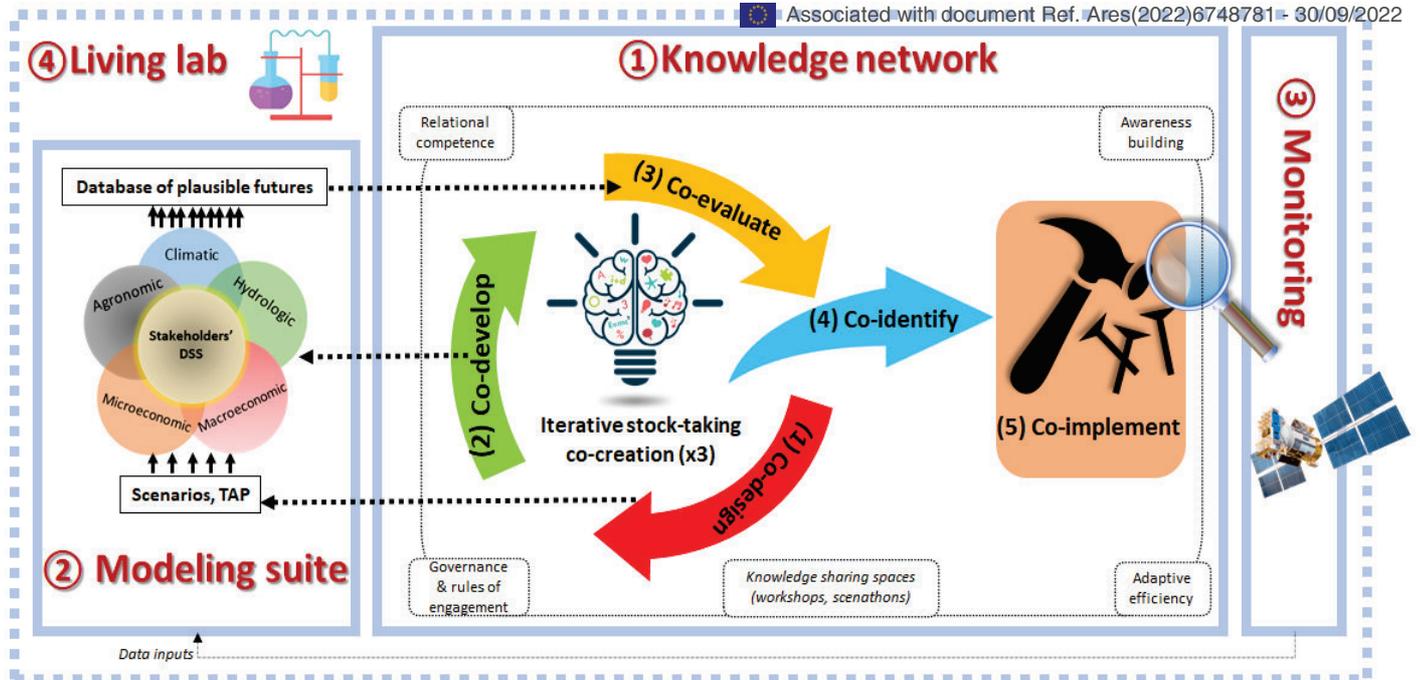


Figure 1.2c. Overview of TRANSCEND ecosystem of innovation and co-creation process

Beyond the design and implementation of TAP in labs, we will deploy legacy actions and strategies (Section 2.2.1) to achieve the sustained adoption and update of TAP, including by establishing 8+ “inspiration” labs where the ecosystem of innovation will be initiated during the project’s lifetime, and TAP adopted in 5-6 years—as compared to living labs where a full-fledged ecosystem of innovation will be developed and TAP adopted within the project’s lifetime (contribution to SO-05). Moreover, we will synthesize and upscale our methods and results (Section 2.1.1) to inform national and supranational adaptation strategies in the water, climate adaptation and other related sectors, including the European Green Deal key strategies (contribution to SO-06).

1.2.2 Do no significant harm principle

The EU Taxonomy (OJ, 2020a) established a list of environmentally sustainable economic activities. The ‘Do No Significant Harm’ (DNSH) principle means that any activity pursuing one or more of the Taxonomy objectives, to qualify as sustainable, cannot cause significant harm to any of the other objectives. Climate change adaptation and the sustainable use and protection of water and marine resources are two of the six objectives, the others being climate change mitigation, transition to a circular economy, pollution prevention and control, and protection and restoration of biodiversity and ecosystems. The delegated act (OJ, 2021a) on sustainable activities for climate change adaptation and mitigation objectives was adopted in June 2021 and is under legislative scrutiny. The Annex 2 to the above delegated act elaborated on technical screening criteria, which define the requirements and thresholds for an activity to be considered as significantly contributing to the adaptation objective, including thresholds to define compliance with DNSH. The activities of TRANSCEND are covered by items 8-11 of the delegated act annex, and will be considered as follows:

- We will work with data repositories and portals, including for sharing the project results, that are compliant with the European Code of Conduct on Data Centre Energy Efficiency and the CEN-CENELEC standards, and use equipment compliant with the Directive 2009/125/EC (see Section 1.2.7).
- Potential risks of TAP to the good condition of ecosystems, climate mitigation, the circular economy objectives, as well as emissions of pollutants to air, water or land, will be evaluated leveraging on the multi-system modeling suite (WP3), and thoroughly addressed in the knowledge networks and co-creation processes, including the development of apposite mitigation measures where applicable (WP1&2).
- We will foster low carbon workspaces and event organization (venue, local sustainable food, no-paper) principles. Online communication via TRANSCEND Virtual Forum (Section 2.2.2) will be the default for meetings with limited content and participants, or largely one-way (e.g., webinars), so as to limit emissions, as well as to economize time and other resources.

1.2.3 Partners' international research and innovation activities

Each of the Consortium partners is involved in a wide range of national and international research and innovation activities that are relevant to the call and to the research activities planned in TRANSCEND. Methods underlying the three pillars of our groundbreaking ecosystem of innovation have been successfully deployed in projects and initiatives in which TRANSCEND partners have played a leading role. These methods will be linked within TRANSCEND, so as to create synergistic science, knowledge and TAP that is replicable and scalable. Specifically, TRANSCEND convenes scientific teams that work on complementary national and international initiatives developing 1) cutting-edge socio-ecological and ensemble modeling; 2) novel water accounting and monitoring methods including remote sensing; 3) groundbreaking stakeholder engagement methods; and 4) transformational communication, dissemination and exploitation channels and upscaling and legacy methods. Additionally, partners have expertise working with *all* stakeholders in *all* labs, as well as with key national and supranational institutions.

Table 1.2a illustrates some of the innovation initiatives of partners. We will leverage on the complementary expertise developed in these major initiatives to set up TRANSCEND's ecosystem of innovation and research in each lab.

Table 1.2a: National or international research and innovation activities which will feed into TRANSCEND

| Thematic areas | Relevant international and national initiatives we will build synergies with |
|---|---|
| Socio-ecological and ensemble modeling of water scarcity under climate change | Most of us have coordinated or contributed to relevant H2020/Green Deal/HE and other international projects, i.a. PROVIDE, RECEIPT, EPI-WATER, HydroSocialExtremes, COACCH, SWAN, ATACC, ENHANCE, ABOT, IWRM Al-Ostuan, GR RBMP/DRMPs , as well as major scientific networks, notably ISIMIP, CMIP6 and COMPASS . |
| Remote sensing and data analysis, water accounting | H2020/Green Deal/HE, INTERREG, LIFE and other international projects, i.a. ACQUAOUNT, PLACES, IRENE, Earth2Observe, EO4SD, MUuLI, ITSET . |
| Stakeholder engagement, policy and governance | NATURANCE, TALANOA-WATER, GoNEXUS, SAFERPLACES, FABLE, SAM-PS, EC Freshwater Policies, SWIM-H2020, GR WFD FRMPs and others; and key international networks (i.a. IPCC, UNDRR Sendai Framework). |
| Transformational comm., dissemination, exploitation and upscaling | H2020/Green Deal/HE, INTERREG, LIFE and other international projects, i.a., REGILIENCE, REACHOUT, CLARA , as well as major platforms, including Water Risk Filter, Think Nature, Oppla . |

1.2.4 Interdisciplinarity and integration of social sciences and humanities into the project

Water scarcity and climate change are an existential threat to many parts of the world mainly due to their systemic nature, which can spark and aggravate other ecological and *socioeconomic threats* (e.g., commodity price fluctuations, migratory crises) via feedback loops and cascading impacts across systems (UNDRR, 2021). Thus, addressing the challenge of water scarcity under climate change, particularly when involving the development of human-centered water allocation systems and economic instruments as specified in this call, necessitates interdisciplinary socio-ecological science and collaboration across the relevant scientific domains.

TRANSCEND is an interdisciplinary endeavor that combines instruments from ecological and social sciences to build a groundbreaking ecosystem of innovation upon three pillars (knowledge networks, modeling suite and monitoring toolbox), *all of which rely on social sciences and interdisciplinary research*. The *knowledge networks* will build on methods originated across several social sciences disciplines to develop effective knowledge exchanges among stakeholders in the context of changing environmental and climatic conditions. The *actionable modeling suite* will adopt a modular approach to co-develop, alongside stakeholders, a multi-system modeling suite that combines methods and models originated in the climate, hydrologic, agronomic, microeconomic, macroeconomic and other socioeconomic and ecological disciplines, so as to assess the repercussions of TAP and scenarios. The *monitoring and accounting toolbox* will combine in-situ monitoring systems, earth observation imagery, and regional and socioeconomic and environmental data products to track key stakeholder-defined water management indicators. Finally, the *living labs* will empirically apply the three pillars above to ignite a co-creation process with stakeholders informed by interdisciplinary science of the highest quality.

1.2.5 Gender dimension

The TRANSCEND Consortium appreciates and will build upon the outcomes and recommendations of EC's Gender Equality Strategy (GES) (OJ, 2020b), the Beijing Platform for Action adopted at the Fourth World Conference on Women (UN, 1995), and the EU implementation reports on the critical area of concern "Women and the Environment", and specifically on "Gender Equality and Climate Change" (EIGE, 2012). We will promote equal opportunities for, and balanced participation of women and men in decision-making processes in living labs, as we already do at our organizations. We will provide a better understanding of the identified challenges and objectives in GES and raise new questions, provide new perspectives, and create a more complete picture of the issues through consideration of women's and men's differentiated realities and needs. Specifically, TRANSCEND will contribute to gender-responsive TAP in Europe and beyond that address the community of decision-makers and promote a gender mainstreaming approach in research. This is accomplished at two levels: living labs and Consortium partners.

Gender dimension in labs. We recognize that the perception of climate change and water scarcity threats, their socioeconomic impacts, as well as related uncertainties, are gender specific. We also acknowledge that attitudes towards nature protection and willingness to engage in TAP are influenced by gender, in addition to other individual, cultural, social and economic characteristics and conditions. We also understand and acknowledge that vulnerability to water scarcity and climate change is co-determined by possession of material riches, lifestyles, education, attitudes to risk, and propensity to underwrite insurance, to name but a few factors in which gender plays an important role. Thus, a thorough approach to gender balance is not only a requirement to achieve equitable growth in line with the IWRM objective, but also necessary towards a successful research and TAP design and implementation. To address this need, the inception report (D7.1) will specify in detail what requirements lab-related research should meet to appreciate gender-driven differences in water scarcity and climate change vulnerability, and in uncertainty perceptions. We will specify gender-sensitive indicators to monitor access to, and use of, water in living labs, and consider and periodically assess gender balance in stakeholder engagement and decision making in the living labs through a dedicated Impact Champion (see T1.6) that captures the percentage of women engaged in knowledge networks. We will also consider the gender dimension when addressing acceptance and fairness in cost distribution, cost recovery and financing schemes of TAP in each living lab (WP2). Furthermore, we will pay regards to the outcomes of the Conference on the Gender Dimensions of Weather and Climate Services (UNESCO, 2014), which explored women and men empowerment for the sake of building safer, stronger and more resilient societies "through the provision and use of gender-sensitive weather and climate services", and monitor and promote women access to training on TAP such as irrigation services throughout the project (see Section 2.2.1).

Gender equality in the Consortium. By signing the Grant Agreement, the Consortium will commit to promoting equal opportunities during the implementation of the project, and make a commitment to achieve gender balance at all levels of staff assigned to the project, including those at supervisory and management levels. We are aware of the importance of attracting, retaining and advancing high quality female scientific researchers and we will ensure that TRANSCEND works to satisfy the Horizon Europe objectives of gender balance and integration. We will acknowledge own bias as researchers avoiding prejudices and double standards; identify human/social components of any research topic and anticipate impacts of policies/practices on women and men; give value to both men's and women's experiences and voices in our research; use and produce gender disaggregated data in project deliverables and other relevant outputs; and use gender sensitive language in the research products and communication tools.

1.2.6 Open science

Open Science is both a policy priority of the European Commission and a required method of working under the EU research and innovation programs. Open Science contributes to quality, efficiency, and responsiveness of research. TRANSCEND will promote and accomplish Open Science at two levels: (1) as a principle, driver, and strategy for the adoption of robust TAP; and (2) as a compliance rule under Horizon Europe's Open Science.

(1) Mobilizing public and citizen engagement is essential for inclusive practices for social change, fostering a sense of empowerment and creating conditions of full transparency, accountability, and trust. TRANSCEND will foster engagement of stakeholders and wider society as a vital part of TAP co-creation and upscaling. Several tasks in TRANSCEND are led by stakeholders, including WP6 on exploitation, dissemination, and communication, which is led by ARPAAE. Stakeholders will also participate in all steps of the co-creation process, including the co-development of models. Moreover, we will organize a broad citizen engagement campaign similar to and inspired by the first [European Conference on the Future of Europe](#). This campaign will create 7 citizen panels, one per lab, where participants are informed on all project outcomes and meet to debate online once a year (see Section 2.2.2-Virtual Forum), as well as in person in two citizen-science events per lab (researchers' night). Additionally, all citizen panels will meet online during international webstivals (multilingual panel) (see Section 2.2.2-Outreach). By closely and

actively engaging stakeholders and citizens in co-creation processes we will ensure that societal outcomes of research are considered at least as attentively as the scientific and technological outputs, thus insisting that in addition to being rigorous, science is relevant to society and participatory. Leveraging on stakeholder and citizen engagement, we will monitor and evaluate progress, and build momentum for actions that are conducive towards the deployment of TAP.

