

Future STEAM Cities

Quarterly Network Journal #1

URBACT



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Future STEAM Cities

Enhancing digital
transformation
and competencies

URBACT “Future STEAM Cities” Network focuses on transferring innovative practices developed during Aveiro STEAM City, funded by the European Programme Urban Innovative Actions. The network has twofold: to nurture and enhance digital competencies and to advance STEAM (Science, Technology, Engineering, Arts and Maths) education methodologies, addressing common challenges faced by EU cities, including attracting and retaining talent, innovation and digitalization. We aim to empower our partners’ communities and European cities, creating sustainable growth and job added-value.

5 *Innovative European cities*

WHO
WE
ARE



Aveiro, Portugal
80 880 population



Kolding, Denmark
95 897 population



Oulu, Finland
216 152 population



Alytus, Lithuania
50 996 population



Płock, Poland
116 962 population

Introduction

Learning to transfer, transferring to learn

A narrative reflection from the Lead Expert

In the Future STEAM Cities network, we are not simply transferring an innovation — we are rethinking how cities can use **STEAM approaches** to unlock local talent, connect education and enterprise, and support inclusive development. Our work is not about replication. It's about learning to transfer — and in doing so, discovering that we are also **transferring to learn**.

The first quarter of the ADAPT phase, from March to May 2025, has shown just how dynamic this learning can be. Cities have moved from understanding Aveiro's STEAM City model to designing their own local testing actions — many grounded in the needs of young people, the gaps between education and employment, and the urgency of reimagining how learning happens across generations and systems.

With this shift, the **Roadmap has become more than a framework** — it is now our shared structure for experimentation. City partners are beginning to use tools like the **Testing Loop, Letters from the Future,**

Introduction

Learning to transfer, transferring to learn

and **Storyboards** to develop tests that are context-sensitive, collaborative, and open to iteration. In this spirit, the Alytus Transnational Meeting* provided a powerful space to explore what testing means: not as a technical task, but as a method of storytelling, alignment, and local coalition-building.

We've seen early signs of this in action:

STEAM open days in Alytus and Hackathon in Płock, challenge-based learning in Kolding, and growing dialogue between education and business sectors in Oulu and Aveiro. Each effort is different, but what binds them is a willingness to treat STEAM not as a fixed package, but as a flexible connector — between disciplines, between institutions, and between generations.

As we look ahead, our challenge is not only to test but to **learn visibly and collectively** — to ensure that each action adds not only local value but shared insight. We are not only transferring a model. We are reshaping how STEAM can support urban futures.

ADAPT

Mar

Apr

May

Jun

Aug

Sep

ITN MEETING

Adapt 28-30 Apr

**Topic
Webinar 1**The Future of
STEAM
Education**Transnational
Meeting**

Alytus 10-11 Jun

**Thematic
Workshop 1**

"Tech Lab"

**Quarterly
Network
Journal 1****WE ARE HERE**

ULG Meetings



ULG testing actions

Roadmap

We are here

Stage **ADAPT**: from March to May 2025

() Understand phase: The first phase of the URBACT Innovation Transfer process, focused on building a shared understanding of the original innovation and its potential for adaptation in different city contexts.*

() Adapt phase: The second phase of the URBACT Innovation Transfer method, focused on testing and shaping local solutions inspired by the original innovation.*

() Transnational Meeting (TM): An in-person meeting involving all project partners, used for peer learning, joint work on tools, and strategic exchange.*

() Investment Plan: A strategic document developed by each city, outlining how they will embed and fund the adapted innovation beyond the project.*



Transition from
UNDERSTAND → ADAPT*



First test ideas defined
(ULGs)



Preparation of
Transnational Meeting*
in Alytus



Tools in use: Testing Loop,
Storyboards, Letters from
the Future

NEXT:

Testing in practice +
draft Investment Plans*

*Work
progress*

**ULG
Meetings**

Oulu, Finland

4 ULG Meetings

Kolding, Denmark

4 ULG Meetings

Alytus, Lithuania

4 ULG Meetings

Płock, Poland

6 ULG Meetings

Aveiro, Portugal

10 ULG Meetings

Within the Network

5
Cities

29
ULG
Meetings

5
Network
Meetings

2
ITN
Meetings

OUTPUTS:



Transferability Study



Network article



Website

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ULG's stories

Cities in dialogue,
adaptation in progress

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Summary of ULG activity

Mar-May 2025

Aveiro's ULG* activity has focused on consolidating legacy actions from the UIA STEAM City project and preparing a broader continuity strategy. Rather than convening joint meetings during this period, the municipality held targeted bilateral sessions with key partners — including the University of Aveiro, Instituto de Telecomunicações, and Altice Labs — to deepen collaboration on strategic areas such as the Tech Lab, urban data integration, and the expansion of the Living Lab.

