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Co-UDlabs

Building Collaborative Urban Drainage research Labs communities

Deliverable D5.3
Report on evaluation procedure 2nd Call

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Background: about the Co-UDlabs Project

Co-UDlabs is an EU-funded project aiming to integrate research and innovation activities in the field of Urban Drainage Systems (UDS) to address pressing public health, flood risks and environmental challenges.

Bringing together 17 unique research facilities, Co-UDlabs offers training and free access to a wide range of high-level scientific instruments, smart monitoring technologies and digital water analysis tools for advancing knowledge and innovation in Urban drainage systems.

Co-UDlabs aims to create an urban drainage large-scale facilities network to provide opportunities for monitoring water quality, UDS performance and smart and open data approaches.

The main objective of the project is to provide a transnational multidisciplinary collaborative research infrastructure that will allow stakeholders, academic researchers, and innovators in the urban drainage water sector to come together, share ideas, co-produce project concepts and then benefit from access to top-class research infrastructures to develop, improve and demonstrate those concepts, thereby building a collaborative European Urban Drainage innovation community.

The initiative will facilitate the uptake of innovation in traditional buried pipe systems and newer green-blue infrastructure, with a focus on increasing the understanding of asset deterioration and improving system resilience.

List of acronyms

Acronym / Abbreviation	Meaning / Full text
DAS	Distributed Acoustic Sensing
EPP	External Evaluation Panel
EU	European Union
GA	Grant Agreement
SC	Steering Committee
TA	Transnational Access
UD	Urban Drainage
UG	User group
WP	Work Package

Executive summary

This document is a deliverable of the Co-UDlabs project, funded under the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 101008626. The aim of this document is to report on the evaluation procedures put into place for the project's 2nd and (extraordinary) 3rd TA Calls for transnational access to Co-UDlabs' research infrastructure.

Co-UDlabs opened its 2nd Transnational Access (TA) Call on July 3, 2023, at its General Assembly in Lyon, France. The call officially closed on October 13, 2023. Co-UDlabs received 24 proposals, 3 of which had to be excluded as they were assessed as unfeasible by the respective facility providers. The remaining 21 proposals were distributed to a 9-member External Evaluation Panel (EEP), which met for a final evaluation session on November 14, 2023. 13 proposals were accepted, 4 were recommended for re-submission after improvements, and 4 were rejected for not achieving the required minimum average score. One of the teams scheduled for proposal re-submission withdrew from the process; the other three re-submitted proposals were all accepted after a second round of evaluation. A total of 16 proposals were accepted at the end of the 2nd TA Call.

Since at least two Co-UDlabs facilities did not meet the required minimum number of granted TA slots, WP5 coordinators and Co-UDlabs' Project Advisor agreed to open an extraordinary 3rd TA call, dedicated to providing access to only two facilities: INSA's OTHU-DRB and Aalborg's FREJLEV. The 3rd Call opened on December 15, 2023, and closed on January 19, 2024. Two proposals – one for each available facility – were received and accepted following the EEP's evaluation.

Following the 2nd and 3rd Calls, 18 new TA projects will be carried out at Co-UDlabs' research infrastructure starting from early 2024. Co-UDlabs has granted TA slots to user groups from 24 different countries (12 non-EU), whose leaders are based in 10 different countries (3 non-EU). The 18 projects will involve 126 members from 61 different institutions. 27.8% of user-group members is female, an increase by 9% compared to the 1st TA Call's results. 27.8% are from outside academia, a drop by 11.8% if compared to the first call. This datum has been considered as an incentive to multiply the efforts to reach out to the industry, private sector, and utilities and regulators to broaden the potential public of Co-UDlabs activities and key results.

Throughout its Transnational Access programme as a whole, Co-UDlabs will have involved 227 user-group members from 26 countries (11 non-EU), led by user-group leaders from 16 countries (5 non-EU). Ultimately, 54 users are female (23.8%), 67 are from non-EU countries (29.5%), and 75 are from non-academic institutions (33%). Ultimately, Co-UDlabs has accepted 31 proposals, two more than the minimum requirement introduced in the project's Grant Agreement.

1. Introduction

Co-UDlabs–Collaborative Urban Drainage research labs communities is a Horizon 2020 project — funded under the Research Infrastructures programme (INFRAIA-02-2020) — which brings together 9 partners and offers access to 17 unique research facilities in seven European countries. Among its activities, Co-UDlabs offers training and access to a wide range of high-level scientific instruments, smart monitoring technologies and digital water analysis tools for advancing knowledge and innovation in urban drainage systems.

One of the key initiatives that Co-UDlabs carries out is the provision of free-of-charge Transnational Access (TA) to its research infrastructure. The project has set up three open, global calls for proposals for research and experimental projects that can be performed at any of its 17 research facilities and installations. The first call opened from October 31, 2021, to January 31, 2022. 13 research projects were selected for TAs that had to be carried out before July 2023. The selected experiments granted access to Co-UDlabs' research infrastructure to over one hundred researchers from more than 60 different institutions and 19 countries. The organisation and evaluation process of the first call was documented and reported on in Deliverable D5.2, authored by the University of A Coruña (UDC) as coordinators of Work Package 5 and submitted on October 31, 2022.

As foreseen in Co-UDlabs' project workplan in the Grant Agreement, Co-UDlabs expected at least two global calls for TA proposals to be set up and performed within the project's lifetime. This Deliverable reports on the organisation, execution, and evaluation of Co-UDlabs' 2nd Call for TA proposals — which opened officially on July 3, 2023, and closed on October 13, 2023. As detailed in Section 5, an extraordinary 3rd TA call was needed to fulfil expected requirements for specific facilities of the Co-UDlabs research infrastructure. This 'fast-lane' call was opened on December 15, 2023, and closed on January 19, 2024. The outcomes of the 3rd call, which will be seamlessly integrated in the operations of the 2nd call as far as TA provision is concerned, are also included in this Deliverable.

