A handbook for THE EXPERIMENT CO-CREATION PLATFORM

HELSINGIN YLIOPISTO
HELSINGFORS UNIVERSITET
UNIVERSITY OF HELSINKI

TURKU AMK
TURKU UNIVERSITY OF APPLIED SCIENCES

Turun yliopisto
University of Turku

Uudenmaan liitto
Nylands förbund

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DEMOS HELSINKI

What is the Experiment Co-creation Platform (ECP) all about?

Why should you be curious about the ECP?

WICKED PROBLEMS. Seems like the world is full of them. There is an ongoing discussion about these complex, interdependent global problems but the the world is increasingly thirsty for solutions with real impact. We believe great opportunities exist in identifying and solving the challenges related to wicked problems. And in the core of discovering these opportunities is collaboration. In this handbook we will present one model to collaborate – the Experiment Co-Creation Platform.

THE EXPERIMENT CO-CREATION PLATFORM (ECP) is an innovation-focused and impact-driven *experiment accelerator*, and an update of PPPs (public-private partnerships) and other innovation collaboration models that advance the urban economy and development. It's a challenge-based program that provides a toolbox and support for research-based teams to go forward and increase their technology readiness level (TRL). The ECP is dedicated to delivering sustainable solutions to wicked urban problems. What makes it special is the collaboration between platform partners in defining a shared vision and challenges as well as accelerated experimenting phase to develop teams' solutions.

ARE YOU MULLING OVER smart and user-centric solutions for a new school about to be built? Are you struggling with the recycling habits of citizens? Are you eager to make mass events more sustainable? Are you looking for new ways of interaction in urban planning and land-use development? These are just some examples of common sustainability challenges for cities, and a perfect fit for the ECP.

THE ECP MODEL is developed and prototyped by Demos Helsinki through Try Out! – project and funded by 6aika/EAKR. You are holding in your hands Demos Helsinki's view on how ECP model can be set up and operated amongst chosen platform owners. This handbook introduces how to set up operations for ECP. There are also supportive tools found online through the link at the back of the publication.

DEMOS HELSINKI

Wicked problems

WE ARE FACING TODAY some of the greatest challenges in the history of humankind. It seems like we are entering an era of multiple intertwined crises. 9 out of 10 people in the world breathe polluted air and the last three years have been the hottest years on record (WHO 2016; WMI, 2017) . The consuming middle-class is growing by 140 million people annually (Homi Kharas 2016). Climate change, depleting natural resources, pollution and urbanization affect most people on earth. We need good solutions and we need them now.

A COMMON CHARACTERISTIC of wicked problems is that they are complex and intertwined. One actor alone cannot solve these challenges. Instead, new ways of thinking and collaborating are needed. This is both a local and a global challenge. Advancements in science, exponential technologies and new business models provide a good starting point on the road towards a more sustainable future. Solutions to these problems will benefit us all, creating common good and a positive impact throughout society.

ON THE NEXT PAGES you will find out what wicked problems mean in the context of different platform partners.

Wicked problems and cities

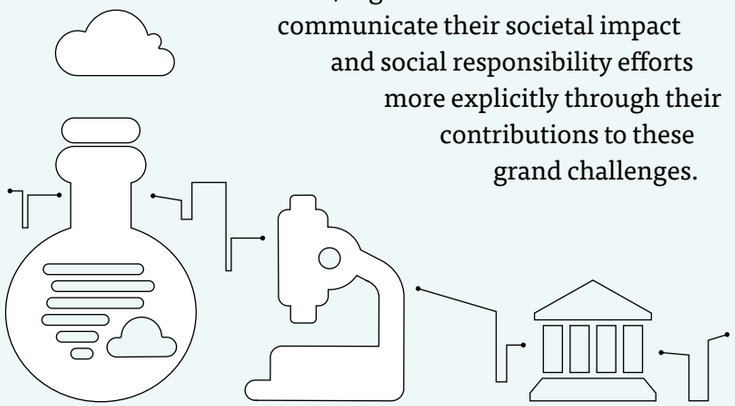
TODAY, for the first time ever, the majority of people live in cities (UN, 2016). Urbanization is shaping our way of life and impacting the urban economy in various ways. In Europe alone, 78% of European citizens live in cities and 85% of the EU's GDP is generated in cities (EU Committee of the Regions, 2016). Cities are the epicenters of knowledge, innovation, and human capital. They also have a huge impact on the environment and the overall demand for natural resources.

LOW-CARBON DEVELOPMENT, smart use of resources, the circular economy and quality of life are the key goals of many cities' strategies. There is also a gradually growing focus on social sustainability and the well-being of citizens. This is somewhat obvious, however. A resilient and future-proof built environment with clean technologies and reduced pollution levels go hand in hand with quality of life.