Work progressed across all four strategic axes of the original UIA project (STEAM Education, Training, Technology & Services, and Urban Challenges), with a focus on equipping municipal technicians, validating new STEAM activities for the community, and expanding stakeholder roles in continuity planning. A joint ULG meeting is planned for September 2025 to revisit shared goals and explore future actions using tools introduced by the network.

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(*) ULG – URBACT Local Group: A local multi-stakeholder group supporting the design and adaptation of the innovation in each partner city.

The background of the slide is a dark blue image. On the left, there is a sign that says 'TECH LABS' in large, bold, white letters. Below the sign, the words 'Experimental learning spaces' are written in a yellow, cursive font. In the foreground, there are several laptops on a desk, some of which are open and displaying content. The overall scene suggests a modern, tech-oriented learning environment.

*Experimental
learning spaces*

TECH LAB

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Focus of test

Aveiro is preparing to extend its Tech Lab programme beyond schools, bringing STEAM activities into the wider community. This includes engaging families, cultural associations, unemployed and senior citizens, and other non-traditional learning groups — linking digital inclusion with creative learning. In parallel, Aveiro is exploring the expansion of its urban data infrastructure, including the development of a digital twin and new applications of the Free Technological Zone to support real-life testing by startups and R&D centres.

Together, these pilots aim to test how inclusive STEAM engagement and data-based innovation can evolve post-UIA, supported by new funding applications and institutional partnerships.

Susana Sargento

ULG member, Instituto de Telecomunicações (IT)

“

We want to improve interaction with citizens, using smart city technology as a tool to benefit society.