2. Co-UDlabs' Transnational Access programme

2.1. Facilities and application rules

Co-UDlabs' 2nd Transnational Access Call followed up on the outcomes and achievements of the first round of applications and implemented projects. The 2nd TA Call was set up to select eligible, feasible, and scientifically valid projects to be carried out throughout 2024 and, optionally, 2025.[1] As it had happened in the 1st TA Call, the TA programme offered access to Co-UDlabs unique facilities, with financial, logistical, technological, and scientific support from Co-UDlabs and its consortium. The TA Call was open to applying 'user groups' (i.e., teams formed by various researchers and staff from different institutions) led by a 'user-group leader', the member in charge of coordinating the group's relationship with the facility providers and Co-UDlabs as the hosting institution.

All Co-UDlabs' facilities but one were available for 2nd TA Call proposals.[2] As with the 1st TA Call, two modalities of access were available for all applicants:

[1] Co-UDlabs' workplan finalises in April 2025.
[2] Schedule at IKT-LTF (https://co-udlabs.eu/access/research-facilities/ikt-ltf/) installation at IKT was incompatible with the arrangement of TAs during 2024-2025. Full list of Co-UDlabs facilities available online: https://co-udlabs.eu/access/research-facilities/.

a) 'In-Person Access', where the presence of at least one member of the user group is expected during the whole period of the access complemented by occasional on-purpose visits from other researchers;

b) 'Partially Remote Access', where the presence of the user-group is only required at some stage of the access period (e.g., installing and/or un-installing users' equipment or facility set-up).

It is possible to apply from all over the world, but user groups where all or most users work in third countries (defined as not EU or Associated country according to EU H2020 rules) can be supported as far as the cumulative access provided to them is below 20% of the total amount of days of access provided under the Grant Agreement regulations. Every call's rule and procedure also include the following limitations, introduced to preserve fairness and equality in the selection process:

a) researchers from other Co-UDlabs partners may not exceed one third of members in any user group;

b) both the user-group leader and the majority of user-group members must work in a country other than the country where the facility is located;

c) user-groups must be allowed to disseminate the results they have generated because of the access (even though small and medium enterprises are granted exceptions to these regulations);

d) user-group members should normally not have access to a similar facility in their own local context.

The TA Call Reference Manual (produced within Co-UDlabs as Deliverable D5.1) and the official regulations of the Call were made available online on the TA Call page of the Co-UDlabs website. All required participation documentation and guidelines as well as blank templates of all the documents that applying user groups were expected to submit had been available on the TA Call webpage since the official launch of the 2nd TA Call.

The following sections outline the TA Call process, including dissemination efforts to give visibility and outreach to the call; an overview of submitted and selected proposals; and details over the procedure that Co-UDlabs has followed to perform the call. Additional information is also provided on the extraordinary 3rd call that was set up between December 2023 and January 2024.

2.2. Common evaluation procedure

Regulations for the evaluation of Transnational Access calls – the User Selection Procedure – has been set out by the Co-UDlabs consortium in the Grant Agreement as part of the Description of Action of WP5.

In summary, the common User Selection Procedure entails that:

Applying user groups can submit preliminary proposal drafts four weeks before the deadline and be in contact with specific facility providers to improve or finetune the contents.

All proposals must meet eligibility and feasibility criteria:

a) Proposal eligibility is checked upon reception by Co-UDlabs' coordinators at UDC, as WP5 leaders. Eligibility conditions are set out in the User Selection Procedure document available in the overall TA documentation provided to applicants, as well as in the TA call Reference Manual (Deliverable 5.1).

b) Feasibility is assessed by the facility providers, considering each proposal's logistics, foreseen access period, calendar, requested resources, and available budget.

If either of eligibility and feasibility conditions is not met, the proposal is not transmitted to the External Evaluation Panel (EEP) and is thus rejected. Feasibility reports must be filled in by facility providers. They are available *after* the selection procedure for user-groups to access – regardless of whether the proposal has been selected or not –

as feedback and guidance to finetune either a project that will be carried out at the facility or one that can be re-submitted for further assessment.

An independent EEP of experts assesses all eligible and feasible project proposals, using pre-described selection and ranking criteria. Each proposal is evaluated by two members of the EEP. All evaluators provide grades for three evaluation categories:

a) excellence of the proposal;

b) impact of expected results;

c) and potential for academic or industrial innovation.

EEP members also provide written comments for each of these evaluation categories, which are then made available to applicants after the evaluation procedure is completed. All evaluators are informed and waive any potential conflict of interest prior to the beginning of the procedure.

Evaluation results are discussed in a joint EEP-Steering Committee (SC) meeting, in which all facility providers whose installations have received a proposal are invited to be represented. Facility providers can provide additional comments to clarify specific doubts brought forward by the EEP. The EEP and the SC can jointly decide to ask for a proposal's re-submission due to an insufficient evaluation or an incomplete/unclear proposal. Only proposals that are eventually awarded an average of at least 13 points can be accepted for a transnational access slot.

3. The 2nd TA Call: organisation and arrangements

The second call for proposals of the Co-UDlabs Transnational Access was officially launched on July 3, 2023, in a side-event organised by the Co-UDlabs consortium within the agenda of the Novatech 2023 international conference, in Lyon, France. Novatech was organised by Co-UDlabs members at GRAIE with the collaboration of INSA Lyon. The launch of the call followed the proceedings of Co-UDlabs' 2nd General Assembly, which was also annexed to the Novatech 2023 agenda. The deadline for the submission of proposals was originally set for October 6, 2023. Due to high demand from various interested user groups, the deadline was extended by one week, until October 13, 2023.

As it had previously and successfully arranged with Co-UDlabs' first TA call, partners and facility providers collaborated again this time around to organise a few collateral events designed to provide all interested publics with enough information on the TA programme, the 2nd Call, and the requirements to participate. These events included:

- **Co-UDlabs 2nd TA Call Introductory Webinar.** Building on the very effective response that a similar initiative had prior to the 1st TA call, Co-UDlabs replicated its Introductory Webinar for the second call too, on June 20, 2023, with the aim to engage an even larger audience and attract – in particular – potential applicants that had not known about Co-UDlabs and its TA programme or were based in countries in which Co-UDlabs had not managed to gain sufficient visibility and traction. The Webinar provided a comprehensive review of the TA programme, the rules and conditions, the submission procedure, and the technicalities of conducting a transnational access in one of the Co-UDlabs' facilities. 51 people attended the session online. The full Webinar is online on the project's YouTube channel.[3]
- **Co-UDlabs TA Workshop at Novatech 2023.** The Novatech event (July 3, 2023) in which the 2nd TA Call was officially presented was a technical workshop designed to illustrate the features and purposes of the

[3] Accessible online at: https://www.youtube.com/watch?v=1cK5AHIODtM.