Wicked problems and higher education institutions

SCIENCE is more widespread than ever. 90% of all researchers who have ever lived are alive today – humanity has a lot of potential and resources to benefit from (Eric Gastfriend 2017). However, stronger interaction between science and the rest of the society is needed and this requires new inclusive structures, such as platforms for collaboration, driven by impact and big societal missions. But new solutions and impact require a direction: what are we going to prioritize and how? An abundance of opportunities lie inside higher education institutions. However, researchers lack support mechanisms that help them identify research needs and put their research into practice. This hinders the flourishing of the best ideas.

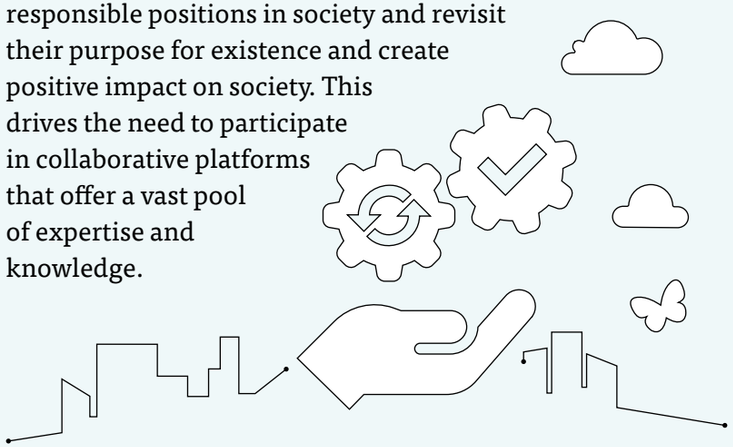
HIGHER EDUCATION INSTITUTIONS are connected to complex global challenges in a variety of ways. Wicked problems are increasingly incorporated in the research and impact strategies of higher education institutions. Moreover, higher education institutions communicate their societal impact and social responsibility efforts more explicitly through their contributions to these grand challenges.



Wicked problems and non-academic partners

TURNING WICKED PROBLEMS into wicked opportunities means that non-academic actors such as companies, NGOs and foundations cannot work in isolation from each other. Science-based solutions and diverse perspectives are needed to solve these complex challenges. Companies are increasingly incorporating sustainability strategies and looking for new business opportunities in solving wicked problems. Their business expertise is valuable in bringing new solutions to market. NGOs are often struggling with having to balance limited funds with a demand to be effective and achieve maximum impact.

COMPETITION over the best talent, limited resources and a demand to produce tangible, measurable impact, as well as best return on invested time and money are all placing tremendous pressure on these actors. In an era of global challenges, all actors will have to find sustainable, responsible positions in society and revisit their purpose for existence and create positive impact on society. This drives the need to participate in collaborative platforms that offer a vast pool of expertise and knowledge.

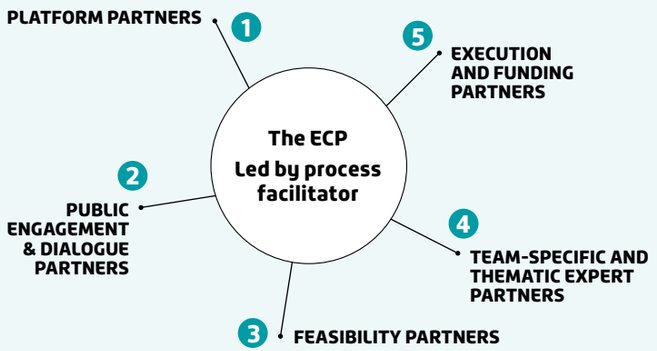


What is the experiment co-creation platform (ECP)?

THE EXPERIMENT CO-CREATION PLATFORM (ECP) brings together different partners and other stakeholders to develop solutions to an identified common challenge. The platform works as a tool for co-creation that covers the development cycle, all the way from research to experimentation and piloting. It is an inclusive R&D platform that accelerates solutions to the experiment phase where they are either validated or falsified, creating a premise for functioning scalable solutions. It enables the sharing of new insights, methods, expertise and innovations among participants such as higher education institutions, cities and non-academic partners such as companies, NGOs and foundations.

Partners are what make the ECP valuable

There are many levels and depths in partnerships and collaboration. Every partner plays an important role. One actor can also have more than one role as a partner.