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Summary of ULG activity

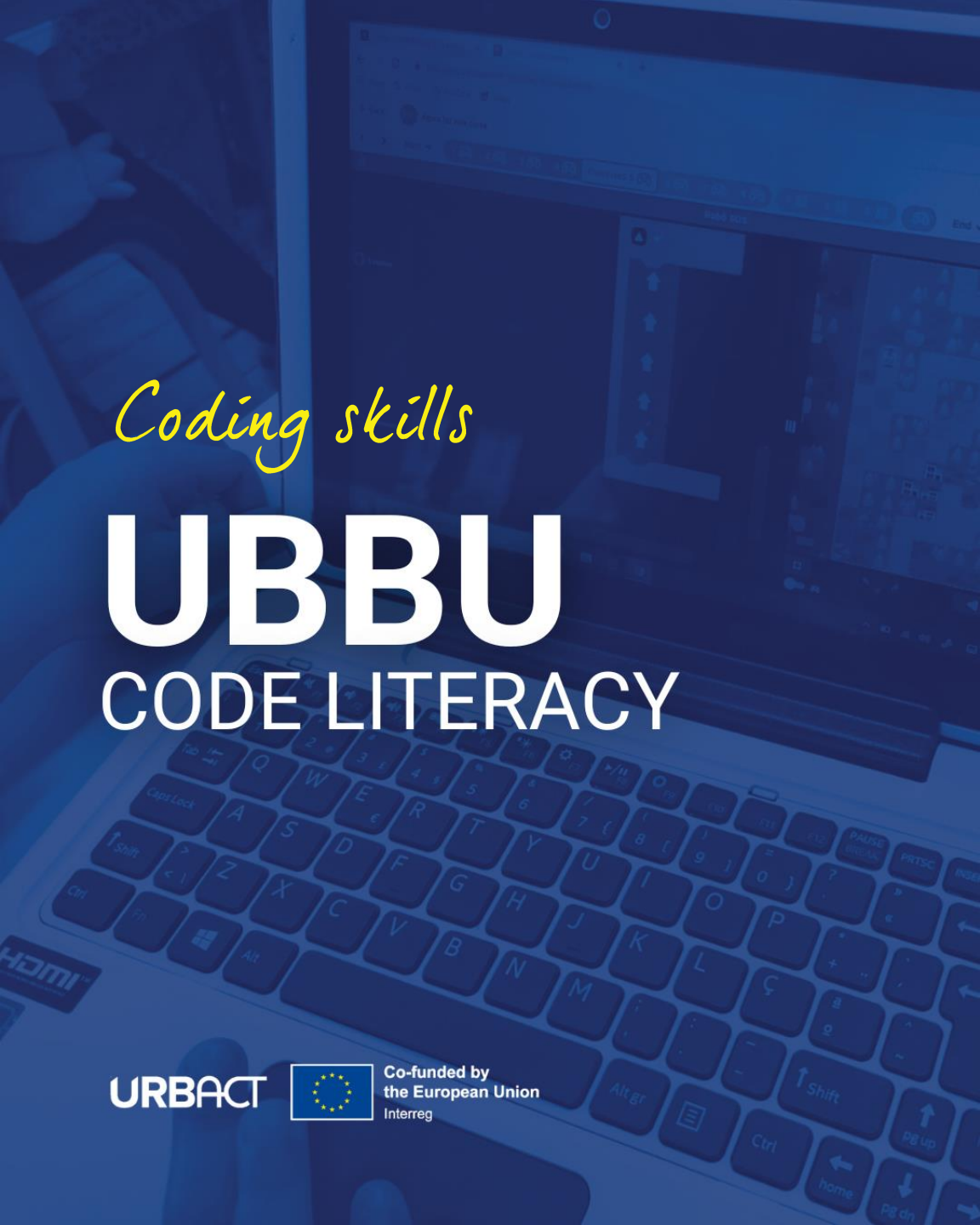
Mar-May 2025

Alytus has developed a highly engaged and education-driven ULG, composed of municipal staff, school representatives, politicians, and local STEAM providers. The group has remained consistent since its launch, with plans to gradually expand by involving more business actors. Over four meetings held since December, the ULG explored Aveiro's good practices, selected five for testing (Open Days, UBBU coding, entrepreneurship contests, TechLabs, Art & Tech), and aligned on small-scale implementation during this phase. The ULG has shown strong motivation and ownership — reflected in their active contribution to workshops during the Alytus TM and their interest in URBACT tools for use in their own work.

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Coding skills

UBBU

CODE LITERACY

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Focus of test

Alytus plans to test all five selected practices from Aveiro in a phased approach. The first action, scheduled for autumn 2025, is a series of STEAM Open Days hosted by local tech-related companies — aimed at students, job seekers, and graduates. Discussions are ongoing with the municipal business department and the Vice Mayor to secure company participation.

Future actions include piloting UBBU coding in primary schools, pending further methodological guidance from Aveiro, and designing an entrepreneurship contest with local challenges. Testing will proceed gradually, linked to funding availability and institutional support.

Laima Nosevičienė

ULG member, Education specialist in Alytus City



Sharing our experience can inspire other cities of a similar size.

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Summary of ULG activity

Mar-May 2025

Kolding's approach has so far focused on a series of targeted stakeholder meetings involving the University College, University of Southern Denmark, and the Design School. They are also engaging with local companies and city officials as part of their efforts to develop collaborative projects and pilot actions related to education and entrepreneurship. These sessions focused on shaping early testing ideas while building alignment across institutions. Additionally, there is a focus on involving elementary school children in advanced manufacturing and STEAM initiatives.

Four meetings were held in this period, each with a specific theme: entrepreneurship support for design students, company–university collaboration, creating a shared innovation space, and political support for STEAM in schools.

This distributed ULG model allowed the team to move quickly into action-oriented planning. From autumn, the city aims to shift toward a more structured ULG format, bringing these threads together into a shared local platform.

*Creative
Entrepreneurship*

STEAM & NEW CHALLENGES

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Focus of test

Kolding has defined two pilot actions and is developing a third:

- **Challenge-based collaboration with sound tech students:** a structured process involving University College of Southern Denmark students and local companies. Through a webinar and workshop series, companies propose real-world challenges that students work on during their course — fostering applied skills and local employer engagement. This aims to reduce the brain drain from this highly specialised and popular programme.
- **Entrepreneurship support workshops:** organized in collaboration with the Design School and the University of Southern Denmark, as well as University College this series of cross-institutional workshops (Sept–Nov) are aimed to students of design, IT product development, and industrial technology. The focus is on creative entrepreneurship, linking arts, design and technology within STEAM logic.
- **Early-stage idea – company visits for primary students:** this testing idea involves collaboration with local companies and the educational center that runs the FAB lab for elementary schools. The teams are exploring opportunities for younger students to visit advanced manufacturing firms — to spark early interest and deepen STEAM curiosity through real-world exposure.

Lars Tirsbæk

ULG member, Head of Studies, Sound Designer education UC Syd (University College South Denmark)



We see great potential in Future STEAM Cities to build strong collaboration between education and local businesses in Kolding.