Call, while also giving a thorough overview of the preliminary results collected by the projects that had been accepted and funded during the 1st call. The Workshop introduced the Call's rules and calendar but also left the floor to various representatives of user groups from 1st call accesses. 33 people, including several facility providers, attended the workshop. More information is available online on the project's website.4

Figure 1. Co-UDlabs Coordinator Jose Anta Álvarez (centre, UDC) introducing the TA Workshop at Novatech 2023 (Lyon, France, July 3, 2023).

- **2nd Co-UDlabs TA Hackathon event.** On September 6, 2023, one month before the official end of the 2nd TA Call, Co-UDlabs arranged its 2nd Hackathon event linked to its TA programme. As in its first edition, the Hackathon was designed to be a key meeting point for user groups already in an advanced stage of their proposal definition, in order to receive feedback on their ideas and potential support by other teams, academics, and/or representatives of industry and business.

The event, which was fully online and over one morning, had very good attendance from as diverse countries and contexts as Belgium, Canada, Estonia, Germany, Serbia, and Sweden. Attendance was an important testament to the growing demand in the UD community for access to large-scale installations, free of charge, across Europe. As with the Hackathon's first edition, the team whose presentation was voted as the most promising was 'awarded' a short reconnaissance visit at the facility of their choice, so that their proposal could be discussed and streamlined with support from the facility providers. A team from Germany's Technische Universität Darmstadt, which presented their proposal, *Advancing Sustainable Urban Infrastructure: Visible Light-Driven TiO2-based Carbon Nanotubes for Enhanced Degradation of Micropollutants in Rainwater Runoff*, was selected by all attendees for an early visit at the STREET facility at UDC. The 'award' visit took place on September 26-27, 2023.

[4] Accessible online at: https://co-udlabs.eu/2023/05/04/co-udlabs-workshop-at-novatech-2023/.

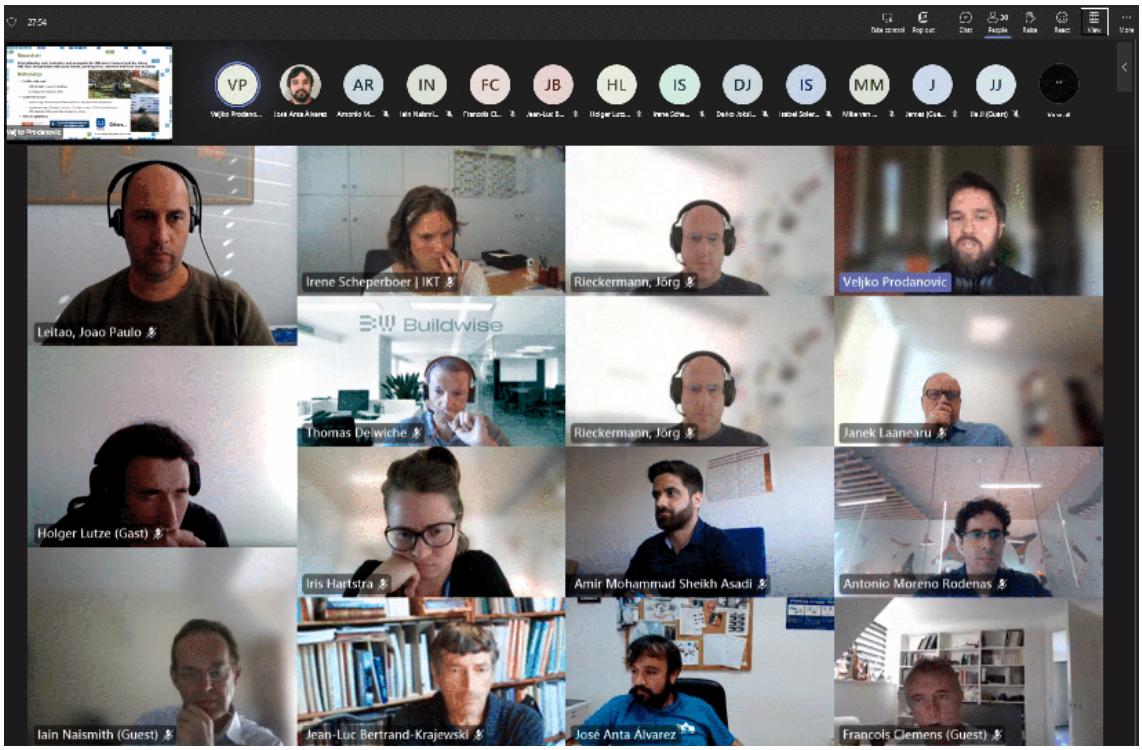

Figure 2. Screenshot from the online meeting of Co-UDlabs' 2nd TA Hackathon (September 6, 2023).

4. The 2nd TA Call: participation, evaluation and selection

4.1. Participation and submissions

When the 2nd TA Call closed on October 13, 2023, Work Package 5 (Transnational Access) – the working group in charge of the organisation and functioning of the TA programme – had received 24 submissions for 12 Co-UDlabs' research facilities (see Table 1). The following are the key data on the submissions received for the 2nd Call:

- User-group leaders were based in 11 different countries, 4 of which were non-EU (see Figure 3).
- User-group members were based in 25 different countries, 13 of which were non-EU.
- A total of 160 users were included in all submitted proposals, from 75 different institutions. Out of these 160 users:
  - 32 (20.0%) were from non-EU countries;
  - 48 (30.0%) were female;
  - 23 (14.4%) were PhD students or enrolled for a lower academic qualification;
  - 49 (30.6%) were from institutions outside of academia.