1. **PARTNERS** such as cities, higher education institutions and companies that divide the ownership of the platform. Together they define a shared vision for the future, analyze the biggest challenges that need to be solved and steer the experimenting towards greater and wider impact.
2. **PARTNERS** capable of reaching and engaging the general public to discuss and participate in challenges e.g. through digital platforms, exhibitions and events.
3. **MENTORS AND EXPERTS** from various backgrounds that support teams in creating a feasible solution through experimenting, failing and re-design process.
4. **EXPERTS AND MENTORS** that have specific knowledge about the field that the team is working on and can support the team in finding paths to create more impact. (e.g. ministries, NGOs, companies)
5. **PARTNERSHIPS** that are connected to the future execution of the solution and are able to provide funding. (e.g. public funding agencies, VCs and larger companies)

Experiment co-creation platform – the set-up

A shared vision

THE ECP VALIDATES or falsifies solutions that improve the urban environment and quality of life. The model is based on a unique acceleration process, which focuses on validating the solutions of prototypes/startups/micro-companies in the urban environment through experiments. The ECP provides an inclusive methodology with a supportive toolbox for identifying urban challenges, steering impactful research and advancing the commercialization of innovations. It draws skills and people together.

Strategic collaboration

THE FOUNDATION of the ECP consists of mutually identified urban challenges, such as sustainable & inclusive urban planning. To solve these challenges, contributing partners create an operative infrastructure for the ECP and a position for the ECP facilitator.

Key stakeholders and platform partners

RESEARCH or higher education institutes, entrepreneurs, students and researchers, entrepreneurship and innovation services, city's development or environmental department with assigned personnel, strategic private partners, acceleration facilitator.

Innovation support toolbox

STRUCTURED PROCESS for challenge identification, criteria for team selection, IPR guidance, assigned urban testbeds for experiments, structured training modules, experiment design manual, experiment coach/mentor/facilitator, experiment assessment template, business development support.

Physical & digital spaces

CONTEXTUALIZED and framed urban environment (i.e. a festival, building). Venues for introduction clinics, seminars, workshops and innovation camps, infrastructure for marketing and communications, affiliated events, intermediaries and digital innovation platforms for promotion purposes.

Deliverables

VALIDATED/FALSIFIED SOLUTIONS for a resilient city, advancements in the technology readiness level (TRL) of products, services and technologies, user-centric entrepreneurship and innovation services, improved participants' skill sets, knowledge transfer between stakeholders, new knowledge-intensive R&D networks.

Funding & continuity

THE ECP MODEL described requires an estimated one person-year for process facilitation. Additionally, an estimate of eight person-days' contribution per participating partner secures fruitful results from the one-year long experiment co-creation process. For a further look at the potential business models for the ECP, please visit www.demoshelsinki.fi

Why should cities be curious about the ECP?

THE ECP PROVIDES cities with a framework for establishing the right conditions for setting up an innovation platform. Through the ECP's inclusive approach, cities are able to expand the pool of innovators and engage new stakeholders to solve wicked problems. The engaged teams are demonstrating new solutions in an urban setting, and hence bridging the gap between theoretical research and feasible solutions that work in practice. Being a mentor and experiment's counterpart in a series of experiments is an opportunity for cities to train and build the capacities of employees and officials, gain understanding on the solutions bubbling under the surface, and to anticipate future opportunities. The ECP's implementation and the execution of experiments demonstrate tangible and practical solutions for sustainability, and promote cities' competitive advantage in solving global urban challenges.

Why should higher education institutions be curious about the ECP?

THE ECP OFFERS higher education institutions a way to carry out responsible research and to find paths for interacting with the rest of society. The platform brings together researchers and other collaborators from multiple fields, enabling multidisciplinary research and the co-creation of solutions. Even though multidisciplinary research is often highly thought of and idealized, in practice there are a limited amount of channels to conduct it on. Through the ECP, researches are able to find new networks and partners to collaborate with. New, radical innovations and solutions are found when researchers are actively and widely participating in the relevant process. The ECP also opens up new fundraising channels for higher education institutions.

Why should non-academic partners be curious about ECP?

STRONG COLLABORATION with higher education institutions is becoming ever more important as the need for science-based solutions to grand challenges grows. Platforms drive innovation, create new perspectives and boost innovation culture within the company. In companies, platforms can act as a complement to internal R&D, reduce R&D costs and spread out the risk. Companies, NGOs and foundations are able to take advantage of and learn from a bigger pool of cross-disciplinary talent than by just working alone. Participation in the innovation platform demonstrates that the organization is future-oriented and interested in solving the most critical challenges of today.

Phase 1: Defining the challenge and setting up the collaboration platform

THE ECP MODEL is grounded on the facilitator, who's in charge of operating and coordinating the 12-month long process. Platform partners create together a desirable shared vision of the future that drives the development work on the ECP. A wider analysis of the problems and challenges that prevent or inhibit this shared vision from happening is used to discover potential challenges for the ECP.