(2) Internal rules for implementing Open Science across all activities of the project will include:

- Early and open sharing of our results: All deliverables and relevant milestones, training material and conference contributions will be made publicly available as early as possible, including as drafts, pre-prints or registered reports (All WPs).
- Early and open sharing of simulation results and databases: All original (simulations in the database of plausible futures, monitoring and water accounting data) and secondary databases (built through the harmonization of primary databases) will be made publicly available as soon as all internal quality checks are finished in widely used open access portals such as [Aquastat](#), [Climate Adapt](#). We will also engage with and share our data via more targeted science- ([ISIMIP](#), [CMIP](#)) and industry-oriented data portals ([Water Risk Filter](#)) (WP3, 4 & 6).
- Open review: All deliverables will be subjected to open peer-review, with a focus on obtaining feedback from stakeholders in the living labs, in addition to internal review and quality assurance mechanism (All WPs).
- Open co-creation: Formats and agendas of local and international workshops and other science-policy events, as well as content of training courses and outreach events, will be co-created with stakeholders in the knowledge networks. All major events, including local and international workshops where scenathons will take place, webstivals and any relevant event informing the co-creation process, will be registered and the video made publicly available in the project website (WP1 & 2).
- Gold open access: We will ascribe to Gold Open Access option, leveraging on financial resources made available by our organizations in the context of the transformational agreements recently subscribed with major publishing houses (such as Elsevier, Springer, Wiley, ACS), which shift away from payment to read and towards payment to publish open access. Working papers will be also made available in online repositories to ensure wide and timely dissemination, verification, and immediate re-use of research results (All WPs).

1.2.7 Research data management

TRANSCEND will make the generated datasets, metadata, and workflows **Findable, Accessible, Interoperable and Reusable (FAIR)** for other research projects and researchers, stakeholders, and the civil society. The data that will be collected or generated within our project include: (i) original water accounting datasets (WP4); (ii) secondary datasets built through the harmonization and merging of existing climate, hydrologic, agronomic, microeconomic and macroeconomic datasets (WP4); (iii) simulation datasets (*database of plausible futures*) using the modeling suite (WP3); and (iv) research reports and peer-reviewed journal papers (all WPs). Publications in international journals with high JCR impact factor (first quartile-Q1) will be made publicly available making use of the Gold Open Access option; and in online open repositories through widely indexed repositories. As a preferred repository, we will use [Zenodo](#) and [Oppla](#), complemented with institutional or subject-based repositories where appropriate (e.g., Research and/or Working Papers series operated by Consortium partners). All datasets, except for data held sensitive under the [EU's data protection law](#), will be openly shared as soon as all internal quality checks are finished via [FAO Aquastat](#), [EEA's Water Information System for Europe \(WISE\)](#) and [Climate Adapt](#) portal. We will liaise with major open access ensemble forecasting communities, including [ISIMIP](#) and [CMIP](#), to publish and integrate our simulation datasets (*database of plausible futures*) into their websites. We will publish key results at a user level in the [Water Risk Filter](#), a leading screening tool to help users and companies worldwide address water risks.

The selected data portals and repositories and Q1 journals above are renowned and widely disseminated platforms among the water and climate community that include Digital Object Identifiers (DOI) and rich metadata (**findable**) and will supply project data publicly and freely (either by default or through the gold open access option) in reliable, secure and trusted online platforms available to any interested agent (**accessible**). We will ensure high quality and **interoperability** of data by means of a thorough review by experts and application of formal, accessible, shared, and broadly applicable formats (depending on the type of data we will favor formats such as CSV, JSON or NetCDF) and standards in the water and climate community. We will allow for fast publication of results and immediate **re-use** leveraging on the Creative Commons Attribution (CC BY) as a default license (Section 2.2.2), and on open-source tools to automate the collection and processing of data. All the above will make the data **Findable, Accessible, Interoperable and Reusable (FAIR)** for other research projects and researchers, stakeholders, and the civil society.

Technical and institutional measures for long-term data curation will be undertaken by the Consortium partners. A Data Management Plan describing the data management strategies in more detail will be developed within the first six months of the project. Updates of the Data Management Plan (D6.2) are envisaged on a periodic basis (D6.4 & 6.7). Curation and preservation of the database after TRANSCEND ends will be ensured by partners leveraging on the public data portals and repositories above, including those of widely used and trusted ensemble forecasting and industry-oriented communities. Expansions of the database through further research will be underpinned by complementary fundraising efforts as part of a thorough legacy strategy (D6.6).

2. Impact

2.1 Project’s pathways towards impact

2.1.1 Unique contribution toward expected outcomes and wider impacts

The unique combination of proven expertise, excellent connections, dissemination and upscaling skills and academic insights enables TRANSCEND to address *all the outcomes* of the Call CL6-2022-CLIMATE-01 and contribute to *all the wider impacts* detailed in the destination “Land, ocean and water for climate action”. Table 2.1a and 2.1b map our contribution to the expected outcomes (O) and expected impacts (I), respectively, indicating targets and interest groups, and distinguishing between scientific (blue), economic/technological (orange) and societal (green) outcomes/impacts (and combinations thereof). The distinction between scientific, economic/technological and societal outcomes/impacts was done based on the shared understanding of EC definitions developed between stakeholders in labs and Consortium partners over a series of meetings between Dec 2021 and Feb 2022. During meetings, outcomes and impacts were presented to stakeholders in labs and they assigned them one or more categories, and then started identifying potential TAP to address them. Figure 2.1 represents the pathways we will follow from our project immediate results in 4 years’ time (measured through Key Performance Indicators—KPIs) to outcomes in the medium term (5-6 years) and impacts in the longer term (7-10 years).

Table 2.1a: Expected outcomes of the Call CL6-2022-CLIMATE-01 and how we will address them in 5-6 years

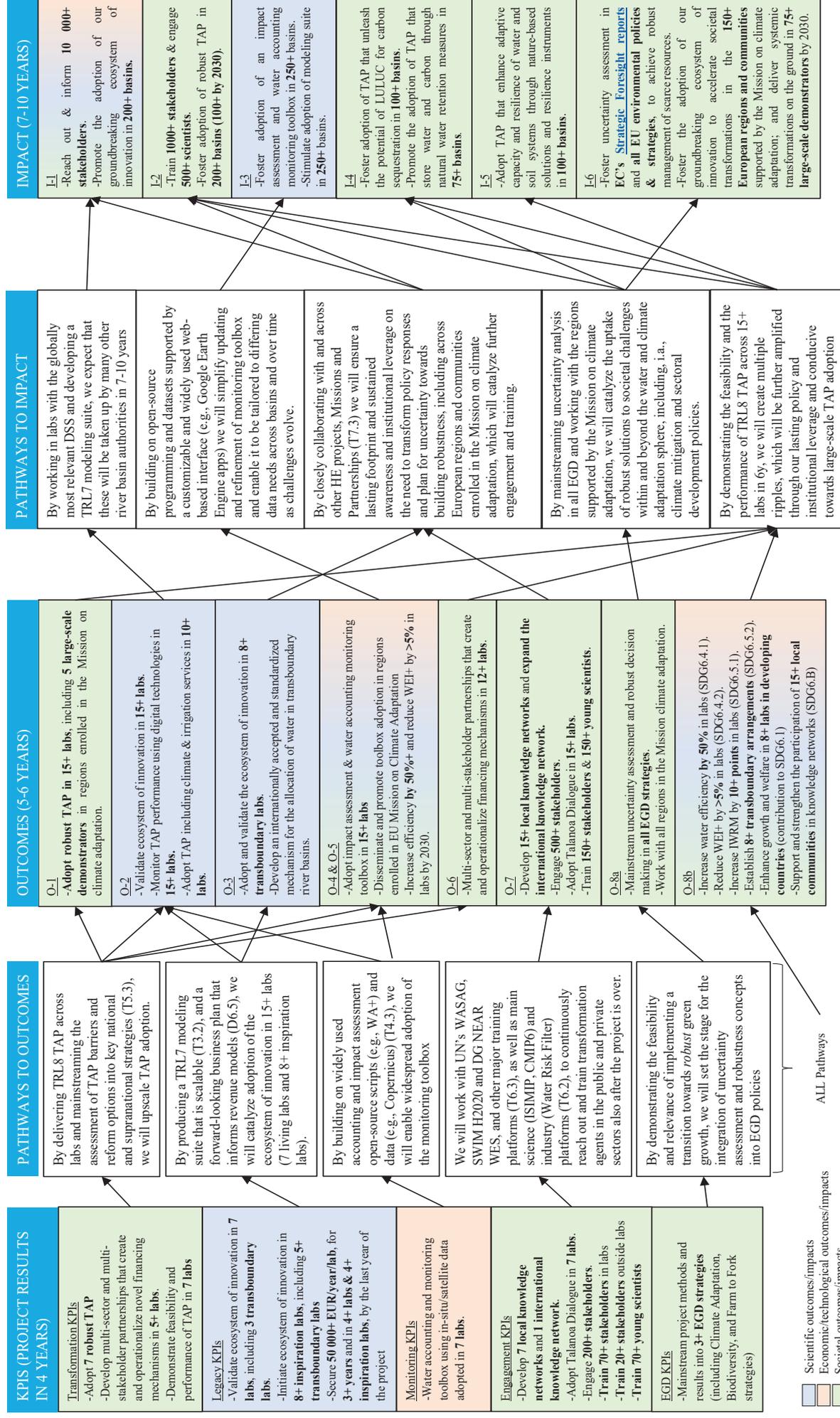
| Outcome (O) | Our contribution, including targets and [interest groups] |
|--|--|
| <i>O-1. Achieve transparent water sharing and adjust water allocation across environmental and human uses towards long-term water replenishment capacity and availability.</i> | -Identify and adopt robust TAP in 15+ labs (7 labs and 8+ inspiration labs), including 5 large-scale demonstrators in regions enrolled in the Mission on climate adaptation, to deliver equitable and sustainable economic & welfare growth under deep uncertainty. [Interest groups: Regulators] |
| <i>O-2. Adopt inclusive, forward-looking and climate risk-informed water allocation planning and management processes, foster adoption of digital technologies in water management.</i> | -Test and validate in 15+ labs a groundbreaking ecosystem of innovation to assess and address risk and uncertainty in water allocation and management processes. -Monitor TAP performance using digital technologies in 15+ labs . -Adopt TAP including climate & irrigation services in 10+ labs [Regulators; utilities, industry & users; civil society organizations] |
| <i>O-3. Guide decision makers in transboundary rivers to share transboundary waters equitably, reaping the benefits of appropriate water allocation regimes.</i> | -Adopt and validate the ecosystem of innovation in 8+ transboundary labs . -Develop an internationally accepted and standardized mechanism for allocation of water in transboundary river basins. [Regulators] |
| <i>O-4. Identify water efficiency deficiencies and achieve improvement by at least 50% by 2030, in regions under water stress, now or in the future, and for water bodies at risk of failing to meet good ecological/quantitative status. & O-5. Reduce the water footprint of water-using sectors, especially agriculture, energy and industry.</i> | -Adopt an impact assessment and water accounting monitoring toolbox in 15+ labs to objectively monitor water efficiency. -Disseminate and promote toolbox adoption in regions enrolled in EU Mission on Climate Adaptation (focus on large-scale demonstrators). -Increase efficiency (value added to withdrawals ratio, as per SDG 6.4.1) by 50%+ and reduce WEI+ by >5% by 2030 in 15+ labs . [Regulators; utilities, industry & users] |

| Outcome (O) | Our contribution, including targets and <i>[interest groups]</i> |
|---|---|
| <p><i>O-6. Promote financing mechanisms to smoothen the transition to more appropriate water pricing policies in water supply and sanitation and in the different economic sectors, such as agriculture, energy and industry [...].</i></p> | <p>-Develop multi-sector and multi-stakeholder partnerships that create and operationalize novel financing mechanisms to support TAP adoption in 12+ labs. <i>[Regulators; utilities, industry & users]</i></p> |
| <p><i>O-7. Help structure appropriate policy dialogue to support allocation reform and increase stakeholders engagement.</i></p> | <p>-Develop 15+ local knowledge networks (one per lab) and consolidate and expand the international knowledge network. -Engage 500+ stakeholders. -Adopt empathic and participatory Talanoa dialogues in 15+ labs. -Train 150+ stakeholders & 150+ young scientists on project methods. <i>[Regulators; utilities, industry & users; civil society organizations; wider public]</i></p> |
| <p><i>O-8a. Support the implementation of the European Green Deal (EGD)...</i></p> | <p>-Mainstream uncertainty assessment and robust decision making in all EGD strategies. -Work with <i>all</i> regions and communities in the Mission on climate adaptation, with a focus on large-scale demonstrators. <i>[Regulators; utilities, industry & users; civil society organizations; wider public]</i></p> |
| <p><i>O-8b. ...and the SDGs, notably the SDG 6 “Ensure availability and sustainable management of water and sanitation for all”.</i></p> | <p>-Increase water efficiency by 50% in 15+ labs (SDG6.4.1). -Reduce WEI+ by >5% in labs (SDG6.4.2). -Increase IWRM by 10+ points in labs (SDG6.5.1). -Establish 8+ transboundary arrangements (SDG6.5.2). -Enhance growth and welfare in 8+ labs in developing countries (contribution to SDG6.1) -Support and strengthen participation of 15+ local communities in knowledge networks (SDG6.B) <i>[Regulators; utilities, industry & users; civil society organizations; wider public]</i></p> |