4.2. Preliminary eligibility and feasibility assessment

Three of the submitted proposals did not pass the feasibility evaluation by facility providers:

- Tallinn University of Technology (Estonia) at A-LOOP, Deltares (The Netherlands)
- Afyon Kocatepe University (Turkey) at GROOF, INSA Lyon (France)
- University of Oviedo (Spain) at GROOF, INSA Lyon (France)

These proposals were not transmitted to the EEP and were thus rejected. The remaining 21 proposals that had passed the eligibility and feasibility assessments were then ready to be distributed to the External Evaluation Panel.

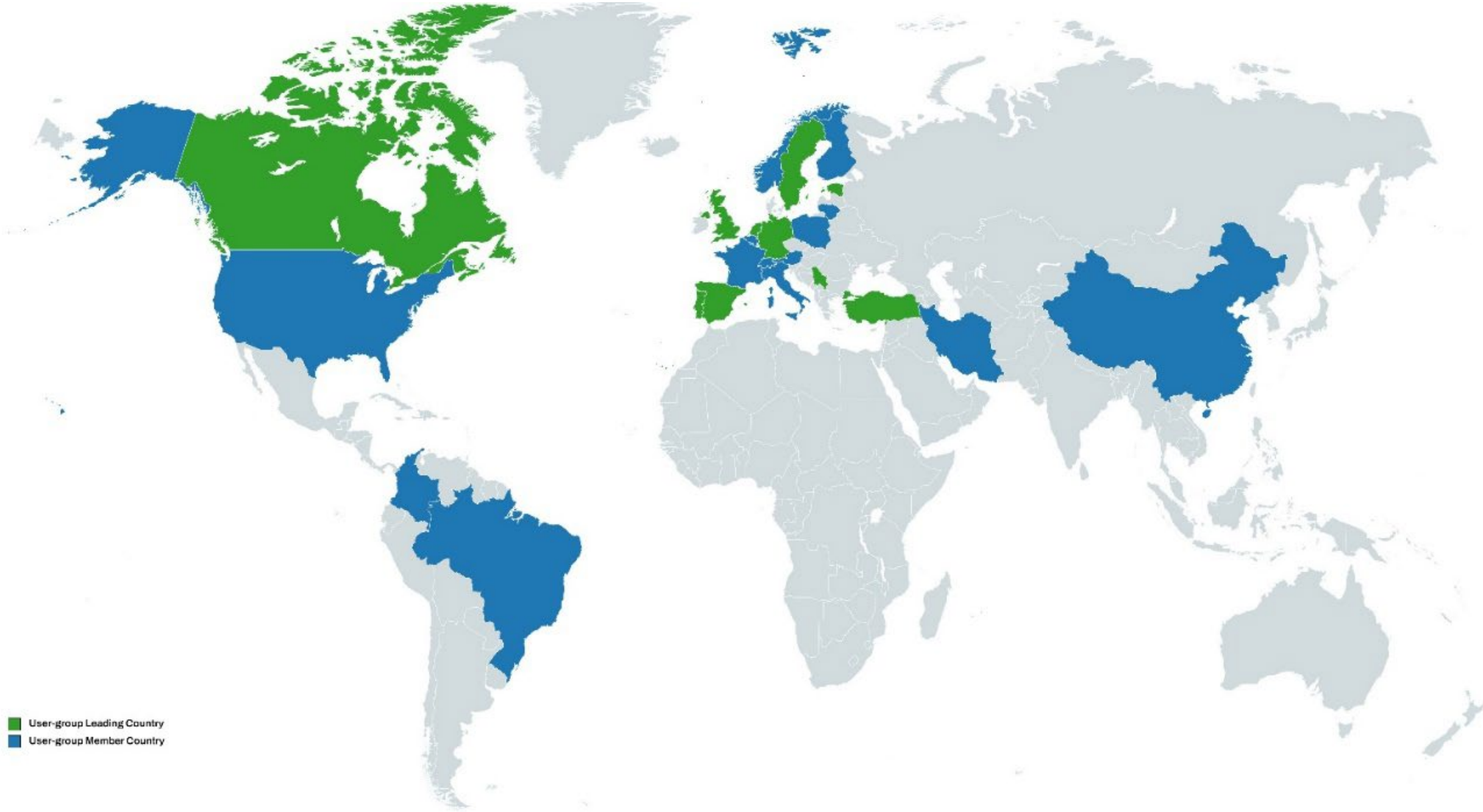

Figure 3. Countries of 2nd TA Call's user-group leading institutions highlighted in green; countries of user-group members in blue.

Table 1. Submitted proposals for Co-UDlabs' 2nd Transnational Access Call.