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Summary of ULG activity

Mar-May 2025

Oulu reconvened its ULG before the summer with wide representation: university and library partners, early childhood and secondary education, the Art and Science Centre, and city leadership. The group reflected on their STEAM journey so far and began co-defining new objectives for the coming phase. The team also began exploring how to apply the network's Testing Loop tools to structure their evolving work — particularly in relation to leadership, equity, and local infrastructure.

Four meetings were held in this period, whose focus revolved around organizing the group and its members, including meeting the new project coordinator; discussing and planning future and testing actions, as well as their results.

*Why STEAM
Education Matters*

**SCIENCE
TECHNOLOGY
ENGINEERING
ARTS
MATHEMATICS**

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Focus of test

Oulu is developing an integrated testing strategy combining leadership, self-assessment, and in-school experimentation:

- **Leadership for Innovation:** a series of workshops and dialogue sessions for heads of schools and kindergartens to strengthen STEAM leadership, share practices, and build a shared culture of innovation.
- **STEAM 2.0 self-assessment and peer audit:** adapting Finland's "Deep Dive" approach, Oulu is co-developing a reflective tool that helps schools evaluate their current STEAM activity and receive structured peer feedback.
- **STEAM Lab in a comprehensive school:** a dedicated space for hands-on experimentation with interdisciplinary teaching, new technologies, and staff development — connecting ideas to practice in a real-world setting.

Together, these three strands aim to embed STEAM more deeply in Oulu's educational strategy, while also testing new models for capacity building and system-level change.

Sari Harmoinen

ULG member, Dean of Education, Faculty of Educational and Psychology,
Associate Professor in STEAM education, Oulu University

“

I am interested in being involved in the development of STEAM version 2.1, in national and international collaboration, especially in the field of the research.

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PŁOCK POLAND

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Summary of ULG activity

Mar-May 2025

Płock's ULG has been highly active, engaging schools, cultural institutions, the University of Technology, and the Industrial and Technological Park. Throughout spring, the group reviewed practices from Aveiro, conducted a SWOT analysis, and generated six strong pilot ideas. ULG members then formed smaller working groups aligned with their interests — from STEAM in schools to cultural and business-led activities — and were tasked with scoping the practical needs and potential of each idea over the summer. The city is preparing to prioritise its pilot actions in early autumn, using the Testing & Involve tool and impact-feasibility mapping introduced at the Alytus TM. Stakeholder engagement remains strong, and the mayor's visible support has reinforced the ULG's momentum.



Hands on science

STEAM

Focus of test

While six ideas are still under review, the ULG is moving toward testing:

- STEAM-infused lessons in primary schools, supported by the Teacher Training Centre
- Workshops combining culture and curriculum, in partnership with the Mazovian Museum
- Hands-on science sessions at the University of Technology, offering children access to lab-based learning

Other possible pilots include a teacher study visit to a STEAM-specialised school, and an entrepreneurship contest for primary schools, with early interest from the Technological Park. The ULG is committed to selecting two to three actions for testing in the next phase, focusing on feasibility, stakeholder commitment, and alignment with long-term goals.

Joanna Michalska-Iwankiewicz

ULG member, The Mazovian Museum in Płock

“

We hope this experience will encourage students to see our exhibition from a whole new perspective, connecting the past with the present, science with imagination, and art with hands-on experience.

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Shared learning

STEAM as a connector and
in action across cities

Network activities

What we did, what we learned

The first quarter of the Adapt phase marked a shift from reflection to readiness. Between March and May 2025, cities began translating ambition into action — supported by shared learning moments that helped strengthen tools, deepen perspectives, and lay the groundwork for testing.

At the beginning of this phase, all partners also participated in the URBACT ITN Meeting in Paris — a chance to step outside the network and engage with peers from other Innovation Transfer Networks. This cross-network dialogue situated Future STEAM Cities within a broader movement of adaptation and exchange, reinforcing the idea that transfer is as much about mindset as it is about method.

Webinar #1

“Beyond STEAM education:
Can we imagine the future of STEAM?”



6 May 2025

36 participants

Our first public-facing Topic Webinar invited partners and guests to look beyond school-based interventions and explore what STEAM can become — not just in education, but in society.

The session surfaced a shared desire to embed STEAM in local ecosystems — linking schools to culture, technology to care, and learning to real-world problems. Several participants reflected that STEAM is still seen as peripheral in their contexts, underscoring the need for mindset shifts and visibility.

Webinar #1

"Beyond STEAM education: Can we imagine the future of STEAM?"