Table 2.1b: Expected impacts of destination “Land, ocean &  Associated with document Ref: Ares(2022)6748781 30/09/2022

| Impact (I) | Our contribution, including targets and [interest groups] |
|--|--|
| <i>I-1. Better understanding and enhancing the mitigation potential of ecosystems and sectors based on the sustainable management of natural resources</i> | <ul style="list-style-type: none"> -Reach out 10 000+ stakeholders to deliver better understanding of climate-induced changes to ecological and socioeconomic systems, and the mitigation potential of TAP across ecosystems and sectors, under deep uncertainty. -Promote the adoption of our groundbreaking ecosystem of innovation in 200+ basins globally. <p><i>[Regulators; utilities, industry & users; civil society organizations]</i></p> |
| <i>I-2. Advanced understanding and science to support adaptation and resilience of natural and managed ecosystems, water and soil systems and economic sectors in the context of the changing climate.</i> | <ul style="list-style-type: none"> -Training of 1000+ stakeholders to achieve advanced understanding of policy design and implementation under deep uncertainty. -Engagement of 500+ scientists with relevant expertise to support and update the ecosystem of innovation. -Foster adoption of robust TAP in 200+ basins (100+ by 2030), including resilience instruments that enable rapid and sound recovery of natural and human systems following shocks, working in collaboration with the EU Mission for Climate Adaptation. <p><i>[Regulators; utilities, industry & users; civil society organizations; academics]</i></p> |
| <i>I-3. Efficient monitoring, assessment and projections related to climate change impacts, mitigation and adaptation potential in order to bring out solutions for tackling emerging threats and support decision-making in climate change mitigation and adaptation policies at European and global level.</i> | <ul style="list-style-type: none"> -Promote the adoption of the impact assessment and water accounting monitoring toolbox in 250+ basins, using in-situ and remote sensing data. -Stimulate the adoption of the modeling suite in 250+ basins to produce ensemble projections of climate-induced changes; identify emerging threats and potential tipping points; and inform TAP design and implementation that contribute to water and other key policies (including climate change adaptation and mitigation). <p><i>[Regulators; utilities, industry & users; civil society organizations; academics]</i></p> |
| <i>I-4. Fostered climate change mitigation in the primary sector, including by the reduction of GHG emissions, maintenance of natural carbon sinks and enhancement of sequestration and storage of carbon in ecosystems</i> | <ul style="list-style-type: none"> -Foster the adoption of TAP that unleash potential of LULUC for carbon sequestration, including via economic instruments (e.g., PES), in 100+ basins. -Promote the adoption of TAP that store water <i>and carbon</i> through natural water retention measures such as forested infiltration areas and wetlands in 75+ basins. <p><i>[Regulators; utilities, industry & users; civil society organizations]</i></p> |
| <i>I-5. Improved adaptive capacity of water and soil systems and sectors including by unlocking the potential of nature-based solutions</i> | <ul style="list-style-type: none"> -Enhance adaptive capacity and resilience of water and soil systems and sectors through TAP that include nature-based solutions (e.g., forested infiltration areas that store water during periods of excess and reduce erosion) and resilience instruments (e.g., agricultural drought insurance that reduces aquifer overdraft during droughts and enables rapid and sound recovery afterwards) in 100+ basins. <p><i>[Regulators; utilities, industry & users; civil society organizations]</i></p> |
| <i>I-6. Better managed scarce resources, in particular soils and water, thus mitigating climate related risks, in particular desertification and erosion, thanks to informed decision-makers and stakeholders and integration of adaptation measures in relevant EU policies.</i> | <ul style="list-style-type: none"> -Foster uncertainty assessment and robust decision making in EC’s Strategic Foresight reports and all EU environmental policies & strategies, to achieve better management of scarce resources. -Foster adoption of our groundbreaking ecosystem of innovation to accelerate societal transformations in all 150+ European regions and communities supported by the Mission on climate adaptation; and to deliver systemic transformations on the ground in all 75+ large-scale demonstrators, by 2030. <p><i>[Regulators]</i></p> |

Figure 2.1: Project's pathways towards impact



2.1.2 Requirements and potential barriers

Awareness of the benefits of transformational policies and uncertainty assessment and robust decision making has increased significantly across decision-makers, but the effective utilization of this knowledge for action on the ground is still low, and advancing slowly (OJ, 2020c, 2019). TRANSCEND is placed at the heart of current activities in Europe and internationally on building integrated socio-ecological science, ensemble forecasting, and co-creation of breakthrough ideas about how economic instruments, allocation systems, nature-based solutions, digital technologies, non-conventional water resources and resilience instruments can play a major role towards societal transformation and green growth. This is even more urgent in the light of the momentum for radical change during the UN 'Decade for Action' and the EGD. The key requirements incorporated into our work plan, and how we will address potential barriers are explained below:

- Achieving the transformational impacts that TRANSCEND envisions will demand a large-scale coordination effort across a wide array of EC projects, Missions and Partnerships, so as to explore and exploit synergies and avoid redundancies. The EC Research & innovation agenda on water management includes relevant projects for an estimated volume of around EUR 300 million as **CLARA**, **EPI-WATER**, **GoNEXUS**, **TALANOA-WATER**, **NAIAD**, **HYDROUSA**, **HydroSocialExtremes**, **INTCATCH**, **SCELI-FIRM** and **ACQUAOUNT**. These projects have produced an enormous body of knowledge and the consortium members of this proposal have contributed to many of them (highlighted in bold, see also Section 1.2.3). We have designated tasks and earmarked resources (T7.3) to harness and synthesize this knowledge and exploit synergies with these projects, as well as other projects envisaged in the HE Cluster 6 Work Program 2021-2022 and the European Partnership Water Security for the Planet (see [Water4All 2022](#)), and other relevant projects such as those funded in 2021-CLIMATE-01-01.
- So far, existing transformational policies are limited and confined to pilot studies with limited replicability and scalability. While there is a clear potential for a substantial scaling up of TAP in water and climate adaptation planning, this can only be achieved after the key barriers have been resolved. This includes a clear demonstration of the feasibility and contribution of TAP for water conservation and inclusive green growth, and their ability to cope with deep uncertainty and adapt to change; but also a thorough assessment of institutional barriers and reform options, including in transboundary basins where there is often no established international agreement. We will work to overcome technical, institutional and policy barriers by building on inputs from our models and in-reach from knowledge networks, including first-hand experiences of our key experts, who have shaped the academic, policy and industry discourse on policy transformations under uncertainty through the development of methodologies for uncertainty analysis (e.g. [CMIP6](#)) and the pioneering adoption of these methods for decision-making. We will develop with major science- ([CMIP6](#), [ISIMIP](#)) and industry-oriented platforms ([WRF](#)) replicable methods and best practices for policy analysis under uncertainty. The modeling suite will build on stakeholders' DSS, whose compatibility with our methods has been validated beforehand, to ensure understanding, advocacy and the systematic uptake of the modeling suite and acceptance of modeling results. We will also address issues of affordability and equity, and stimulate inclusive dialogue to build consensus.
- The EC has launched the five Horizon Europe Missions in September 2021. The Implementation plan of the EU Mission on climate adaptation and societal transformation aims to support 150+ European regions and communities and deliver 75+ large-scale demonstrations of systemic transformations to climate change (OJ, 2021b). Our project sets out to work closely with the regions and communities enrolled in and supported by the Mission (T7.3). We will also work in teams with Green Deal and HE projects working on these regions (such as REGILIENCE and projects funded under 2021-CLIMA-02-02 call), as well as with the Mission Secretariat, in assisting communities and regions to mobilize stakeholders, scientific and financial resources for robust TAP adoption.

2.1.3 Scale and significance of the project's contribution to expected outcomes and impacts

Table 2.1c shows the scale and significance of our contributions to expected outcomes and impacts. The estimates of significance and scale are intended as **lower bounds**.

Table 2.1c: Scale and significance of our contribution to the expected outcomes and impacts

| Outcomes (O) and Impacts (I) | Significance | Scale of outcomes and impacts |
|--|--|--|
| (O-1) -Adopt robust TAP in 15+ labs, including 5 large-scale demonstrators in regions enrolled in the Mission on climate adaptation | Demonstrate institutional and technical feasibility of <i>wide-scale</i> societal transformations towards sustainable and equitable economic and welfare growth under uncertainty, for the first time. | 15+ labs including 10+ EU labs representing 6.7% of the 150+ regions to be covered by Mission on climate adaptation, and 5 of the 75+ large scale demonstrators. |
| (O-2) -Validate ecosystem of innovation in 15+ labs. -Monitor TAP performance using digital technologies in 15+ labs. -Adopt TAP including climate & irrigation services in 10+ labs | Deploy a flexible water resources management mechanism to achieve sustainable and inclusive growth under deep and growing uncertainty. | 15+ labs covering 25+ countries, including 15+ EU countries representing >70% of EU surface and >75% of EU population. |
| (O-3) -Adopt and validate the ecosystem of innovation in 8+ transboundary labs. -Standardized mechanism for allocation of water in transboundary river basins. | Standardized transboundary water allocation mechanism applicable in the world's 286 transboundary basins , which span 151 countries and represent 42% of world's population and surface. | 8+ transboundary basins spanning 20+ countries that represent >10% of world's population and >5% of world's surface. |
| (O-4&5) -Adopt impact assessment & water accounting monitoring toolbox in 15+ labs -Promote toolbox adoption in Mission climate regions -Increase efficiency by 50%+ and reduce WEI+ by >5% in labs by 2030. | Deploy a flexible impact assessment and water accounting toolbox that monitors policy design and implementation under deep and growing uncertainty, and informs the building of adaptive efficiency across decision makers, so as to rapidly and efficiently adjust to change. | 15+ labs covering 25+ countries, including 15+ EU countries representing >70% of EU surface and >75% of EU population. |
| (O-6) -Multi-sector and multi-stakeholder partnerships that create and operationalize financing mechanisms in 12+ labs. | Secure sustainable investment into, and cost recovery of, TAP, including investments to update TAP in face of change and surprise. | 12+ partnerships tapping into 10+ national and 3+ EU financing mechanisms, including CAP, Cohesion Policy and LIFE funds |
| (O-7) -15+ local knowledge networks and extended international knowledge network. -Engage 500+ stakeholders. -Talanoa Dialogue in 15+ labs. -Train 150+ stakeholders & 150+ young scientists. | Transform public consultation and stakeholder engagement practices in water resources management by building trust and a strong foundation on which to work alongside stakeholders to co-create knowledge and build consensus. | Validate methods in 15+ labs covering 25+ countries (15+ in EU). Reach out and train transformation agents in 30+ basins spanning 20+ EU countries and 15+ non-EU countries. |
| (O-8a) -Mainstream uncertainty assessment and robust decision making in all EGD strategies. -Work with regions in the Mission. | Integrate uncertainty assessment and robust decision making into EU agricultural, biodiversity and climate adaptation policy making. | Mainstream project methods and results into all of the 8 EGD strategies; work with all regions in the Mission. |
| (O-8b) -Increase performance of SDG6.4.1 (+50%), SDG6.4.2 (reduced by >5%), SDG6.5.1 (10+ points), SDG6.5.2 (8+ arrangements), SDG6.1 (8+ sites) and SDG6.B (15+ communities) | Significantly improve 4 out of the 8 SDG6 targets and 6 out of the 11 SDG6 indicators. | 15+ labs that are representative of challenges and pressures affecting 2.3 billion people in water-stressed areas worldwide. |
| (I-1) -Reach out & inform 10 000+ stakeholders. -Promote the adoption of our groundbreaking ecosystem of innovation in 200+ basins. | Rapid upscaling of the ecosystem of innovation, leveraging on TRL7 modeling suite adapted to widely used stakeholders' DSS. | 200+ basins representing >40% of the 515 basins worldwide . |

| Outcomes (O) and Impacts (I) | Significance | Scale of outcomes and impacts |
|---|--|---|
| (I-2) -Train 1000+ stakeholders & engage 500+ scientists -Foster adoption of robust TAP in 200+ basins (100+ by 2030). | Achieve far-reaching and rapid transformation towards water scarcity- and climate-proof societies. | 200+ basins, 75% of the 2.3 billion people in water-stressed areas, and 120+ countries (> 60% of world's nations) including all 27 EU MS . |
| (I-3) -Foster adoption of an impact assessment and water accounting monitoring toolbox in 250+ basins. -Stimulate adoption of modeling suite in 250+ basins. | Rapid upscaling of the monitoring toolbox leveraging on open-source programming and datasets and widely used and customizable web-based interface. | 250+ basins, 85% of the population in water-stressed areas, and 140+ countries (> 70%), including all 27 EU MS . |
| (I-4&5) -Foster adoption of TAP that unleash LULUC for carbon sequestration in 100+ basins. -Promote adoption of TAP that store water and carbon through natural water retention measures in 75+ basins. -Adopt TAP that enhance adaptive capacity and resilience of water and soil systems through nature-based solutions and resilience instruments in 100+ basins. | Integrate uncertainty assessment and robust decision making into policy areas beyond water and climate adaptation (notably climate mitigation and agriculture); and systematically assess and exploit synergies across water, agriculture, soil and climate adaptation and mitigation policies. | 175+ basins, 70% of the population in water-stressed areas, and 100+ countries (> 50%), including all 27 EU MS . |
| (I-6) -Foster uncertainty assessment in EC's Strategic Foresight reports and all EU policies, to achieve robust management of scarce resources. -Foster adoption of the groundbreaking ecosystem of innovation to inform systemic transformations to climate change. | Integrate uncertainty assessment and robust decision making into all EU environmental policies and strategies , accelerate societal transformations in the 150+ regions in Mission climate adaptation, and deliver systemic transformations on the ground in the 75+ large scale demonstrators. | All 150+ European regions and communities, and all 75+ large-scale demonstrators enrolled in the Mission on climate adaptation. |

2.2 Measures to maximize impact - Dissemination, exploitation and communication

Well designed and tailored dissemination, exploitation and communication activities are at the heart of our strategy for outreach and in-reach (i.e., harnessing and leveraging knowledge from stakeholders in labs and exploiting the results produced in other projects), and therefore essential for the success of this project. The work packages **WP1** (Network), **WP2** (Co-creation) and **WP6** (Exploitation), where these activities are located, account for 50% of the project efforts in person-months. WP1 is led/co-led by CMCC/SEI, WP2 by SEI/UPV and WP6 by ARPAE/CMCC, all of whom have outstanding professional in-house capacity for science and policy-oriented communication, as well as unrivaled out- and in-reach capacity (see Table 3.2).

USAL will assume the strategic lead of our transversal ***Plan for the Dissemination and Exploitation including Communication activities (PDEC)*** and put in place the means for effective coordination and information sharing across partners. The initial PDEC has been designed by communication experts leveraging on the feedback received from stakeholders in labs over a series of meetings between Dec 2021 and Feb 2022. A revised and further detailed PDEC will be deployed on the onset of the project (D6.1, month 4). The PDEC specifies measures, timing and language lined up with the target audience, and builds upon a collective analysis, SMART (specific, measurable, assigned, realistic and timely) strategy, and professional design and standards (e.g. policy imprinting, media analysis). The realization of the PDEC will be overseen by the Project Coordinator and all partners will be closely engaged, including stakeholders in knowledge networks, whose communication channels we will thoroughly exploit. To ensure that a high regard is given to stakeholder recommendations and suggestions on dissemination, exploitation and communication, we will designate an Impact Champion whose role will be to constantly monitor stakeholder

contributions to these activities (see T1.6). Below we portray the cornerstones of the PDEC, including 1) exploitation and dissemination strategy & measures, 2) communication strategy & channels and 3) target groups; and detail the 4) Intellectual Property Right (IPR) Strategy.