Provider	Facility	Proposal Title	Group leader institution	UG Leader country	Facility country
01. UDC	BLOCK	Inception of Transport of Litter Under Pluvial Conditions (IT-LUP)	Karlsruher Institute for Technology (KIT)	Germany	Spain
01. UDC	BLOCK	Soil moisture supply and green roof plant requirements incorporating drainage and energy functions	University of Coventry	UK	Spain
01. UDC	STREET	Hydraulic Characterization of Permeable Pavement Bonded With A Novel Polyurethane Binder	RWTH University Aachen	Germany	Spain
01. UDC	STREET	Active Building Materials: Integration of Visible Light-Driven TiO2-based Carbon Nanotubes for Enhanced Degradation of Micropollutants in Rainwater Runoff	Technical University of Darmstadt	Germany	Spain
02. USFD	A/B FLUME	Understanding the transport and fate of ejected sewer sediments during urban flood events	University of Aveiro	Portugal	UK
02. USFD	BURIED	Stormwater Conveyance System Performance Enhancement with Passive Control of Flow (SPEC-FLOW)	Toronto Metropolitan University	Canada	UK
02. USFD	RTC-RIG	Measurement Uncertainty in Real Time Control and CSO quantification	Delft TU	Netherlands	UK
02. USFD	RTC-RIG	Evaluation of uncertainties linked to different methods of CSO's estimation	ICRA	Spain	UK
03. DELTARES	A-LOOP	Air-water stratified flow in a ventilated pipeline (AROMA)	Tallinn University of Technology	Estonia	Netherlands
03. DELTARES	B-LOOP	Dynamic Behaviour of Air Pockets in Urban Drainage Systems (DAirUDS)	University of Leeds	UK	Netherlands
03. DELTARES	B-LOOP	Advancing Urban Drainage: Testing Distributed Acoustic Sensing (DAS) for Efficient Wastewater Transportation	Silixa Ltd.	UK	Netherlands
04. EAWAG	UWO	EPICSS - Enhanced Flow Predictions in Combined Sewer Systems	RPTU in Kaiserslautern	Germany	Switzerland
04. EAWAG	UWO	Maximising the Benefits of Sewer Heat Recovery through Computational Optimisation and Practicality Consideration	University of Exeter	UK	Switzerland
04. EAWAG	UWO	STARR-ING - Spatio-temporally advanced resolution of rainfall data for ingenious urban hydrological applications	University of Kaiserslautern-Landau	Germany	Switzerland
05. IKT	IKT-TEST	A novel manhole design improving the hydraulic performance of separate sewer systems	Liverpool John Moores University	UK	Germany
05. IKT	IKT-TEST	Estimating volumes of floating debris in wastewater pump sumps	SkillsInMotion BV	Netherlands	Germany
05. IKT	IKT-TEST	Standard development for stormwater management in Sweden	RISE Research Institutes of Sweden	Sweden	Germany
05. IKT	IKT-TEST	Development of a test procedure for the evaluation of rainwater treatment products prior to infiltration	Aquafin NV	Belgium	Germany
05. IKT	IKT-TEST	Stormwater management: experimental evaluation of green roof performance under extreme climatic conditions	Buildwise	Belgium	Germany
06. INSA	GROOF	Intercomparison of the hydrological Response of Green Roofs Across Scales, sites and experimental setups (INDOOR-GRASP)	HSWT	Germany	France
06. INSA	GROOF	Investigation of the Use of Substrates Prepared with Local Materials in the Application of Green Roofs for Living Buildings	Afyon Kocatepe University	Turkey	France
06. INSA	GROOF	Combined thermal, hydrological & vegetation performance of Green Roofs	University of Oviedo	Spain	France
06. INSA	OTHU-DRB	2D velocity measurements at the free surface in stormwater pipe	SkillsInMotion BV	Netherlands	France
06. INSA	OTHU-SuDS	NBS pRECision cONdition Assessment (NBS-RECON)	University of Belgrade	Serbia	France

4.3. External Evaluation Panel

Prior to the closing of the 2nd TA Call, Co-UDlabs contacted the experts that participated in the External Evaluation Panel (EEP) that was convened for the assessment of the 1st TA Call. Nine members of that group accepted to be part of the EEP for a second round of evaluations. The updated EEP composition is as in Table 2.

Table 2. Composition of Co-UDlabs External Evaluation Panel for the 2nd TA Call.

Name	Affiliation	Country
Arthur Scott	Heriot Watt University, Edinburgh	United Kingdom
Antonio Lastra	Canal Isabel II	Spain
Caroline Wadsworth	Isle Utilities Ltd.	United Kingdom
Emmanuel Berthier	CEREMA	France
Frank Blumensaat	Landesdirektion Sachsen	Germany
Franz Tscheikner-Gratl	NTNU	Norway
Johan Van Assel	Aquafin	Belgium
Philipp Staufer	Zürich City Council	Switzerland
Sophie Duchesne	INRS	Canada

After the closing of the 2nd TA Call on October 13, 2023, all received proposals that had been assessed as eligible and feasible by WP5 leaders and the facility providers (21 proposals out of 24) were distributed to the members of the EEP, according to criteria of specific expertise and consistent with both the contents of the proposal and the characteristics of the facilities. All proposals were shared with the EEP on October 16, 2023.

4.4. EEP-SC meeting and final evaluation of the 2nd TA Call

To provide at least four weeks to the EEP for their assessment, a joint EEP-SC meeting was set up for November 14, 2023. The meeting included representatives of the EEP and at least one representative of each Co-UDlabs partner offering a facility for the TA programme.

The agenda of the meeting included an overview of the evaluation per each submitted and eligible/feasible proposal, and a joint ratification of the results of the evaluation. Both the EEP members and the facility providers were consulted in borderline cases in which:

- The evaluation's final average score was lower than but consistently close to the 13-point threshold, and one of the two evaluators had graded the proposal with more than 13 points.
- The evaluation's final average score was above 13 points but at least one of the evaluators had recommended that the proposal be not accepted.

Following these criteria, out of the 21 eligible and feasible proposals that had been distributed to the EEP, 13 were accepted, 4 were rejected, and 4 were sent back to the applicants for revision and re-submission.

Table 3. Final overall results of Co-UDlabs' 2nd Transnational Access Call.