“

Pedro Pombo,

from Aveiro, reminded us that
technology is not the goal.

*We may have robot tools, but
we cannot have robot -
teachers.*



“

Barnabas Wetton,

from Kolding, introduced the idea that
storytelling is central to science learning:

*It helps learners connect
emotionally with scientific
ideas, fostering empathy and
deeper understanding.*



“

Renata Romanovienė,

from Alytus, reframed the "A" in STEAM as
a matter of relevance and flexibility:

*The 'A' in STEAM can be
adapted to context. What
matters is integration,
relevance, and connection.*

Network Meeting #1

Coordination, tools and shared structure



4 April 2025

online

The internal network meeting focused on aligning city updates, finalising the webinar agenda, and preparing tools to support the coming months of experimentation. Each partner shared progress on ULG engagement — from Kolding’s potential innovation hub in a repurposed post office to Płock’s parallel surveys for schools and employers.

The meeting also introduced the two selected ad hoc experts — Ian Graham and Jon Aguirre — who will support the development of investment and continuity plans and help connect cities with funding and policy opportunities.

Tools in action:

The Testing Loop and IPs

To support the shift from ideas to action, the network developed a clear and adaptable framework: the **Testing Loop**. It offers a structured yet flexible way for cities to co-design small-scale actions with their ULGs and connect what they learn directly to their Investment Plans (and Aveiro's Continuity Plan).

Each phase of the loop is supported by a dedicated tool:

PLAN

Test & Involve Worksheet

Helps define what to test, why it matters now, and who to involve.

TEST

Testing Canvas

Used with ULG members to design the test in detail — what will happen, when, with whom, and what the test aims to learn.

REFLECT

Investment Plan Canvas

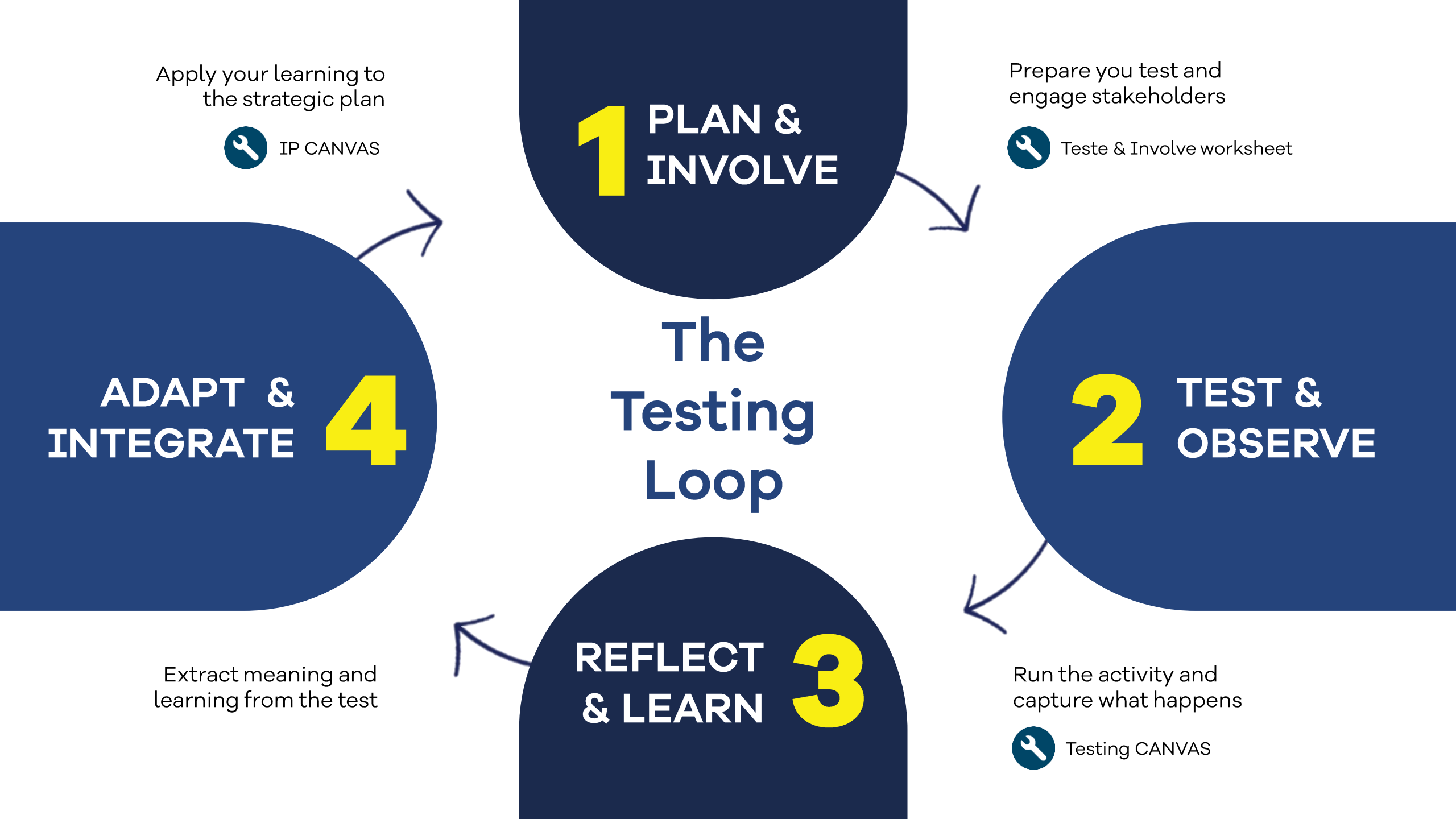
Captures early insights from testing and links them to long-term planning, governance, and funding.