2.2.1 Exploitation and dissemination strategy and measures

We will produce a range of exploitation and dissemination measures to ensure project methods and results are widely disseminated and used for decision-making and implementation of TAP, and as a basis for other value-added products and services, commercial (e.g. insurance provision) or not. Our exploitation and dissemination measures will transform results in outcomes and create impact. The key exploitation and dissemination measures include:

➤ **Business plan.** The business plan, which will be fully developed in D6.5, will design a credible path to deliver the ecosystem of innovation (the *service*) to the market. We will identify and target potential end-users of the service, including river basin authorities, environmental agencies and relevant EU, regional and national authorities. These authorities are in charge of achieving the objectives of the international (including i.a., the EGD, Climate Adaptation Strategy and Water Framework Directive) and national water, climate, socio-economic and innovation agendas; and will be critical drivers for the growth in the demand for TAP. We will work alongside potential end-users and other stakeholders to co-create the innovative TRANSCEND modeling suite and ecosystem of innovation in 7 labs, provide a transparent and exhaustive description of the cost structure, and assess the environmental, economic and financial return this service may offer. Co-creation will be highly instrumental towards revealing the cost-saving and value-added potential that end-users can obtain from TAP; and to shape expectation and market acceptance and extract business value of the service. We will explore the business and revenue models to ensure that end-users are provided with relevant knowledge, while those agents whose activities put water bodies under stress or directly/indirectly benefit from the results of TAP contribute to the financial sustainability of the service provision, including through pricing policies.

➤ **Scientific publishing, project brochure, leaflets, policy briefs, newsletter.** The initial dissemination package will include a leaflet and brochure on the business imperative to consider TAP in the operations of stakeholders, including decision-making. The executive summaries of major deliverables will be translated into policy briefs addressing specific audiences in labs and will be designed following the EC Guidance. Biannual newsletters will be elaborated targeting key stakeholders. All these products will be multilingual to ensure wide dissemination.

Partners are closely connected to *scientific publishing*, and several team members are current members of editorial boards of renowned scientific journals in multiple disciplines, including Water Resources Research, Environmental Modeling and Software, Climatic Change or Earth's Future, to name but a few. As a part of our communication and dissemination activities, we will produce scientific articles and special issues in the above and other JCR Q1 journals showcasing project results, including the publication of 10+ papers *per year*. We will submit and publish one paper showing the results of the TRANSCEND Project to Nature and/or Science. The articles in high impact journals will be accompanied by short webinars. All papers will be published **gold open access** leveraging on resources made available by our organizations, and working papers published in online repositories (see Section 1.2.6).

➤ **Training activities.** TRANSCEND will train the critical *transformation agents* needed to catalyze societal transformation and TAP to water scarcity and climate change, including 1) stakeholders and 2) young scientists.

- **Stakeholder training:** We will organize training events back-to-back workshops and webinars to build the capacity of decision-makers and stakeholders in labs and beyond to integrate the value of TAP and the ecosystem of innovation into river basin planning. We will collaborate with UN's WASAG, SWIM H2020 and DG NEAR WES training networks, as well as other major training initiatives, to train regulators as well as entrepreneurs, climate innovators and users. Partners also coordinate a number of postgraduate courses on water resources management taught in English and local languages (e.g., the MBA on [Management of Agri-food businesses](#) at USAL), where the cutting-edge knowledge and methods developed in TRANSCEND will be further disseminated, and stakeholders engaged. As partners of Climate-KIC, we will participate in Pioneers into Practice, consisting of bespoke transitions thinking and systems innovation mentoring delivered through a structured workshop programme and online training. Training activities will also engage stakeholders outside labs, to foster replication and upscaling.
- **Academic training:** The training of transformation agents in academia will be articulated through in-house academic programmes and facilities and summer/winter schools. Most partners coordinate postgraduate programmes on the management of water scarcity and climate change (e.g., MPhil/PhD programmes on Earth

Science at [UoM](#) and [UU](#)). Partners (e.g., [CMCC](#)) regularly organize Summer and Winter Schools for young scientists and practitioners, and we will build on this relevant expertise to organize throughout the lifetime of the project **two Summer/Winter Schools**.

➤ **Legacy.** Our legacy strategy aims to ensure a lasting footprint of the project, including the sustained and periodic update of the ecosystem of innovation in living labs. We will also establish “inspiration” labs across the world that explore robust TAP adoption using TRANSCEND’s methods, including in transboundary basins where we aim to set a standardized approach. The key assets needed to successful legacy and replication include:

- We will develop a critical pool of *transformation agents* to sustain, and where needed expand (e.g. new models, additional monitoring data), the ecosystem of innovation after the project ends. We will train 70+ stakeholders in labs, as well as 20+ stakeholders from outside labs; and 70+ PhD students.
- Leveraging on the business plan (D6.5), we will seek and secure additional investments to ensure the sustained and periodic update of the ecosystem of innovation. We expect to secure by the last year of the project, *at minimum*, 50 000 EUR/year/lab over a period of 3+ years in 4+ living labs & 4+ inspiration labs to finance the maintenance and update of the ecosystem of innovation, including direct financial contributions and monetized in-kind contributions (e.g. a worker/group of workers dedicated to the update of the modeling suite, monitoring toolbox and ecosystem of innovation).
- We will closely work with communities and regions beyond labs, including those supported by the EU Mission on climate adaptation and societal transformation. We will keep them updated on project outputs and engage with them in key project activities, including outreach events, webinars and international workshops, where we will showcase the performance of TAP and the ecosystem of innovation and seek their feedback to address gaps that may prevent replication. This will lead to the identification and initiation of 8+ inspiration labs.

We consider that achieving 15+ labs (including 5 large-scale demonstrators in regions enrolled in the Mission on climate adaptation), 160+ transformation agents and 8+ labs with a minimum investment sustained for 3+ years will provide the minimum basis to achieve, with high confidence and in the medium term (5-6y), a *critical mass* of end-users and resources that ignites far-reaching and rapid transformation towards a water scarcity- and climate-proof society within and *beyond* living labs in the longer term (7-10y). We will constantly monitor the performance of training, replication and fundraising activities through an *ad-hoc* Impact Champion (see task T1.6).

➤ **Policy leverage and Upscaling.** Partners are closely connected to major EU and international water- and climate-related platforms (IPCC, EGD expert groups and networks, HE Missions, UNDRR Sendai Framework for Disaster Risk Reduction), as well as all major national and regional networks in labs. This includes active engagement in major policy initiatives such as the comparative assessment of drought management plans that FTC will develop in 2022-2023 for the European Commission DG ENV, as well as informing basin management plans such as the second planning cycle in Greece, currently ongoing and supported by SEVEN, where we will aim to set TRANSCEND ecosystem of innovation as the standard for river basin planning.

We will leverage this comprehensive expertise and networking capacity to maximize the out- and in-reach of the project. We will review and synthesize existing knowledge, and work closely and attentively with stakeholders, expert groups and policy platforms and networks from regional to global levels, to identify legal, policy and regulatory barriers and reform options to upscaling implementation of TAP across the EU and beyond (T5.1-5.3). We will actively contribute to the design of river basin management plans in labs (EU’s third planning cycle), while seeking opportunities to contribute to supra-national and national strategies for water resources management, climate adaptation, disaster risk reduction, sustainable development, and ecosystem protection in the EU and beyond. We will author/co-author chapters in the DRMKC report ‘State of Science in DRM’, leveraging on the coordinating role of members of the Consortium, and actively inform the development of the United Nations World Water Development Report and the UN Global Assessment Report (GAR) on Disaster Risk Reduction, while actively seeking to contribute to other flagship reports produced during TRANSCEND’s lifetime. We will liaise with principal innovation platforms, including Climate KIC, to amplify the impact of our activities and boost transformational adaptation to water scarcity and climate change.

2.2.2 Communication strategy and channels

Properly designed communication will support both the dissemination and exploitation of our research results and contribute to achieving the intended outcomes & impacts of the project. TRANSCEND communication channels

have been designed to aptly respond to the challenge posed by mobility restrictions due to the COVID-19 pandemic, and include:

➤ **Online communication and the Virtual Forum.** The need for a sound online communication approach has been amplified by the recent COVID-19 pandemic, which significantly restricted mobility to different degrees, including in regions and countries where TRANSCEND labs, partners and stakeholders are located. This calls for the revision and adaptation of communication approaches to the new context. Beyond the conventional approach that uses online communication as an “information clearing-house” or “info-point”, we will use online communication also as a tool to actively engage, discuss, build consensus, take decisions and coordinate actions in labs. Online communication will be centralized and managed through the **Virtual Forum**, the communication hub of TRANSCEND, which encompasses all channels of communication in the project, including live online access to workshops and events.

The Forum will be articulated through two main platforms: the **website** and the mobile **app**. Both platforms will feature professional design and communication standards that ensure ease-of-access and ease-of-use. The website and the app will be designed in a way that is appealing to a diversity of users, guiding the different audiences to products of their interest, including: live online access to project workshops, meetings and training, short news, repository of project results (digital library), access to social media, and a blog that stages interviews, opinion articles and policy briefs. The web and the app will employ state-of-the-art web services including interface to Twitter, Facebook, YouTube and other social media; and connect to partners’ profiles (Twitter, Facebook) and YouTube channels. We will use videos and other interactive tools for dissemination, where we will employ scribing techniques that are based on mind-mapping and graphical skills of a scribing artist to synthesize complex issues in a way that is accessible to users of different backgrounds and expertise.

The Virtual Forum will aptly complement and underpin, and where necessary substitute, in person communication during the project. **In person communication** will be adopted, where possible, for local and international workshops, training events, and outreach events. In person meetings have a number of advantages over online meetings: they make possible the use of body language, make misunderstandings less likely, increase discipline and concentration, facilitate social exchange, create stronger bonds among participants, catalyze networking, and create a healthy team culture; all of which can be only partly achieved through online interaction. **Online communication** will be the default for webinars, webinars and foresight and technical and foresight meetings with limited content and participants, so as to economize time and other resources. Online communication will be also adopted where in person interaction in workshops, training and outreach events is not possible for some or all participants, including due to COVID-19 mobility restrictions. Major stakeholder engagement activities in workshops and training events will include a virtual interface and allow for both in person and remote simultaneous participation, while ensuring fluent communication. All workshops and events will be widely advertised, broadcasted live, recorded, and uploaded to the digital library. This will inform all participants in knowledge networks on the progress and activities in the labs, while making the process *transparent*, thus contributing to build trust among members. We will deploy **sensible virtual engagement techniques and tools** to fully unleash the potential of online communication and ensure continued and active interaction and knowledge-sharing. Leveraging on the Forum channels and platforms, we will apply deep listening and media monitoring tools to better target our communication products; listen actively to online conversations, the media landscape and (key) stakeholders, so to understand underlying currents; audit stakeholder engagement and digital lobbying to map engagement dynamics; and revise online engagement towards strengthening stakeholder engagement/endorsement of TRANSCEND methods and results (advocacy). These functions cannot or can only be partly achieved through in person communication. The upshot is a comprehensive communication strategy that combines the strengths of online and in person communication, and aptly addresses obstacles to in person communication, towards a successful science-policy engagement and co-creation process.

➤ **Workshops.** TRANSCEND adopts an iterative stock-taking co-creation process where stakeholders and scientists gather in 4 annual local workshops in the context of each living lab, and in 2 international workshops involving all labs (held at partners’ premises in Venice—month 25—and Valencia—month 42); complemented with continuous engagement in technical and foresight meetings, training and other events (Table 2.2c). The objectives, month and participants of workshops are described in Table 2.2a. Workshops 2, 3, 4 and 5 will field *scenathons* to integrate complex scientific modeling and related outputs into knowledge sharing and better understand how stakeholders make decisions, so as to enhance transparency and trust, build consensus, and deploy TAP. Workshop 6 will conduct a collective assessment of outputs and implementation plans and catalyze the further development of legacy and upscaling actions, including definition of inspiration labs. We will produce policy briefs ahead of workshops to continuously inform stakeholders on project progress and deliver key information.

Table 2.2a: Objectives, participants and date (in months from the start of the project, M) of the workshops

| No | Workshop title | Objectives & participants | Associated with document Ref. Ares(2022)6748781 - 30/09/2022 |
|----|--------------------------------|---|--|
| 1 | 1 st local workshop | Scene setting, momentum building; research gaps, challenges and uncertainties; exploratory co-design and co-development. Participants: local stakeholders | 8 |
| 2 | 2 nd local workshop | <i>Scenathon</i> ; co-evaluation; revision of TAP, scenarios and modeling suite (<i>iterative stock-taking process</i>). Participants: local stakeholders | 19 |
| 3 | 1 st Int'l workshop | <i>Scenathon</i> ; cross-fertilization; collective identification of gaps and challenges, and TAP with high potential. Participants: int'l network board, other key stakeholders. | 25 |
| 4 | 3 rd local workshop | <i>Scenathon</i> ; exploratory co-identification; revision of TAP and scenarios, new iteration(s). Participants: local stakeholders | 30 |
| 5 | 4 th local workshop | Presentation of detailed modeling results in <i>scenathon</i> , co-identification; plan for co-implementation of selected TAP in labs. Participants: local stakeholders | 36 |
| 6 | 2 nd Int'l workshop | Collective assessment of outputs and co-implementation plans; barriers & reform options for upscaling and legacy; define inspiration labs. Participants: int'l network board, other key stakeholders | 42 |

➤ **Outreach events.** We will hold seminars and panel discussions at major industry/users, associations/regulators and citizen events, as well as at OECD, World Bank, EEA, JRC and EC events. We will organize side-events to present results at major scientific and outreach events, including Climate-KIC Innovation festivals, EIP conferences and the World Water Congress, among others. We will also organize annual webstivals through the Virtual Forum to showcase activities across labs and share experiences. Table 2.2b identifies key international outreach events that we will attend, where we will convene targeted sessions and/or side events, aiming at amplifying the impact of our outreach and *upscaling* activities—including identification and definition of inspiration labs.

Table 2.2b: Preliminary list of international scientific and outreach events we will attend/organize

| Activity/Event | Target Audience | Objectives |
|--|--|---|
| European Innovation Partnership (EIP) Water Conference | Regulators, utilities, water users, industry, civil society, general public | -Spread and publicize outcomes |
| EIT Climate KIC Innovation festivals | | -Learn about front-line innovation |
| IWRA World Water Congress | Regulators, utilities, industry, academic community, civil society organizations | -Forge coalitions and partnerships |
| EU Climate Change Adaptation Conference | | -Disseminate TAP, ecosystem of innovation, labs results |
| UN's WASAG Network meetings | | -Establish collaboration |
| IAHS Conferences | | -Identify and define <i>inspiration labs</i> |
| Researchers' night | Broader society, citizen panels | -Present TAP & project outcomes -Engage citizen panels across labs |

2.2.3 Target groups

Our target audience are (i) regulators and decision-makers at various levels of government (river basin authorities, environmental agencies, EU and regional to national governments); (ii) utilities, industry (e.g., insurance) and users' associations (e.g., agricultural water users associations); (iii) civil society organizations (e.g., NGOs) and general public; and (iv) academia and research organizations (including young researchers and professionals). Further to the knowledge networks that embrace representatives of all these groups in labs, we will use the dissemination, exploitation and communication measures above to address target groups beyond labs. All measures will be centralized in the online Virtual Forum to ensure fluent, inclusive and continuous knowledge sharing and co-creation across partners and stakeholders—also in the eventuality of mobility restrictions. Table 2.2.1c summarizes our target audience and the measures we will prioritize to communicate with each target group.