Provider	Facility	Proposal Title	Group leader institution	UG Leader country	Facility country	Final average score	Assessment
01. UDC	**BLOCK**	Inception of Transport of Litter Under Pluvial Conditions (IT-LUP)	Karlsruher Institute for Technology (KIT)	Germany	Spain	**16.0**	**ACC**
01. UDC	**BLOCK**	Soil moisture supply and green roof plant requirements incorporating drainage and energy functions	University of Coventry	UK	Spain	**15.0**	**ACC**
01. UDC	**STREET**	Hydraulic Characterization of Permeable Pavement Bonded With A Novel Polyurethane Binder	RWTH University Aachen	Germany	Spain	**17.0**	**ACC**
01. UDC	**STREET**	Active Building Materials: Integration of Visible Light-Driven TiO2-based Carbon Nanotubes for Enhanced Degradation of Micropollutants in Rainwater Runoff	Technical University of Darmstadt	Germany	Spain	**14.0**	**ACC**
02. USFD	**A/B FLUME**	Understanding the transport and fate of ejected sewer sediments during urban flood events	University of Aveiro	Portugal	UK	**14.5**	**ACC**
02. USFD	**BURIED**	Stormwater Conveyance System Performance Enhancement with Passive Control of Flow (SPEC-FLOW)	Toronto Metropolitan University	Canada	UK	**12.5**	**RESUB**
02. USFD	**RTC-RIG**	Measurement Uncertainty in Real Time Control and CSO quantification	Delft TU	Netherlands	UK	**17.5**	**ACC**
02. USFD	**RTC-RIG**	Evaluation of uncertainties linked to different methods of CSO's estimation	ICRA	Spain	UK	**13.5**	**ACC**
03. DELTARES	**B-LOOP**	Dynamic Behaviour of Air Pockets in Urban Drainage Systems (DAirUDS)	University of Leeds	UK	Netherlands	**14.0**	**ACC**
03. DELTARES	**B-LOOP**	Advancing Urban Drainage: Testing Distributed Acoustic Sensing (DAS) for Efficient Wastewater Transportation	Silixa Ltd.	UK	Netherlands	**12.5**	**RESUB**
04. EAWAG	**UWO**	EPICSS - Enhanced Flow Predictions in Combined Sewer Systems	RPTU in Kaiserslautern	Germany	Switzerland	**15.5**	**ACC**
04. EAWAG	**UWO**	Maximising the Benefits of Sewer Heat Recovery through Computational Optimisation and Practicality Consideration	University of Exeter	UK	Switzerland	**13.0**	**ACC**
04. EAWAG	**UWO**	STARR-ING - Spatio-temporally advanced resolution of rainfall data for ingenious urban hydrological applications	University of Kaiserslautern-Landau	Germany	Switzerland	**9.0**	**REJ**
05. IKT	**IKT-TEST**	A novel manhole design improving the hydraulic performance of separate sewer systems	Liverpool John Moores University	UK	Germany	**15.0**	**ACC**
05. IKT	**IKT-TEST**	Estimating volumes of floating debris in wastewater pump sumps	SkillsInMotion BV	Netherlands	Germany	**14.5**	**ACC**
05. IKT	**IKT-TEST**	Standard development for stormwater management in Sweden	RISE Research Institutes of Sweden	Sweden	Germany	**10.5**	**REJ**
05. IKT	**IKT-TEST**	Development of a test procedure for the evaluation of rainwater treatment products prior to infiltration	Aquafin NV	Belgium	Germany	**9.5**	**REJ**
05. IKT	**IKT-TEST**	Stormwater management: experimental evaluation of green roof performance under extreme climatic conditions	Buildwise	Belgium	Germany	**9.5**	**REJ**
06. INSA	**GROOF**	Intercomparison of the hydrological Response of Green Roofs Across Scales, sites and experimental setups (INDOOR-GRASP)	HSWT	Germany	France	**11.5**	**RESUB**
06. INSA	**OTHU-DRB**	2D velocity measurements at the free surface in stormwater pipe	SkillsInMotion BV	Netherlands	France	**11.0**	**WITH**
06. INSA	**OTHU-SuDS**	NBS pRECision cONdition Assessment (NBS-RECON)	University of Belgrade	Serbia	France	**14.5**	**ACC**

Note: assessment categories: **ACC** (accepted), **RESUB** (accepted after re-submission), **REJ** (rejected), **WITH** (withdrawn).

A new deadline was set on November 22, 2023, for proposal re-submissions. One of the user groups whose proposal had been scheduled for re-submission withdrew its application. The other three proposals were re-submitted within the deadline. These proposals were shared again with their respective evaluators, who were granted until November 29, 2023, to submit their final assessments. Official notifications of acceptance were sent out to all user groups on November 30, 2023. Only one proposal, for the University of Sheffield's BURIED facility, had to be re-submitted at a later time since the facility providers had to check internally that the suggested TA calendar was compatible with the occupancy schedule of the installation. The final notification of acceptance was sent out on December 11, 2023, thus officially closing Co-UDlabs' 2nd TA Call. Table 3 shows the call's results at the official conclusion of the process.

Following the official communication on the outcomes of the 2nd TA Call, all user groups were invited to begin communication with their selected facility's providers in order to begin arranging their visits at the earliest opportunity. A joint WP5-WP9 meeting – marking the switch of TA-related tasks from arrangement to access provision – was set up for late February 2024 to check on progress in the set-up of the TAs.

5. Co-UDlabs' 3rd TA Call

Following the 1st and 2nd TA Calls, the distribution of granted access per facility provider was as illustrated in Table 4.

Table 4. Balance between minimum required and granted TAs per facility and per provider.

Provider	Facility	GA expected projects	1st Call TAs	2nd Call TAs	Facility access balance	Provider access balance
UDC	STREET	2	1	2	**+1**	**+1**
	BLOCK	2	1	2	**+1**	
	BENS	2	1	0	**-1**	
USFD	RTC RIG	1	0	2	**+1**	**+2**
	BURIED INF.	1	1	1	**+1**	
	ANNULAR	2	2	0	**0**	
	A/B FLUME	2	1	1	**0**	
DEL	B-LOOP	1	0	2	**+1**	**0**
	A-LOOP	1	0	0	**-1**	
EAWAG	HALL	2	2	0	**0**	**0**
	UWO	3	1	2	**0**	
IKT	IKT LTF	2	2	0	**0**	**0**
	IKT TEST	2	0	2	**0**	
INSA	OTHU DRB	1	0	0	**-1**	**-1**
	OTHU SuDS	2	1	1	**0**	
	GROOF	2	0	2	**0**	
AAU	FREJLEV	1	0	0	**-1**	**-1**

As a result of the two TA calls combined, 13 facilities out of 17 had reached the required minimum granted accesses as established in the regulations of the Grant Agreement's Description of Action. WP5 leaders consulted with the Project Advisor if a surplus of accesses in one institution's other facilities could compensate a deficit in a specific

installation: this was the case of UDC (surplus for STREET and BLOCK facilities compensating a deficit at BENS) and Deltares (surplus at B-LOOP compensating a deficit at A-LOOP). It was agreed with the Project Advisor that, as long as it had fulfilled the overall minimum requirement for the whole institution, a facility provider could afford having a single facility with a deficit of accesses. This possibility, however, did not apply to INSA and Aalborg University (OTHU-DRB and FREJLEV facilities each with a deficit of one access), which remained one access below the required per-provider minimum. Accordingly, WP5 and the Project Advisor agreed to set up an extraordinary 3rd TA Call in which only the FREJLEV and OTHU-DRB facilities were available for applications.

The 3rd TA Call opened on December 15, 2023, and officially closed on January 5, 2024. Because of an issue with the submission procedure by one applying institution, the deadline was then extended by two weeks until January 19, 2024. By the formal conclusion of the 3rd TA Call, WP5 had received two proposals, one for each of the available facilities (Table 5).