Tools in action:

The Testing Loop and IPs

The tools were first tested during the **Transnational Meeting in Alytus**, with all partners and ULG members from Alytus. Since then, all cities have begun using them with their local ULGs to structure and implement their test actions.

The Testing Loop is not static — it continues to evolve as partners adapt the tools to their own context. New tools are also being developed to help cities collect and transfer learning from their testing actions into the drafting of their Investment and Continuity Plans.



Topics to watch

How cities are stretching the idea of STEAM

As cities begin testing, a set of shared themes is emerging — not as fixed conclusions, but as **living questions** that will shape the next stages of the network. These are the issues cities are navigating now, and the ones we'll return to in future exchanges.

1 STEAM for talent retention

Many cities are framing STEAM as a way to give young people a reason to stay — by making learning relevant, visible, and rooted in local potential.

"We want to show students that their city is a place for learning, creating and staying."

Alytus ULG member

Topics to watch

How cities are stretching the idea of STEAM

2 STEAM beyond schools

STEAM is moving into community settings — from family-focused activities in Aveiro to museum partnerships in Płock and informal tech learning in Oulu. This broadens access and begins to embed STEAM in everyday life.

3 The “A” in STEAM: integration or bridge?

Cities are treating the “A” not as decoration, but as the connector — between disciplines, and between people. In Kolding, empathy and expression shape design thinking; in Alytus, art is fused with tech in school projects.

“The soft social skills — the ‘A’ — are overarching the technological ones.”

Schneider Electric, Kolding

Topics to watch

How cities are stretching the idea of STEAM

4 Curriculum constraints vs. grassroots momentum

Innovation is often happening around, not within, the formal curriculum. Teachers are key drivers — working creatively with what exists, even when systemic change feels slow.

“Our main challenge is introduce STEAM into school curriculum, which implies a national level change.”

Aveiro

5 Business involvement: from reluctant partner to co-designer?

Cities are testing ways to make business participation real: entrepreneurship contests (Płock), open-door STEAM days (Alytus), and business-school alliances (Kolding). The shift is from invitation to shared responsibility.

Topics to watch

How cities are stretching the
idea of STEAM

6 Future skills, AI and adaptability

A newer thread: can STEAM help citizens navigate emerging technologies and uncertain futures? Oulu and Aveiro are starting to frame AI, data and automation as themes for civic and educational action.

These themes are not separate — they overlap and influence one another. In future meetings and webinars, we'll explore how they evolve as testing progresses, and how they shape the cities' investment and continuity plans.

What's next

From testing plan to action

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The Adapt phase of Future STEAM Cities began in March 2025, marking a shift from understanding to action. Over these first three months, cities have restarted their ULGs, shaped their testing priorities, and begun using the shared tools introduced through the network.

As this journal documents, partners have also been preparing for the first round of local testing and for the **Transnational Meeting in Alytus** — where these tools will be tested in action for the first time. What follows is a structured process that will

take cities from pilot actions to shared plans, and eventually, to long-term commitment.

Looking further ahead, the next edition of this journal will explore how each city is contributing to the network as a whole — through peer support, thematic expertise, or adaptation pathways. As testing progresses, the value of these different roles will become clearer, offering new insights into what meaningful transfer can look like in practice.