Table 2.2.c: Dissemination, exploitation and communication measures by target groups

| Regulators: river basin authority, environmental agency, or equivalent body managing water resources | Regulators: EU and regional to national governments |
|---|---|
| <ul style="list-style-type: none"> • 28 Local workshops, 2 international workshops • Virtual Forum (website, mobile app) • 70+ Technical and foresight meetings • 34 Training events (in workshops & webstivals) • 28 Newsletter, 7 brochure and leaflets (multilingual) • Twitter, Facebook and other social media | <ul style="list-style-type: none"> • 28 Local workshops, 2 international workshops • Virtual Forum (website, mobile app) • 70+ Technical and foresight meetings • 34 Training events (in workshops & webstivals) • 28 Newsletter, 7 brochure and leaflets (multilingual) |

| | |
|---|---|
| <ul style="list-style-type: none"> • 3 Video presentations (scribble) • 12+ Webinars • 30 Policy briefs ahead of workshops • All project deliverables • 40+ Scientific papers • 45+ Outreach events, 4 webstivals • 3 Open data sets • Portals – FAO Aquastat, WaPOR, EEA, Climate Adapt • Online catalogue of TRANSCEND-enabled services | <p>Associated with document Ref. Ares(2022)6748781 - 30/09/2022 Twitter, Facebook and other social media</p> <ul style="list-style-type: none"> • 3 Video presentations (scribble) • 12+ Press releases in (local) newspapers • 3 Open data sets • 30 Policy briefs ahead of workshops • All project deliverables • 45+ Outreach events, 4 webstivals • Online catalogue of TRANSCEND-enabled services |
| <p>Academia and research organizations</p> | <p>Utilities, industry and users’ associations</p> |
| <ul style="list-style-type: none"> • 28 Local workshops, 2 international workshops • Virtual Forum (website, mobile app) • 2 summer/winter schools • 28 Newsletter • All Deliverables • 30 Policy briefs ahead of workshops • 12+ Webinars • 40+ Scientific papers • 45+ Outreach events, 4 webstivals • 3 Open data sets • Portals – FAO Aquastat, WaPOR, EEA, Climate Adapt • 15+ Staff exchanges | <ul style="list-style-type: none"> • 28 Local workshops, 2 international workshops • Virtual Forum (website, mobile app) • 34 Training events (in workshops & webstivals) • 28 Newsletter • 3+ Targeted brochures, e.g. COPA-COGECA • Twitter, Facebook and other social media • 3 Video presentations (scribble) • 30 Policy briefs ahead of workshops • 45+ Outreach events, 4 webstivals • 3 Open data sets • Portals – Water Risk Filter, EEA, Climate Adapt • Online catalogue of TRANSCEND services |
| <p>Civil society organizations</p> | <p>General public</p> |
| <ul style="list-style-type: none"> • 28 Local workshops, 2 international workshops • Virtual Forum (website, mobile app) • 3 Video presentations (scribble) • 28 Newsletter • Twitter, Facebook and other social media • 30 Policy briefs ahead of workshops • 45+ outreach events, 4 webstivals • Science-society events (e.g. Researchers’ Night) • Portals – Water Risk Filter, EEA, Climate Adapt | <ul style="list-style-type: none"> • 14 Local citizen panel meetings, 1 int’l meeting • Virtual Forum (website, mobile app) • 28 Newsletter, blog, brochure • 3 Video presentations (scribble) • Twitter, Facebook and other social media • 14+ Press releases in (local) newspapers • Portals – Water Risk Filter, EEA, Climate Adapt • 14+ Citizen science events (researchers’ night) • 4 webstivals |

2.2.4 Knowledge management and protection, and the Intellectual Property Right (IPR) management

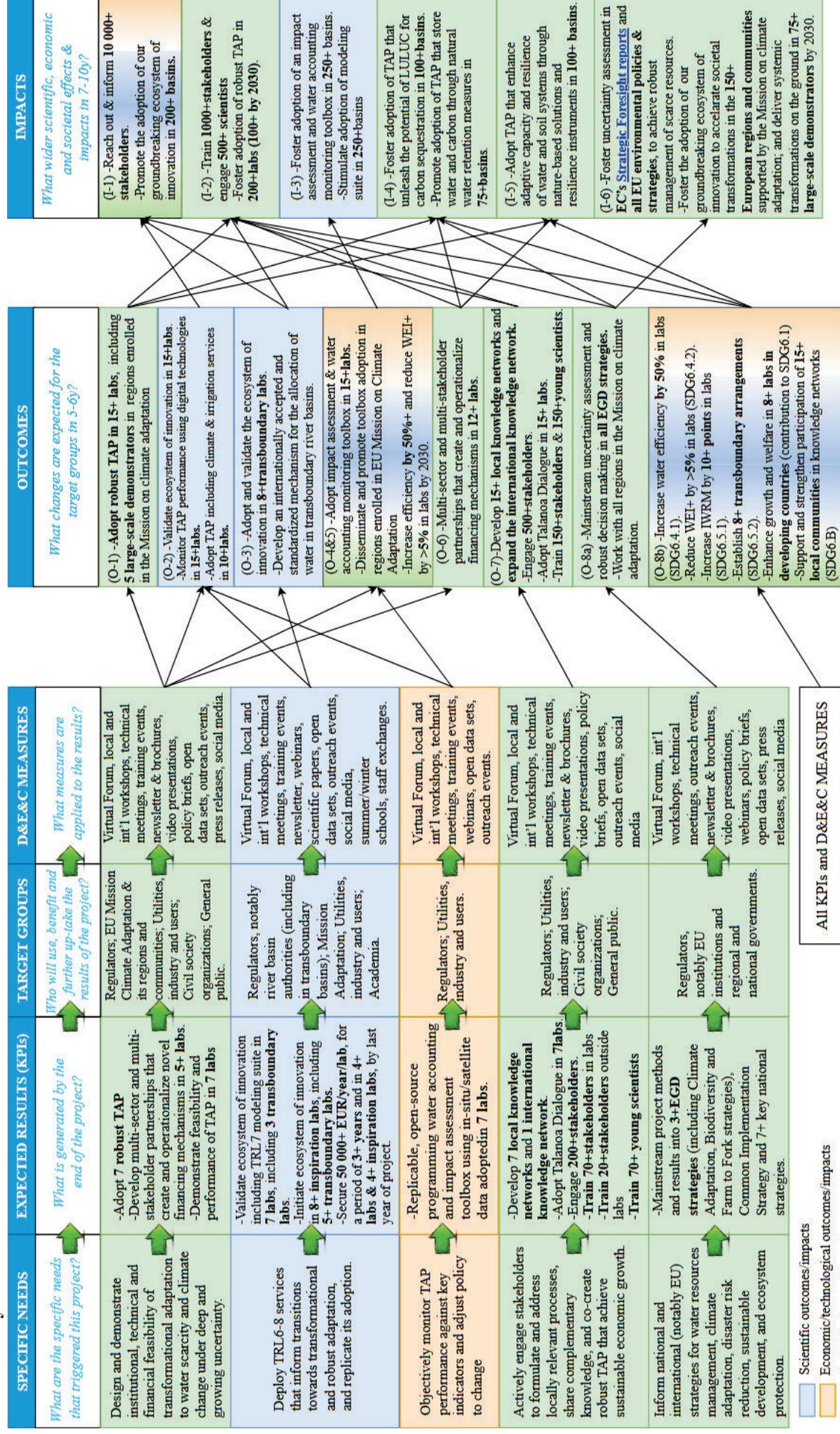
A considerable amount of “background knowledge” will be brought into TRANSCEND by stakeholders and Consortium partners, thanks to their extensive and active involvement in the relevant areas of research and policy over the past decades. Moreover, the project will collect and generate abundant and varied “foreground knowledge”, in terms of methods, tools, and datasets. The attitude of the Consortium is to **widely share such knowledge** and ensure the maximum level of diffusion (e.g., via workshops, training, website, mobile app). All key deliverables and exploitable results will be made public under gold open access rules and Creative Commons Attribution (CC BY) copyright license, for which anyone will be permitted to adapt, remix, distribute and build upon the project's results, including for commercial use, as long as the source is properly cited, in compliance with the EU copyright legislation.

The Knowledge management and IPR policy will be included in the Consortium Agreement and signed by all partners before the project starts. The Knowledge management and IPR rules will regulate [1] granting the Access Rights to the *background* needed for the implementation of the project and exploitation of the results; and [2] the ownership, transfer and dissemination of the *foreground*. The Knowledge management and IPR policy will be based on the following basic principles:

[1] The background (i.e. the information and rights held prior to accession to the grant agreement) brought into the project remains the property of the partner that has generated it;

[2] The foreground (i.e. the results of the project activities) generated under the project is owned by the partner who has carried out the work leading to that foreground. When several partners have jointly carried out the work and their respective share of work cannot be determined, they shall have joint ownership of such foreground, and a “joint ownership agreement” may be drawn up for this purpose (the default regime is applied if no “joint ownership agreement” is signed).

2.3 Summary



All KPIs and D&E&C MEASURES

- Scientific outcomes/impacts
- Economic/technological outcomes/impacts
- Societal outcomes/impacts

3. Quality and efficiency of the implementation

3.1 Work plan and resources

The project structure is simple and effective, and drawn upon the vast collective experience of Consortium partners. The workflow is aligned with the project's objectives, and supportive of fulfilling the project's expected results, outcomes and impacts. The project has 7 work packages (WPs), each consisting of several, well-designed and interconnected tasks. All WPs are equipped with adequate resources that are proportional to the tasks. The contribution of various Consortium partners has been planned by matching the tasks with the skills needed, while preserving balance of roles and creating a good platform for teamwork among partners. Each WP has a designated lead organization. In addition, a designated co-lead organization will support the WP leader in planning and supervising the WP research and innovation activities. This choice reflects the interdisciplinary, intersectoral and multi-regional character of the project.

The project is structured in four thematic work packages that develop the three pillars of the ecosystem of innovation (WP1, 3, 4) and its application in living labs (WP2); complemented by Knowledge for Policy (WP5), Exploitation, dissemination and communication (WP6) and Coordination and management (WP7):

WP1 (NETWORK – *Strategic guidance of Knowledge Networks*) is the project's vehicle for stakeholder engagement, collaboration, knowledge sharing and mutual learning in knowledge networks.

WP2 (CO-CREATION – *Co-creation in labs*) will design and implement robust TAP in labs through co-creation.

WP3 (MODELING – *Actionable modeling suite*) will develop the modeling suite and quantify the cascading impacts and uncertainties of TAP across socioeconomic and ecological systems.

WP4 (MONITORING) will design and populate an interactive water accounting and impact assessment toolbox to monitor TAP performance against key indicators, and build climate and socio-economic scenarios.

WP5 (KNOWLEDGE 4 POLICY) will examine governance, policy and financial enablers and barriers to inform co-creation, and synthesize and upscale co-creation results to inform national and supra-national (e.g. EGD) policies.

WP6 (EXPLOIT – *Exploitation, dissemination and communication*) will implement a range of activities enabling an effective exploitation, dissemination and communication of project results.

WP7 (COORDINATION) will be devoted to project coordination and management, progress monitoring, periodic review, identification of risk of underachievement and contingency planning, and internal communication.

Figure 3.1a: Gantt chart. Legend: W: Workshops; K: Kick-off; G: General Assembly; F: Final conference