Table 5. Submitted proposals for Co-UDlabs' 3rd Transnational Access Call.

Provider	Facility	Proposal Title	Group leader institution	UG Leader country	Facility country
07. AAU	**FREJLEV**	Air-water stratified flow in a poorly ventilated sewer main	Tallinn University of Technology	Estonia	Denmark
08. INSA	**OTHU-DRB**	OSRAI'Level - Monitoring Tool for Smart Sewage Systems	IJINUS	Italy	France

The proposals were shared with two members of the EEP each. The evaluators were given a deadline on February 9, 2024, to submit their assessments. The results of the 3rd Call were announced to Co-UDlabs' Steering Committee on February 8, 2024, at the same time as the outcome was notified to the user-group leaders – thus allowing them to begin arrangements with the facility providers for the performance of their experiments. The results of the 3rd Call are illustrated in Table 6.

Table 6. Results of Co-UDlabs' 3rd Transnational Access Call.

Provider	Facility	Proposal Title	Group leader institution	UG Leader country	Facility country	Final avg. score	Assessment
07. AAU	**FREJLEV**	Air-water stratified flow in a poorly ventilated sewer main	Tallinn University of Technology	Estonia	Denmark	**16.0**	**Accepted**
08. INSA	**OTHU-DRB**	OSRAI'Level - Monitoring Tool for Smart Sewage Systems	IJINUS	Italy	France	**14.0**	**Accepted**

Considering how closely in method and time both the 2nd and 3rd Calls have been processed and that the logistics of the 2nd Call arrangements were still at an early stage when the 3rd Call was finalised, it was agreed by the Steering Committee that the projects involved in both these calls would be treated – logistically and administratively – as part of the same process.

6. Final results and data of the Co-UDlabs TA calls

6.1. Final figures of the 2nd and 3rd Calls combined

When considered together, the TA projects that have been awarded for Co-UDlabs' 2nd and 3rd TA Calls account for the following data:

- 18 proposals were accepted out of a total 26 submissions (69.2% acceptance rate).
- User groups of accepted proposals were led by institutions based in 10 different countries (13 considering all submissions), 6 of which had not hosted a user-group leading institution in the 1st TA Call (7 considering

all submissions). 3 out of 10 leading institutions were based in non-EU countries (4 considering all submissions).

- User group members of accepted proposals were based in 24 different countries (31 considering all submissions), 7 of which had not hosted a user-group leading institution in the 1st TA Call (9 considering all submissions). 12 out of 24 member institutions (50%) were based in non-EU countries (15 considering all submissions).
- Compared to the 1st TA Call, the proportion of non-EU countries in accepted proposals' user-groups went up from 42.1% to 50% (from 45% to 48.4% when considering all submissions).
- Accepted proposals' user groups from the 2nd and 3rd Call included representatives from 61 institutions (82 in all submitted proposals). 21 of these (34.4%) were non-academic entities such as, among others, private businesses, SMEs, regulation bodies, utilities, or water industry networks and associations (32 if considering all submitted proposals).
- Accepted proposals' user groups from the 2nd and 3rd Call included 126 members (176 in all submitted proposals), of which:
  - 33 non-EU user-group members (26.2%, -7.5% compared to the 1st call);
  - 35 female user-group members (27.8%, +9% compared to the 1st call);
  - 20 user-group members currently enrolled in a PhD or a lower qualification course (15.9%, +7% compared to the 1st call);
  - 35 user-group members from outside academia (27.8%, -11.8% compared to the 1st call).

6.2. Final figures of Co-UDlabs' Transnational Access Programme as a whole

Since its inception in May 2021, Co-UDlabs has offered transnational access to its 17-facility research infrastructure in seven European countries through three global Transnational Access calls, that were organised by Work Package 5 before accesses were carried out within Work Package 9. The three TA calls were open for submissions for approximately eight and a half months. 145 attendees participated in four preliminary and introductory events (two webinars and two Hackathons) on the TA programme. Considering the submissions received for all three TA calls of Co-UDlabs, the overall participation outcomes of the programme are summarised as follows (Figure 4 below also provides a visual summary of the key information):

- 31 proposals were accepted out of a total 41 submissions (75.6% acceptance rate). Accordingly, Co-UDlabs facilities granted two more TAs than the minimum requirements for the whole TA programme set in the Grant Agreement (29), for over 1,000 days of free-of-charge, international access granted.
- User groups of accepted proposals were led by institutions based in 16 different countries (18 considering all submissions). 5 out of 16 leading institutions (31.3%) were based in non-EU countries (7 out of 18, or 38.9%, when considering all submissions).
- User group members of accepted proposals were based in 26 different countries (29 considering all submissions). 11 out of 26 member institutions (42.3%) were based in non-EU countries (12 out of 29, or 41.4%, when considering all submissions).
- Accepted proposals' user groups from all calls included representatives from 122 institutions (149 in all submitted proposals). 48 of these (39.3%) were non-academic entities such as, among others, private businesses, SMEs, regulation bodies, utilities, or water industry networks and associations (63 if considering all submitted proposals).

- Accepted proposals' user groups from all calls included 227 members (288 in all submitted proposals), of which:
  - 67 non-EU user-group members (29.5%);[5]
  - 54 female user-group members (23.8%);
  - 29 user-group members currently enrolled in a PhD or a lower qualification course (12.8%);
  - 75 user-group members from outside academia (33%).