Adapt phase

Testing, learning and planning

(mar-may 2025)

What we've done

- Adapt phase launched with shared Testing Loop and tools
- ULGs reactivated and engaged in testing co-design
- First local testing ideas shaped using the worksheets and canvases
- Preparation for the TM in Alytus – including tool refinement and team mobilisation
- Webinar #1 explored STEAM as culture, mindset, and civic infrastructure
- Network meetings structured coordination and resource exchange

ADAPT

Mar

Apr

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ITN MEETING

Adapt 28-30 Apr

Topic Webinar 1

The Future of
STEAM
Education

Transnational Meeting

Alytus 10-11 Jun

Thematic Workshop 1

"Tech Lab"

Quarterly Network Journal 1

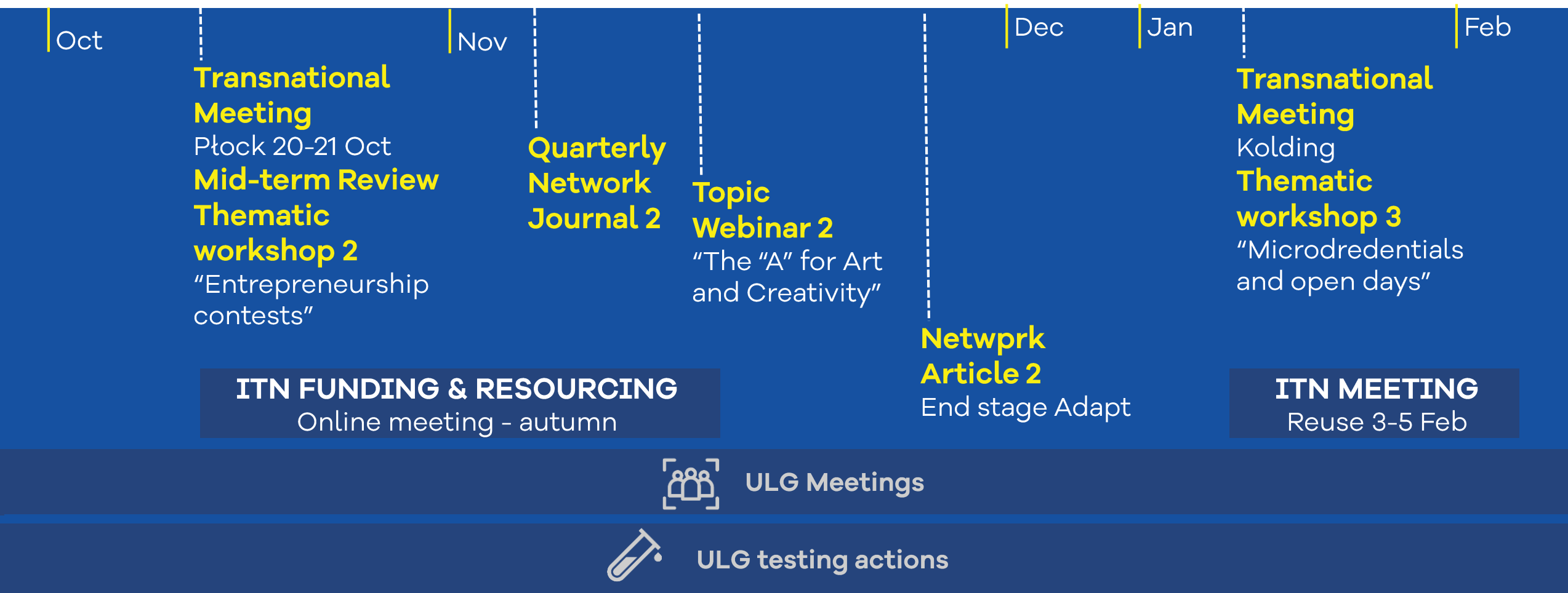
**WE ARE HERE**

ULG Meetings

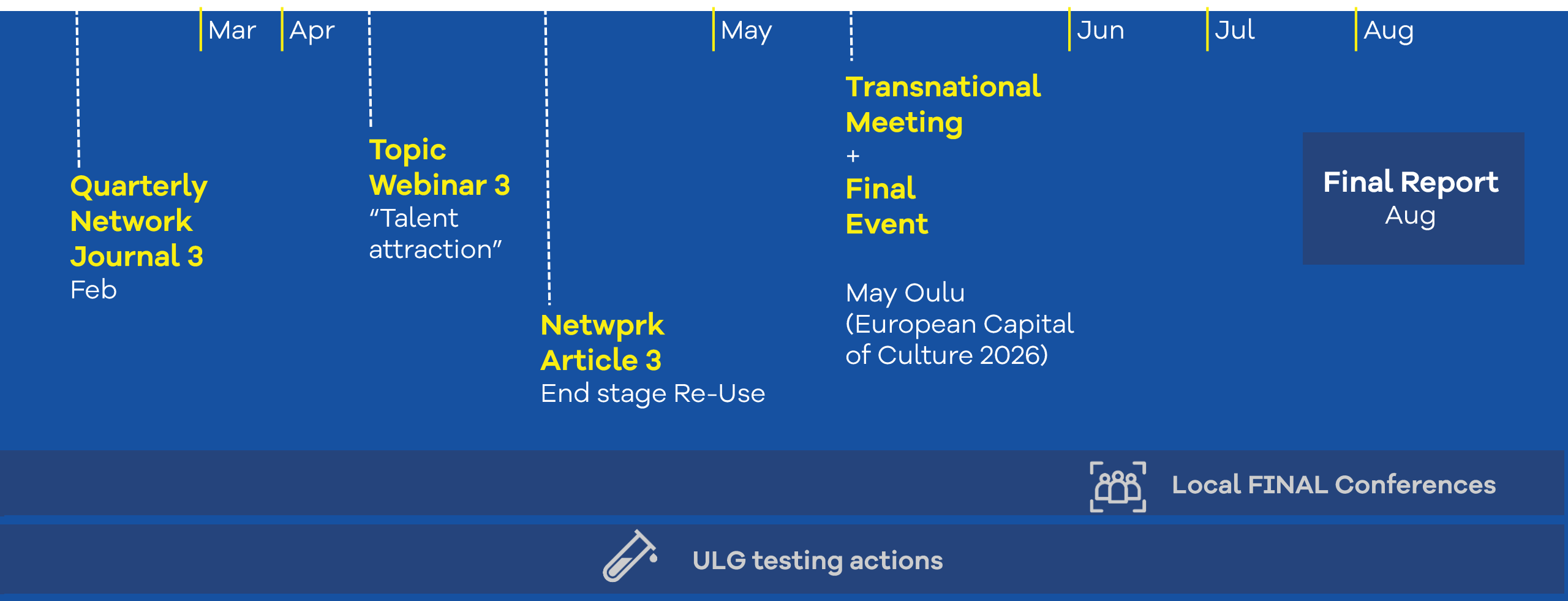


ULG testing actions

ADAPT



RE-USE



Re-use phase*

From insight to commitment

(Mar – Aug 2026)

This final phase will focus on consolidation and legacy: refining plans, preparing for implementation, and making visible what cities have learned and built.

(*) Re-use phase: The final phase of the URBACT transfer process, where cities finalise their plans and prepare for implementation and sustainability.

(*) Continuity Plan: A long-term plan developed by the Lead Partner (Aveiro) to sustain and scale its original innovation after the project ends.

Key activities

- URBACT Re-use Kick-off (2–5 Feb) – cross-network alignment
- Finalisation of Investment and Continuity Plans*
- Webinar #3 (Spring) – continuity, ownership, and next steps
- Final TM and public conference in Oulu (May) – within the European Capital of Culture year
- Publication of final Journal and Network Report
- Project close and handover (August)