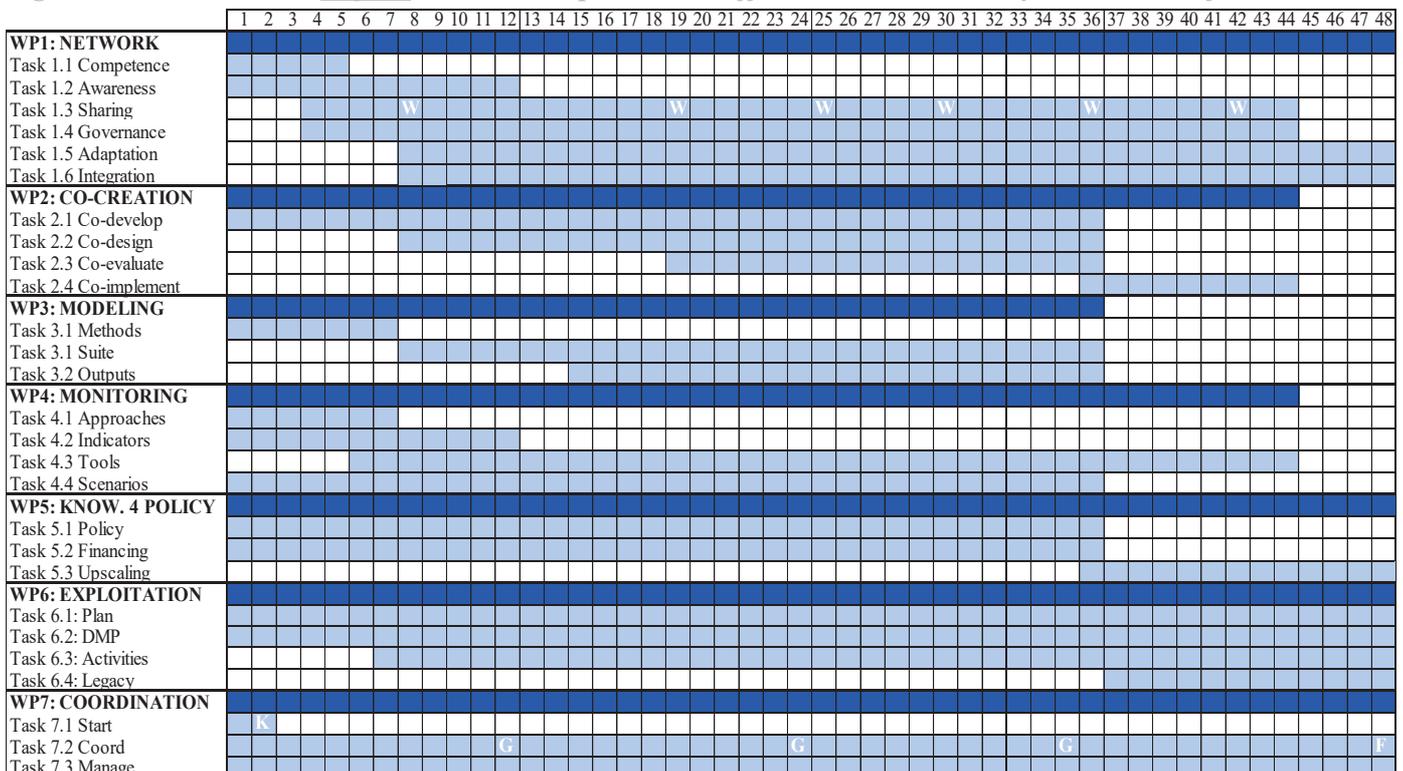
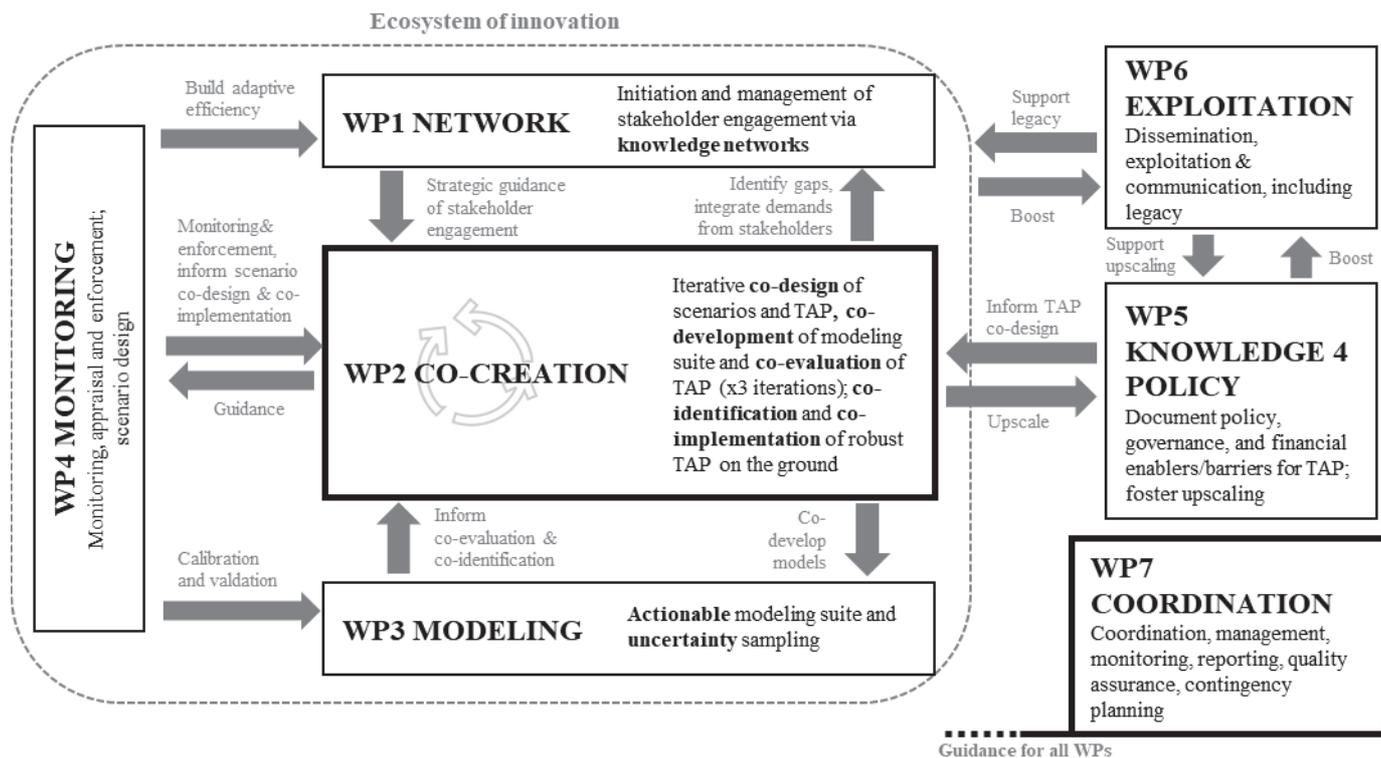


Figure 3.1b: graphical presentation of TRANSCEND components showing how they inter-relate.



3.1.1 Resources to be committed

The TRANSCEND Project will be implemented over a period of 4 years and involves 15 partners. The total cost of the project is 5 305 754 € and the total requested EC contribution amounts to 4 331 089 €. The EC contribution is lower than the total project’s costs, because of the own resources provided by ASU (97 500 €), IRAP (65 000 €) and SVP (31 250 €) in the form of personnel and indirect costs; because for the involved SMEs (SEVEN, FTC) the funding rate is limited to 70%; and because UoM funding, which totals 668 485 €, will be provided by UK Research and Innovation through the [funding backstop guarantee for UK participants](#) in Horizon Europe. UoM funding includes personnel costs, purchase costs (comprising the organization of 4 local workshops in the Mahanadi living lab), and indirect costs. As encouraged by the call, the Consortium collaborates with third countries with transboundary rivers through three non-EU partners (AUB, IRAP, ASU), of which AUB will receive EU funding and ASU and IRAP will participate as associated partners. The financial plan of the project is summarized in the Budget Table in Part A. The budget has been allocated according to the most effective partners’ contributions, and to agreed roles and responsibilities.

The largest share of the project costs are direct personnel costs (2 934 115€ from partners plus 596 245 € from associated partners—UoM, ASU and IRAP), equaling to 678 Person-Months (PMs). Personnel costs were estimated based on the costs incurred by experts identified in this proposal, responsible for delivering on the project’s tasks and objectives.

We have allocated 645 700 € of the EC contribution to purchase costs. Purchase costs include: 1) **Travel costs (229 000 €)**, allocated to all eligible partners for travel costs incurred by attending the project events and travels related with outreach events; 2) **Project events costs (309 700 €)**, allocated to partners responsible for hosting 1 Kick-off meeting (USAL), 3 General Assemblies (UPV, KRI, UU), 1 Final Conference (CMCC), 2 international workshops (CMCC, UPV), 4 annual science-policy workshops per lab (UPV, KRI, SEI, ARPAE, AUB, SAŽP) and 2 summer/winter schools (UU, SEI) (see Figure 3.1.c for the breakdown of the project event costs); 3) **Dissemination costs (20 000 €)**, allocated to USAL to cover dissemination and communication costs, including project logo, virtual forum, 3 videos, leaflets, brochures; 4) **Equipment costs (27 000 €)**, allocated to USAL, CMCC, UU, UPV, SEI, SAŽP for the acquisition of equipment for project personnel; 4) **External Advisory Board (EAB) costs (30 000 €)**, allocated to USAL; and 5) **Audit costs (30 000 €)**, allocated to USAL, CMCC, UU, UPV and SEI (whose total requested contribution exceeds 430.000 €) to cover the costs of the Certificates on Financial Statement.

Figure 3.1.c: Detailed breakdown of the project event costs

Associated with document Ref. Ares(2022)6748781 - 30/09/2022

| Local workshops - 20 participants each – 1.5 days | | Int'l workshops - 40 participants each - 2 days | |
|---|--------------|---|--------------|
| -3 coffee breaks | 600 | -4 coffee breaks | 1600 |
| -2 lunch | 1000 | -2 lunch | 2000 |
| -1 social dinner | 1000 | -1 social dinner | 2000 |
| -15 stakeholders, travel & accomm. (nat'l) | 6000 | -25 stakeholders, travel & accomm. (int.l) | 18750 |
| Total cost per workshop (4 in total) | 8600 | Total cost per workshop (2 in total) | 24350 |
| Kick-off & General Ass. - 35 participants each - 2 days | | Final project conference - 60 participants - 2 days | |
| -4 coffee breaks | 1600 | -4 coffee breaks | 2400 |
| -2 lunch | 2000 | -2 lunch | 3000 |
| -1 social dinner | 2000 | -1 social dinner | 3000 |
| Total cost per meeting (4 in total) | 5600 | Total cost per meeting (1 in total) | 8400 |
| Winter/summer schools - 30 participants each – 2 days | | | |
| -3 coffee breaks | 900 | | |
| -2 lunch | 1500 | | |
| -1 social dinner | 1500 | | |
| -20 students, travel & accomm. | 8000 | | |
| Total cost per school (2 in total) | 11900 | | |

Table 3.1d: Justification for purchase costs for participants where these costs exceed 15% of personnel costs

| 1. USAL | Cost (€) | Justification |
|-----------------------------------|---------------|---|
| Travel and subsistence | 30 000 | Travel to project events and outreach events, including: Kick-off, General Assemblies and final project conference (5 events, 1k per person, 2 persons per event – 10k in total); international workshops (2 events, 1k per person, 2 persons per event – 4k in total); summer schools (2 events, 1k per person, 2 persons per event – 4k in total); and scientific conferences, outreach events and staff exchanges (max. 12 events, 1k per participant - 12k in total; the remainder will be used towards staff exchanges). |
| Equipment | 8 000 | Acquisition of new equipment for project personnel (computers, phablets, and peripherals, software licenses to run models -e.g. GAMS, GEMPACK), in compliance with EC accounting practices. |
| Other goods & services | 61 600 | Dissemination (20k), including 3 project videos (10k), virtual forum with website & app (5k), brochure and leaflets (1k), and others -e.g., professional design (press releases, policy briefs) and communication, researchers' night (4k); Kick-off meeting (5.6 K, see Figure 3.1.c for breakdown of costs); audit (6k); and External Advisory Board/EAB (30k), including travel costs to international workshops (7 persons, 2 events, 1k per person – 14k in total) and remuneration for external reviews, including any additional traveling costs to local labs where needed (16k). |
| Total | 99 600 | |

| 5. UPV | Cost (€) | Justification |
|-------------------------------|----------|---|
| Travel and subsistence | 23 000 | Travel to project events and outreach events, including: Kick-off, General Assemblies and final project conference (5 events, 1k per person, 2 persons per event – 10k in total); international workshops (2 events, 1k per person, 2 persons per event – 4k in total); summer schools (2 events, 1k per person, 2 persons per event – 4k in total); and scientific conferences, outreach events and staff exchanges (max. 5 events, 1k per participant – 5k in total; the remainder will be used towards staff exchanges). |

| | | |
|-----------------------------------|--------|--|
| Equipment | 4 000 | Acquisition of new equipment for project personnel (computers, phablets and peripherals, software licenses to run models -e.g. GAMS, GEMPACK, others), in compliance with EC accounting practices. |
| Other goods & services | 70 350 | 4 Local workshops (34.4 K), int'l workshop (24 350), 1 GA (5.6k) (see Figure 3.1.c for breakdown of costs per event), audit (6k). |
| Total | 97 350 | |

| 6. SEI | Cost (€) | Justification |
|-----------------------------------|-----------------|---|
| Travel and subsistence | 23 000 | Travel to project events and outreach events, including: Kick-off, General Assemblies and final project conference (5 events, 1k per person, 2 persons per event – 10k in total); international workshops (2 events, 1k per person, 2 persons per event – 4k in total); summer schools (2 events, 1k per person, 2 persons per event – 4k in total); and scientific conferences, outreach events and staff exchanges (max. 5 events, 1k per participant – 5k in total; the remainder will be used towards staff exchanges). |
| Equipment | 4 000 | Acquisition of new equipment for project personnel (computers, phablets, and peripherals, software licenses to run models -e.g. GAMS, GEMPACK), in compliance with EC accounting practices. |
| Other goods & services | 52 300 | 4 Local workshops (34.4 K), 1 summer/winter school (11.9k) (see Figure 3.1.c for breakdown of costs per event), audit (6k). |
| Total | 79 300 | |

| 7. ARPAE | Cost (€) | Justification |
|-----------------------------------|-----------------|---|
| Travel and subsistence | 23 000 | Travel to project events and outreach events, including: Kick-off, General Assemblies and final project conference (5 events, 1k per person, 2 persons per event – 10k in total); international workshops (2 events, 1k per person, 2 persons per event – 4k in total); summer schools (2 events, 1k per person, 2 persons per event – 4k in total); and scientific conferences, outreach events and staff exchanges (max. 5 events, 1k per participant – 5k in total; the remainder will be used towards staff exchanges). |
| Other goods & services | 34 400 | 4 Local workshops (34.4 K, see Figure 3.1.c for breakdown of costs per event). |
| Total | 57 400 | |

| 8. SAŽP | Cost (€) | Justification |
|-----------------------------------|-----------------|--|
| Travel and subsistence | 14 000 | Travel to project events and national outreach events, including: Kick-off, General Assemblies and final project conference (5 events, 1k per person, 2 persons per event – 10k in total); and international workshops (2 events, 1k per person, 2 persons per event – 4k in total). |
| Equipment | 3 000 | Acquisition of new equipment for project personnel (computers, phablets, and peripherals), in compliance with EC accounting practices. |
| Other goods & services | 34 400 | 4 Local workshops (34.4 K, see Figure 3.1.c for breakdown of costs per event). |
| Total | 51 400 | |

| 10. AUB | Cost (€) | Justification |
|-------------------------------|-----------------|---|
| Travel and subsistence | 23 000 | Travel to project events and outreach events, including: Kick-off, General Assemblies and final project conference (5 events, 1k per person, 2 persons per event – 10k in total); international workshops (2 events, 1k per person, 2 persons per event – 4k in total); summer schools (2 events, 1k per person, 2 persons per event – 4k in total); and scientific |

| | | |
|-----------------------------------|--------|---|
| | | conferences, outreach events and staff exchanges (max. 5 events, 1k per participant – 5k in total; the remainder will be used towards staff exchanges). |
| Other goods & services | 34 400 | 4 Local workshops (34.4 K, see Figure 3.1.c for breakdown of costs per event). |
| Total | 57 400 | |

| 11. KRI | Cost (€) | Justification |
|-----------------------------------|----------|--|
| Travel and subsistence | 14 000 | Travel to project events and national outreach events, including: Kick-off, General Assemblies and final project conference (5 events, 1k per person, 2 persons per event – 10k in total); and international workshops (2 events, 1k per person, 2 persons per event – 4k in total). |
| Other goods & services | 40 000 | 4 Local workshops (34.4 K), 1 GA (5.6k) (see Figure 3.1.c for breakdown of costs per event). |
| Total | 54 000 | |

3.2 Capacity of participants and consortium as a whole

The TRANSCEND Consortium has unique and unrivaled strengths and expertise for a successful implementation of this project. The highly qualified Consortium is composed of 15 partners with extensive and complementary knowledge, expertise and experience, distinguished in their respective fields. As encouraged by the call, the Consortium collaborates with third countries with transboundary rivers through three non-EU partners: AUB, IRAP and ASU. AUB will receive EU funding to develop activities in the Orontes lab for which local expertise is required, while IRAP & ASU participate in the project with their own resources as associated partners.