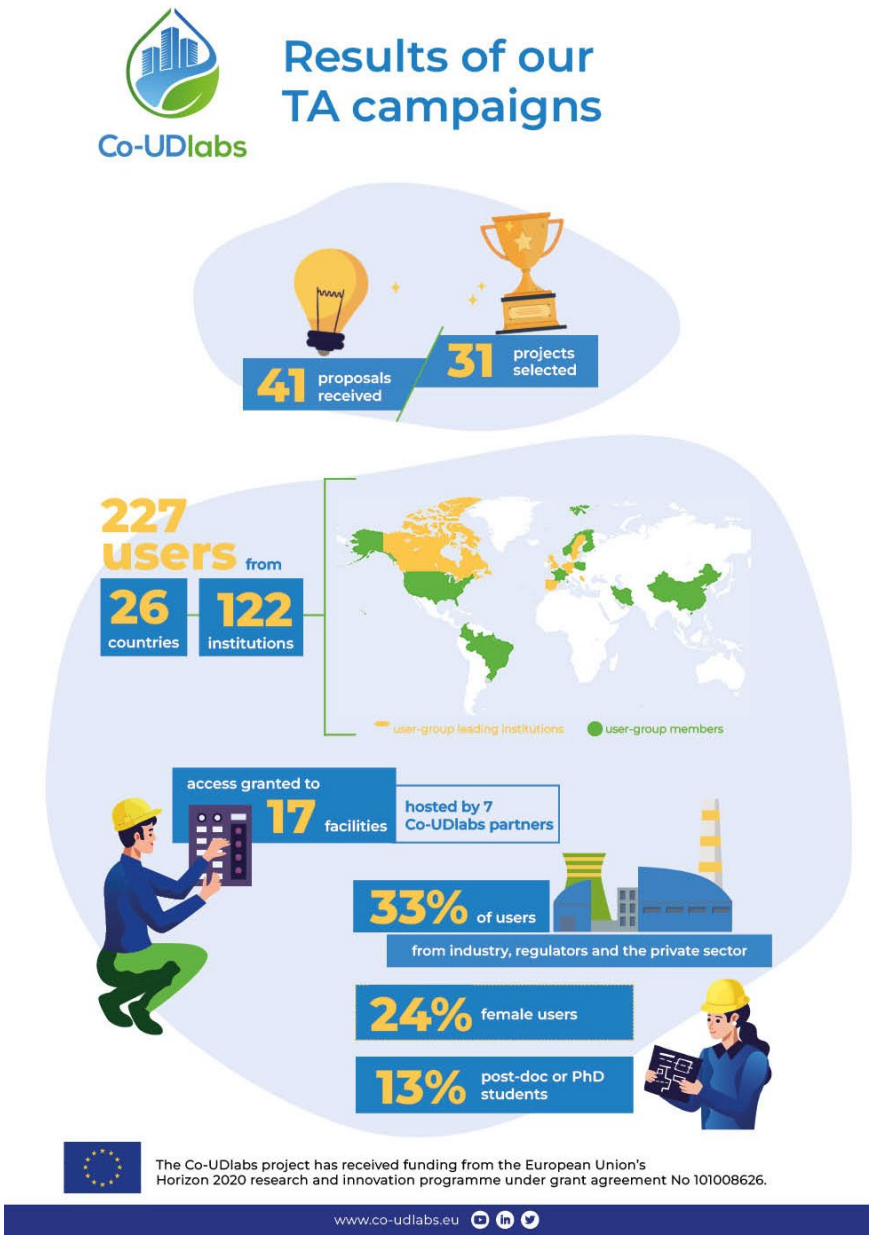

Figure 4. Summary of key indicators of all Co-UDlabs TA calls, as used in project's communication initiatives.

[5] Accepted proposals also comply with one of the key INFRAIA requirements: "Access for user groups with a majority of users not working in an EU or associated country is limited to 20% of the total amount of units of access provided under the grant". While a definitive recount will only be available after the finalisation of all TA projects, only 5 projects out of 31 accepted proposals have a majority of users not based in an EU or associated country.

7. Conclusions

Co-UDlabs opened its 2nd Transnational Access (TA) Call on July 3, 2023, at its General Assembly in Lyon, France. The call was supported by two open events for the UD research and practitioner community: an introductory webinar (June 20, 2023) and a Hackathon event (September 6, 2023) – with a combined attendance of over 80 people. The call officially closed on October 13, 2023. Co-UDlabs received 24 proposals, 3 of which had to be excluded as they were assessed as unfeasible by the respective facility providers. The remaining 21 proposals were distributed to a 9-member External Evaluation Panel (EEP), which met for a final evaluation session on November 14, 2023. 13 proposals were accepted, 4 were recommended for re-submission after improvements, and 4 were rejected for not achieving the required minimum average score. One of the teams scheduled for proposal re-submission withdrew from the process; the other three re-submitted proposals were all accepted after a second round of evaluation. A total of 16 proposals were accepted at the end of the 2nd TA Call.

All major indicators from the 1st call in terms of outreach and institutional participation have been improved in the 2nd Call. Participation of new countries such as Serbia, Estonia, Lithuania, Poland, and Turkey are a testament to the efforts that – following specific remarks by the Project Advisor's office and the independent reviewers of Co-UDlabs' first periodic report – the consortium has made to expand its reach and visibility to areas (e.g., Central and Eastern Europe) which would have otherwise been underrepresented in the TA programme.

Since at least two Co-UDlabs facilities did not meet the required minimum number of granted TA slots, WP5 coordinators and Co-UDlabs' Project Advisor agreed to open an extraordinary 3rd TA call, in which only INSA's OTHU-DRB and Aalborg's FREJLEV facilities were available for submissions. The 3rd Call opened on December 15, 2023, and closed on January 19, 2024. Two proposals – one for each available facility – were received and accepted following the EEP's evaluation.

Following the 3rd Call, 18 new TA projects will be carried out at Co-UDlabs' research infrastructure starting from early 2024. With the 2nd and 3rd calls combined, Co-UDlabs has granted TA slots to user groups from 24 different countries (12 non-EU), whose leaders are based in 10 different countries (3 non-EU). The 18 projects will involve 126 members from 61 different institutions. 27.8% of user-group members are women, an increase by 9% compared to the 1st TA Call's results. 27.8% are from outside academia, a drop by 11.8% if compared to the first call. This datum has been considered as an incentive to multiply the efforts to reach out to the industry, private sector, and utilities and regulators to broaden the potential public of Co-UDlabs activities and key results.

Through all three TA calls combined, Co-UDlabs has involved 227 user-group members from 122 institutions and 26 different countries (11 non-EU), led by user-group leaders from 16 countries (5 non-EU). Ultimately, 54 users are women (23.8%), 67 are from non-EU countries (29.5%), and 75 are from non-academic institutions (33%). Throughout the three years of activity of its TA programme, Co-UDlabs has accepted 31 proposals, two more than the minimum requirement introduced in the project's Grant Agreement.