Watch the Video

"Voices from the network"



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Glossary

Understand phase

The first phase of the URBACT Innovation Transfer process, focused on building a shared understanding of the original innovation and its potential for adaptation in different city contexts.

Adapt phase

The second phase of the URBACT Innovation Transfer method, focused on testing and shaping local solutions inspired by the original innovation.

Re-use phase

The final phase of the URBACT transfer process, where cities finalise their plans and prepare for implementation and sustainability.

Investment Plan

A strategic document developed by each city, outlining how they will embed and fund the adapted innovation beyond the project.

Continuity Plan

A long-term plan developed by the Lead Partner (Aveiro) to sustain and scale its original innovation after the project ends.

Glossary

ULG

URBACT Local Group: A local multi-stakeholder group supporting the design and adaptation of the innovation in each partner city.

Testing loop

A practical framework used across the network to design, carry out, and reflect on small-scale tests of the innovation.

Topic Webinar

An online session bringing together all partners (and sometimes external speakers) to explore key themes relevant to the transfer process.

Test & Involve Worksheet / Testing Canvas / Investment Plan Canvas

Three interconnected tools developed within the network to help cities plan their testing actions, involve the right stakeholders, and connect their learning to long-term strategies.

Transnational meeting (TM)

An in-person meeting involving all project partners, used for peer learning, joint work on tools, and strategic exchange.