A sensible allocation of resources has been implemented in order to ensure that the manifold interdisciplinary skills necessary to achieve project tasks and objectives are met. Each of the thematic areas is covered by 3+ partners with excellent skills, ensuring sufficient capacity to achieve project objectives also in the event of contingencies. The contribution of various partners has been planned by matching the tasks with the skills needed, while preserving balance of roles, and assigning adequate financial resources to fulfill that role. The Consortium partners are well connected between themselves through past and ongoing collaborations, and will ensure efficiency in coordination, work distribution and resource allocation, and effectiveness in the achievement of objectives, following the carefully designed workplan.

The compatibility and complementarity of the experience, expertise and knowledge across the consortium partners are paired with a long-standing track record of successfully implemented European, international and national/sub-national projects (see Section 1.2.3). Partners have been involved in, or coordinated, some **25** H2020 actions under the Societal Challenge 5 (Climate Action, Environment, Resource Efficiency and Raw Materials), for a total value of 245 million Euro ([Cordis open data January 2022](#)). All partners contribute to the project with the expertise of internationally acclaimed scientists who are leading or actively participating in working groups within thematic scientific societies and strategic policy groups. Table 3.2 summarizes the thematic skills across the Consortium partners, which are explained in detail below. By connecting interdisciplinary projects, innovation activities, networks and scientific teams with complementary skills, data, and perspectives, **TRANSCEND will produce synergistic research and scholarship that accelerates scientific discovery and informs and catalyzes decision-making towards transformational adaptation.**

*Table 3.2: Overview of partners' complementary skills and expertise supporting the priority areas of the project. Legend: *** excellent and proven expertise & skills, ** very good expertise & skills, * good understanding*

| Thematic area | USA L | CMC C | UU | FTC | UPV | SEI | ARP AE | SAŽP | SEVE N | AUB | KRI | SVP | IRAP | ASU | UoM |
|---------------------|----------|----------|----|-----|-----|-----|-----------|------|-----------|-----|-----|-----|------|-----|-----|
| Awareness raising | *** | *** | ** | ** | * | *** | ** | ** | ** | * | * | * | * | * | ** |
| Mapping competences | ** | *** | * | ** | ** | *** | *** | ** | * | ** | ** | * | * | * | *** |

| Thematic area | USA L | CMC C | UU | FTC | UPV | SEI | ARPAE AE | SAZIN SEVEN | AUB | RRP | SVP | IRAP | ASU | UoM |
|-------------------------------|----------|----------|-----|-----|-----|-----|-------------|----------------|-----|-----|-----|------|-----|-----|
| Serious games | *** | *** | * | ** | ** | *** | * | * | * | * | * | * | * | * |
| Policy dialogue | *** | *** | ** | *** | ** | *** | ** | *** | ** | ** | *** | ** | ** | *** |
| Adaptive efficiency | *** | ** | * | * | *** | * | ** | *** | ** | * | ** | * | * | *** |
| Ecological modeling | ** | *** | *** | * | *** | *** | *** | ** | *** | *** | ** | *** | *** | *** |
| Socioecon. modeling | *** | *** | *** | * | *** | ** | * | * | ** | * | * | * | * | *** |
| Socio-ecol. mod. | *** | *** | *** | * | *** | ** | * | * | ** | * | * | * | * | *** |
| Ensemble forecast | *** | *** | *** | * | ** | ** | * | * | * | * | * | * | * | ** |
| DSS | ** | ** | ** | * | *** | *** | *** | *** | *** | ** | *** | *** | *** | ** |
| Monitoring & water accounting | ** | * | ** | * | *** | ** | ** | ** | *** | *** | ** | ** | * | *** |
| Scenario design | *** | *** | ** | ** | ** | *** | ** | ** | ** | ** | | ** | * | *** |
| Policy design | *** | *** | ** | *** | *** | ** | *** | *** | ** | * | *** | * | *** | *** |
| Policy evaluation | *** | *** | * | *** | *** | *** | * | *** | *** | ** | *** | * | ** | *** |
| Policy implementation | ** | ** | * | ** | ** | *** | * | *** | *** | ** | *** | ** | *** | *** |
| Upscaling & legacy | *** | *** | * | ** | ** | ** | ** | *** | ** | ** | ** | * | * | ** |
| Training | ** | *** | *** | ** | ** | *** | ** | ** | *** | *** | * | * | *** | *** |
| Online engagement | *** | ** | ** | *** | ** | *** | ** | ** | *** | ** | * | * | ** | ** |
| Event organization | *** | *** | *** | *** | *** | *** | *** | ** | ** | *** | *** | * | *** | *** |
| Ethics, gender | *** | *** | *** | ** | *** | *** | *** | *** | *** | *** | ** | ** | ** | *** |
| Open Science | *** | *** | *** | ** | *** | ** | ** | ** | *** | ** | * | ** | *** | *** |

The Consortium has exceptional expertise in the initiation and management of knowledge networks. We have conducted activities focused on awareness raising, exploiting relational competences, policy dialogue, knowledge sharing and building adaptive efficiency with all key stakeholders in the labs. SEI, USAL & CMCC frequently engage with stakeholders to enhance their understanding and awareness of uncertainty, including [debiasing and debunking efforts](#) to deconstruct misinformation. All partners have expertise in the organization of policy dialogues with stakeholders, including through Talanoa dialogues (USAL) and *scenathons* (notably SEI, CMCC & USAL).

The Consortium has an outstanding and complementary track record of applied socio-ecological modeling, ensemble forecasting and water accounting and monitoring. We are closely linked and actively contribute to major international water- and climate-related modeling assessments and platforms, including ensemble experiments such as [CMIP6](#) and [LUMIP](#), as well as key socio-ecological modeling platforms such as [IAHS’ Pantha Rei Working Groups](#) and the [COMPASS Global Water Assessment](#), to name but a few (see Section 1.2.3). Partners have contributed to major remote sensing and data processing initiatives, including pilot applications of [FAO’s WA+ framework](#) (AUB). Moreover, partners have developed widely used DSS, which will be used in labs, including WEAP (SEI), AQUATOOL (UPV), TOPKAPI (ARPAE). Acting in a personal capacity, the key experts of the Consortium contribute or lead many socio-ecological, ensemble and monitoring initiatives. As an example of these manifold contributions, Dr. Pérez-Blanco is chair of the Economic Instruments of Water Security Working Group informing [COMPASS](#); Dr Mysiak (CMCC) is member of the UNDRR Science and technology advisory group for Europe (E-STAG) and a member of EEA Scientific Committee; Dr. Foster is member of the FAO’s Core Modeling Group; and Dr. di Baldassarre was the Chair of [IAHS’ Panta Rhei](#) until 2019. Alongside key expertise, partners bring to the Consortium the infrastructures needed to operate the modeling suite and monitoring toolbox, including supercomputers (CMCC, UoM, UU) and remote sensing labs (USAL, UPV, UoM, AUB).

The Consortium has an unrivaled track record of policy support, including via co-creation. Partners are closely linked to major international water- and climate-related policy platforms, such as the UNDRR Sendai Framework for Disaster Risk Reduction, the EC Mission Board on climate adaptation (where Dr. Mysiak has been member and rapporteur), and the European Environment Agency’s Topic Centre on impacts, vulnerability and Adaptation (ETC/CCA, coordinated by CMCC since 2011), to mention but a few. Consortium partners are also closely connected to relevant European and national policy developments and networks in the water and climate sector. Partners have supported river basin planning in Europe and elsewhere, including in *all* the living labs, where we support policy assessments through modeling and our scientific work. Partners have also contributed to national and regional climate

adaptation strategies and plans (e.g. CMCC & ARPAE coordinated the Italian and Emilia Romagna Climate Adaptation Strategy and Plan, respectively); EU Climate Adaptation Strategy (e.g. through DG CLIMA commissioned review of climate adaptation modeling—SAM-PS); and water policy, including Common Implementation Strategy working groups and the comparative assessment of drought management plans for DG ENV led by FTC. Partners have pioneered the adoption of **open science**, and thoroughly apply open science practices in their day-to-day work and in their projects and initiatives (Section 1.2.6). Partners attentively monitor and ensure observance of ethics and responsible research and innovation, including commitment to gender equality, across all projects, networks and other initiatives in which they participate or have participated (Section 1.2.5).

4. Ethics Self-Assessment

The Consortium has implemented a thorough Ethics Review Procedure following Horizon Europe [Programme Guide](#) and the [European Commission Ethics Self-Assessment Guidelines](#) (see the Administrative forms, and sections 4.1 and 4.2 below). No ethics issues were identified in the Ethics Review Procedure in the case of TRANSCEND, neither during the application nor during the evaluation phases. USAL coordination unit, including the project coordinator, ethics mentor, USAL financial & legal departments, deputy coordinator and project manager, will apply continuous monitoring throughout the duration of the project and ensure that possible ethical issues are identified and appropriately handled. To this end, an ad-hoc task (see T7.3) has been designed. Compliance with the ethical principles and the applicable EU, international, and national laws for any ethics issues that may emerge in the course of the grant, will be ensured. For any applicable ethics issue, the guidance provided in the European Commission Ethics Self-Assessment Guidelines will be rigorously followed.

4.1 Ethical dimension of the objectives, methodology and likely impact

As per the call, we will seek international cooperation with non-associated third countries with transboundary rivers, where we will institute three living labs: the Caplina-Mauri-Desaguadero System (Peru, Chile and Bolivia), the Orontes RB (Lebanon, Syria and Turkey), and the Mahanadi RB (Indian states of Chhattisgarh and Odisha). In each lab, we will apply our ecosystem of innovation, which involves organization of 4 workshops with local stakeholders to share knowledge and co-create TAP. These workshops will take place in India (4 workshops); Lebanon (4); and Bolivia (2) and Peru (2). Each workshop will involve 20 participants, including 15 local stakeholders, which will share knowledge and competences towards the co-creation of transformational adaptation policies. All participants will be adults. No local resources will be used. No materials will be imported or exported.

4.2 Compliance with ethical principles and relevant legislations

Collection and treatment of sensible data will be compliant with General Data Protection Regulation rules (2016/679). A thorough screening of any potential concern will be conducted in D7.2 and revised in periodic progress reports to the EC.

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ANNEX 2a

ADDITIONAL INFORMATION ON UNIT COSTS AND CONTRIBUTIONS

SME owners/natural person beneficiaries without salary (Decision C(2020) 7115¹)

Type: unit costs

Units: days spent working on the action (rounded up or down to the nearest half-day)

Amount per unit (daily rate): calculated according to the following formula:

{EUR 5 080 / 18 days = **282,22**}
 multiplied by
 {country-specific correction coefficient of the country where the beneficiary is established}

The country-specific correction coefficients used are those set out in the Horizon Europe Work Programme (section Marie Skłodowska-Curie actions) in force at the time of the call (see [Portal Reference Documents](#)).

HE and Euratom Research Infrastructure actions²

Type: unit costs

Units³: see (for each access provider and installation) the unit cost table in Annex 2b

Amount per unit*: see (for each access provider and installation) the unit cost table in Annex 2b

* Amount calculated as follows:

For trans-national access:

$$\frac{\text{average annual total trans-national access costs to the installation (over past two years}^4\text{)}}{\text{average annual total quantity of trans-national access to the installation (over past two years}^5\text{)}}$$

For virtual access:

$$\frac{\text{total virtual access costs to the installation (over the last year}^6\text{)}}{\text{total quantity of virtual access to the installation (over the last year}^7\text{)}}$$

Euratom staff mobility costs⁸

Monthly living allowance

Type: unit costs

¹ Commission [Decision](#) of 20 October 2020 authorising the use of unit costs for the personnel costs of the owners of small and medium-sized enterprises and beneficiaries that are natural persons not receiving a salary for the work carried out by themselves under an action or work programme (C(2020)7715).

² [Decision](#) of 19 April 2021 authorising the use of unit costs for the costs of providing trans-national and virtual access in Research Infrastructure actions under the Horizon Europe Programme (2021-2027) and the Research and Training Programme of the European Atomic Energy Community (2021-2025).

³ Unit of access (e.g. beam hours, weeks of access, sample analysis) fixed by the access provider in proposal.

⁴ In exceptional and duly justified cases, the granting authority may agree to a different reference period.

⁵ In exceptional and duly justified cases, the granting authority may agree to a different reference period.

⁶ In exceptional and duly justified cases, the granting authority may agree to a different reference period.

⁷ In exceptional and duly justified cases, the granting authority may agree to a different reference period.

⁸ [Decision](#) of 15 March 2021 authorising the use of unit costs for mobility in co-fund actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025).

Units: months spent by the seconded staff member(s) on research and training in fission and fusion activities (person-month)

Amount per unit*: see (for each beneficiary/affiliated entity and secondment) the unit cost table in Annex 2b

* Amount calculated as follows from 1 January 2021:

{EUR 4 300 multiplied by country-specific correction coefficient** of the country where the staff member is seconded}⁹

**Country-specific correction coefficients as from 1 January 2021¹⁰

EU-Member States¹¹

| Country / Place | Coefficient (%) |
|-----------------|-----------------|
| Bulgaria | 59,1 |
| Czech Rep. | 85,2 |
| Denmark | 131,3 |
| Germany | 101,9 |
| Bonn | 95,8 |
| Karlsruhe | 98 |
| Munich | 113,9 |
| Estonia | 82,3 |
| Ireland | 129 |
| Greece | 81,4 |
| Spain | 94,2 |
| France | 120,5 |
| Croatia | 75,8 |
| Italy | 95 |
| Varese | 90,7 |
| Cyprus | 78,2 |
| Latvia | 77,5 |
| Lithuania | 76,6 |
| Hungary | 71,9 |
| Malta | 94,7 |
| Netherlands | 113,9 |
| Austria | 107,9 |
| Poland | 70,9 |
| Portugal | 91,1 |
| Romania | 66,6 |
| Slovenia | 86,1 |

⁹ Unit costs for living allowances are calculated by using a method of calculation similar to that applied for the secondment to the European Commission of seconded national experts (SNEs).

¹⁰  For the financial statements, the amount must be adjusted according to the actual place of secondment. The revised coefficients were adopted in the Decision authorising the use of unit costs for the Fusion Programme co-fund action under the Research and training Programme of the European Atomic Energy Community 2021-2025. They are based on the 2020 Annual update of the remuneration and pensions of the officials and other servants of the European Union and the correction coefficients applied thereto (OJ C 428, 11.12.2020) to ensure purchasing power parity. The revised coefficient are applied as from 1 January 2021 through an amendment to the grant agreement.

¹¹ No correction coefficient shall be applicable in Belgium and Luxembourg.

| | |
|----------|-------|
| Slovakia | 80,6 |
| Finland | 118,4 |
| Sweden | 124,3 |

Third countries

| Country/place | Coefficient (%) |
|----------------|---------------------------------------|
| China | 82,2 |
| India | 72,3 |
| Japan | 111,8 |
| Russia | 92,7 |
| South Korea | 92,3 |
| Switzerland | 129,2 |
| Ukraine | 82,3 |
| United Kingdom | 97,6 |
| United States | 101,4 (New-York) 90,5 (Washington) |

Mobility allowance

Type: Unit costs

Units: months spent by the seconded staff member(s) on research and training in fission and fusion activities (person-month)

Amount per unit: EUR 600 per person-month; see (for each beneficiary/affiliated entity and secondment) the unit cost table in Annex 2b

Family allowance

Type: unit costs

Units: months spent by the seconded staff member(s) on research and training in fission and fusion activities (person-month)

Amount per unit: EUR 660 per person-month; see (for each beneficiary/affiliated entity and secondment) the unit cost table in Annex 2b

Education allowance

Type: Unit costs

Units: months spent by the seconded staff member(s) on research and training in fission and fusion activities (person-month)

Amount per unit*: see (for each beneficiary/affiliated entity and secondment) the unit cost table in Annex 2b

*Amount calculated as follows from 1 January 2021:
{EUR 283.82 x number of dependent children¹²}

¹² For the estimated budget (Annex 2): an average should be used. (⚠ For the financial statements, the number of children (and months) must be adjusted according to the actual family status at the moment the secondment starts.)

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

FONDAZIONE CENTRO EURO-MEDITERRANEOSUI CAMBIAMENTI CLIMATICI (CMCC), PIC 999419422, established in VIA MARCO BIAGI 5, LECCE 73100, Italy,

hereby agrees

to become beneficiary

in Agreement No 101084110 — TRANSCEND ('the Agreement')

between UNIVERSIDAD DE SALAMANCA (USAL) and the European Research Executive Agency (REA) ('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 NAVARRA with ECAS id nnaanton signed in the Participant Portal on 05/10/2022 at 16:21:54 (transaction id SigId-53501-RMpu tTq8abHQRyBY38hzHRkDo8eMzXt8VaNnoWL4OjganzVr2wEvcC8a dDIKNzOKYexnjL5zMtjoi3s2Ij4yJf-yntOf97TTHqzkhVT9AWTC-apvY Przxz70tEI7PQ0c0RaxnNIAAXN4GGZMjiw9OqBtzniPcGOzPOgRN6jn gzzToyDp6SLIL93Sb6AhmxzooOKIC). Timestamp by third party at 2022.10.05 17:22:01 CEST

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

UPPSALA UNIVERSITET (UU), PIC 999985029, established in VON KRAEMERS ALLE 4, UPPSALA 751 05, Sweden,

hereby agrees

to become beneficiary

in Agreement No 101084110 — TRANSCEND ('the Agreement')

between UNIVERSIDAD DE SALAMANCA (USAL) and the European Research Executive Agency (REA) ('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

Per ABRAHAMSSON with ECAS id nabrahap signed in the Participant Portal on 03/10/2022 at 10:25:04 (transaction id SigId-16653-V9kLjvq zYFmI8zKk1x87IdUtozUjszrfyBt75rxujxev63IjzocUEMUDXUJx4VzuZEa 2QX3zjZTsPWDTajpJZFES-yntOf97TTHqqrzkhVT9AWTC-HI8dezyjLzoAj uKzWANJm3DYFezcozPnkYTrJQbAPDWAeCu7aYBBmFI5v0kaF69AVSz SoySvpV32gmGTxEYbC74). Timestamp by third party at 2022.10.03 11:25:12 CEST

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

FRESH-THOUGHTS CONSULTING GMBH (FTC), PIC 952610423, established in HUTTELDORFER STRASSE 215/29, WIEN 1140, Austria,

hereby agrees

to become beneficiary

in Agreement No 101084110 — TRANSCEND ('the Agreement')

between UNIVERSIDAD DE SALAMANCA (USAL) and the European Research Executive Agency (REA) ('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

Thomas DWORAK with ECAS id ndworats signed in the Participant Portal on 04/10/2022 at 13:37:33 (transaction id SigId-35674-r2Dzx2y wVab7nn6XC5XrdDj1zrFOB8zcu3eClrnuROe8xFdVGOBNxpLMrt3fUZ d6YAXNUvQm2mbNOOhjYsdiIV0-yntOf97TTHqrzkhVT9AWTC-b2Xhz M9dDeZ8W2jMHR1Pc5ppm2zJwax1bFKeQ8SZqmAIjWZty40mlcsqQ6 KKKbnzMMRfAKjJDCh5AwYh4Q4O74m). Timestamp by third party at 2022.10.04 14:37:38 CEST

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 101084110 — TRANSCEND ('the Agreement')

between UNIVERSIDAD DE SALAMANCA (USAL) and the European Research Executive Agency (REA) ('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 03/10/2022 at 11:35:07 (transaction id SigId-18317-cezbaontFwiuN3ieBnlGIY0YS6xgWexOK2qeB5V7ZHhSGFdjrsDjRNmzLu6jdd10ZlehApeP2rlbo4QScfEhyA-yntOf97TTHqrzkhVT9AWTC-nAuq3ocpEqGsAYPhBYylvdKJ3ViUHKHsdHDbjAZzlBDF7euN4KzrxrWThBOcGQ0k7TPwHs3N6BsJMLvdRK88Ck). Timestamp by third party at 2022.10.03 12:35:13 CEST

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

STIFTELSEN THE STOCKHOLM ENVIRONMENT INSTITUTE (SEI), PIC 999450268,
established in BOX 24218, STOCKHOLM 104 51, Sweden,

hereby agrees

to become beneficiary

in Agreement No 101084110 — TRANSCEND ('the Agreement')

between UNIVERSIDAD DE SALAMANCA (USAL) and the European Research Executive Agency (REA) ('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

Simon PERSSON with ECAS id npersssi signed in the Participant Portal on 06/10/2022 at 10:43:31 (transaction id SigId-7757-kjpBldRZ dYFPQBzwhh8kOjtZp55RzQnGS2d4yviAU7xYIcgU1HEtCJUM8A5hjeIE QTVh7V11q0H9dBLas1QDiB-rS0vSrmBGYCzp01BpOmXL1-UzmzIEVz NhVu8hYEcWfYunGizQuO3ANzapm3UHo19OxNSzw1Pim7zn9XI5Mq uIAHHfzrCZ0BEmCZ23cHCK54vPWY). Timestamp by third party at 2022.10.06 11:43:40 CEST

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

AGENZIA REGIONALE PER LA PREVENZIONE, L'AMBIENTE E L'ENERGIA DELL'EMILIA-ROMAGNA (ARPAE), PIC 999454633, established in VIA PO 5, BOLOGNA 40139, Italy,

hereby agrees

to become beneficiary

in Agreement No 101084110 — TRANSCEND ('the Agreement')

between UNIVERSIDAD DE SALAMANCA (USAL) and the European Research Executive Agency (REA) ('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

Sandro Nanni with ECAS id n0089uis signed in the Participant Portal on 19/10/2022 at 13:23:38 (transaction id SigId-57708-Szuk5H0gajw3w2HN4GVKij8kmWbVtIipG66uvkwOGGENVbSGibnbxXpOj q73mXInaHVRAB27zgdS0l4AsdnF0zW-yntOf97TTHqwrZmj3yrF4i-IH RNU8xyoelebMryD3igTHpoWEJy4zaPE0Nd93HTbGRkZKZ7C3JtzYZy KFB1lJSejHtt19zW3RLYaQzck4czHmC). Timestamp by third party at 2022.10.19 14:23:44 CEST

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

SLOVENSKA AGENTURA ZIVOTNEHO PROSTREDIA (SAŽP), PIC 998833057, established in TAJOVSKÉHO 28, BANSKA BYSTRICA 975 90, Slovakia,

hereby agrees

to become beneficiary

in Agreement No 101084110 — TRANSCEND ('the Agreement')

between UNIVERSIDAD DE SALAMANCA (USAL) and the European Research Executive Agency (REA) ('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

Michal Maco with ECAS id n00acghz signed in the Participant Portal on 10/10/2022 at 13:57:44 (transaction id SigId-24326-NeCFzTr7Mf wCbN2fySQwg0N4h8nBUoO6j9M9KsPYGvsgBDUZXR55n8B7z mhQ 5KNdYfns3DORR7WzrLCpyRRkD0-jpjZscgsw0KSrzYUBg6dY8-jKNwg zH537yu5KjnteFYE1fUCtEzqGsNvpqavzzzUjhRijpdKeveETps7zwBs0 h6enLNeZbQRvkoEjPvU90e40m). Timestamp by third party at 2022.10.10 14:57:49 CEST

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

SEVEN ENGINEERING CONSULTANTS OE (SEVEN), PIC 959306430, established in KALLIDROMIOU ODOS 91, ATHINA 10683, Greece,

hereby agrees

to become beneficiary

in Agreement No 101084110 — TRANSCEND ('the Agreement')

between UNIVERSIDAD DE SALAMANCA (USAL) and the European Research Executive Agency (REA) ('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

MAGGIE KOSSIDA with ECAS id nkosmagg signed in the Participant Portal on 03/10/2022 at 11:18:19 (transaction id SigId-17946-zlke7G itCXQ4tolzQYrofXrNeBvzyDeG9aB7ZKejg6IvaUkkhRmVDD2CeuEzV8 lhfyzcMxDaYkUE0vVoRchByzW-yntOf97TTHqrzkhVT9AWTC-xznmf1 jkW3EGGr3J4X29yvYhMO6vF0pAT6qynTr3FZyvVsptkdzmozMRzOYv mOop8LCID7ybayEjuGv8GiH0dAq). Timestamp by third party at 2022.10.03 12:18:27 CEST

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

American University of Beirut (AUB), PIC 998331082, established in BLISS STREET, BEIRUT 1107 2020, Lebanon,

hereby agrees

to become beneficiary

in Agreement No 101084110 — TRANSCEND ('the Agreement')

between UNIVERSIDAD DE SALAMANCA (USAL) and the European Research Executive Agency (REA) ('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

Fadia HOMEIDAN with ECAS id nhomeifa signed in the Participant Portal on 04/10/2022 at 14:12:47 (transaction id SigId-36558-u9RtIo Zf1Ncl662ZHN2wUh47c6tmAg8DeHILGTeoGCzozobjbwhHqkw0LngJ NU3XvYtjVLewOckgmoicVtQ5nP-yntOf97TTHqrzkhVT9AWTC-eNYU zvr3lyY7ztqYgv1X0BAaDGLsWRjYegbNpTtuSzSAhGOF2t5PX3MKw6a frqo6UMkLVpLAcrAKJKOOVFzwWg4). Timestamp by third party at 2022.10.04 15:12:53 CEST

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

KRITI (KRI), PIC 961026337, established in Plateia Eleftherias, Heraklion 71201, Greece,

hereby agrees

to become beneficiary

in Agreement No 101084110 — TRANSCEND ('the Agreement')

between UNIVERSIDAD DE SALAMANCA (USAL) and the European Research Executive Agency (REA) ('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

Anna KAGIAMPAKI with ECAS id nkagiaan signed in the Participant Portal on 04/10/2022 at 14:04:24 (transaction id SigId-36400-1Vy8A C4X3UGlazx0bULHzHHcU6jqjdnGw9RjLjLct3ozaZAZOqdH4jBH2xwz zVXBtmAncCVBywCfd4B9kwUUs8o-yntOf97TTHqrzkVt9AWTC-3Hn yzzxzuQIXZVfXxiLswTADIkshHy0T2xd4DQtAcApwMrK03zjzW14S3nR SYC8p2HBVpubG1WxUllhtzX69902m). Timestamp by third party at 2022.10.04 15:04:35 CEST

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

SLOVENSKY VODOHOSPODARSKY PODNIK STATNY PODNIK (SVP), PIC 996897713,
established in RADNICNE NAMESTIE 8, BANSKA STIAVNICA 969 55, Slovakia,

hereby agrees

to become beneficiary

in Agreement No 101084110 — TRANSCEND ('the Agreement')

between UNIVERSIDAD DE SALAMANCA (USAL) and the European Research Executive Agency (REA) ('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

Katarína Farbiaková with ECAS id n002vufn signed in the Participant Portal on 07/10/2022 at 09:56:44 (transaction id SigId-4452-sSutGB6k6gnIzUljhxXPooK2I4XZlpon8jKO7tnnT6iKNdnKFPFFZkSilv5DW7RVsxtUI04hNCeayZasoWCKs-jpJZscgsw0KSrzYUBg6dY8-IWiwBEe2JjH H217IJSDrQJy6yE6AIOdYnsx2gCdbvGzIly9fLthDqEdzzX2gds1ztMpxd339D8BqIhIbCF0hpq0). Timestamp by third party at 2022.10.07 10:56:52 CEST

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 2015/444¹ 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 Integrity².

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

² European Code of Conduct for Research Integrity of ALLEA (All European Academies).

- respect for colleagues, research participants, society, ecosystems, cultural heritage and the environment
- 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

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 from it in the agreement on background — 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 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 peer-reviewed 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 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 Commons 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), venue 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 the (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 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, 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 the Commission Recommendation on the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers³, 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 Commission Recommendation 2005/251/EC of 11 March 2005 on the European Charter for Researchers and on a Code of Conduct for the Recruitment of Researchers (OJ L 75, 22.3.2005, p. 67).



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PROPOSTA N. PDET 855 del 04/11/2024

Centro di Responsabilità: Struttura Idro-Meteo-Clima

OGGETTO: Struttura Idro-Meteo-Clima. Affidamento, alla ditta Neri Dario di Neri Mirko & C. Snc, del servizio di catering da svolgersi a Bologna il 7 novembre 2024 per il “2° stakeholder workshop” nell’ambito del progetto TRANSCEND - CUP J49I23000780006 - CIG: B3F96C5C07.

PARERE CONTABILE

La sottoscritta Ranieri Daniela - Unità Amministrazione Struttura Idro-Meteo-Clima esprime parere di regolarità contabile ai sensi del Regolamento Arpae per l’adozione degli atti di gestione delle risorse dell’Agenzia.

Data 05/11/2024

Ranieri Daniela