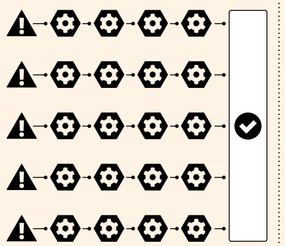
A challenge map combines the vision and the analysis of problems and challenges and helps to define the ECP challenge. It is a tool for strategic planning at the platform level and a lens through which the impact and activities on the platform are analyzed and prioritized. The map also works as a tool for the planning of strategic partnerships. It is used to identify stakeholders and gatekeepers for individual challenges and to identify valuable points for collaboration.

Months

1–2

Intensity of annual resourcing

Challenge map



Problem area
A wider problem area preventing the vision from happening.

Challenge/leverage point
The most important issues to be solved related to each problem area. These issues are challenges but also leverage points: the most impact results from solving these challenges.

Vision
A commonly shared and desirable future driving and motivating the experiments and other activities on the platform.

Keys to success

- Reserve enough resources to create an inspiring shared vision.
- Define a challenge that inspires teams to participate. Keep challenges concrete, yet open enough. The more open the challenge definition is, the more diversity is gotten from the teams.
- Take into account that some challenges are more fruitful for experimentation than others. Think which challenges defined in the challenge map produce the most impact from experimentation and the co-creation of solutions, and which challenges may require some other kinds of solutions.
- Link the challenges to existing and emerging urban processes, such as festivals and urban renewals.
- The role of the facilitator cannot be understated. Facilitator actively seeks opportunities for new partnerships and supports the teams in overcoming both small and large hurdles.
- In order to keep the creation and operating of the platform as light as possible it is important to create collaboration partnerships strategically.

Phase 2: Call for solutions and teams

AFTER DEFINING THE CHALLENGE, a call for solutions follows. This is an important marketing and communications effort that is done to ensure that the most well equipped teams to provide solutions are found. The goal is to attract attention to the platform and motivate the most innovating talent to participate. A sufficient time for the call of solution is 3 months. This enables the potential solution providers to orientate for the call and build partnerships.

Due to the platform's strong focus on experimentation, teams should already have done solid basic research on their idea and taken the first steps towards feasibility. Each team should also have at least one active team member that is affiliated with a higher education institution.

Months

3–5

Intensity of annual resourcing

Info clinics and matchmaking events

INFO CLINICS and matchmaking events are great for providing information about the ECP and to facilitate new partnerships and building more diverse teams better suited for the platform activities.

AT LEAST a couple of events should be organized where teams and team members can be found and inspired to participate and where essentially anyone interested in participating in the platform's activities is welcomed. Info clinics can be organized digitally as well.

Keys to success

- It is essential to reserve sufficient resources for marketing and communications i.e. finding the most suitable teams to tackle the challenge as teams and their solutions have a great impact on the success of the platform.
- Running a series of events is valuable and sometimes even a must to attract teams, especially for entirely new kind of co-creation and other activities as new platforms are in principle not known to many.

Quality conditions for choosing teams

- The team is mature enough. It has solution that is "tested in a lab" and at a stage where part of their solutions i.e. hypotheses can be tested.
- The team is well balanced and diverse enough. Partnerships will help the teams that have little diversity.
- The team is has a clean idea of the solution and is creating a solution to the right problem.
- It is clear that the team will benefit from experimentation and is committed to it.
- One team member is affiliated with a higher education institution. This will encourage new multidisciplinary collaboration also between academic and non-academic partners.

Phase 3: Experiment planning and execution

What is an experiment?

AN EXPERIMENT is a tool to validate or falsify a hypothesis that is anchored in your solution. The experiment is part of the development process. It should not be viewed as or used for testing a final product, service or business model.

Months

6–9

Intensity of annual resourcing

Experiments provide several benefits

- Validate the feasibility of a solution in the right context.
- Speed up the development process.
- Reveal new facts that can't be anticipated.
- Deliver data for analysis.
- Show causality.
- A powerful tool to draw the right conclusions.
- Help to open doors for new stakeholders or investors.
- Make complex matters tangible.

WORKSHOP before the experiment stage provides an important occasion to do proper planning for conducting experiments. Additional breakfast sessions and seminars support the planning phase by giving teams a chance to share updates on the progress, get peer support and receive encouragement and feedback on experimentation idea from mentors and experts.

The teams' tasks before experiments

- Set well-defined goals and hypotheses for the experiment.
- Create a plan for conducting the experiment with resources and a timeline.
- Define metrics of success.
- Have a dialogue with the experiment's counterpart(s), target groups and peers.
- Define a beta version for the experiment.
- Plan on how to collect feedback.
- Preferably get some seed funding.
- Clarify IPR issues.

The teams' tasks during experiments

- Observe, document and measure.
- Reserve time for coordination.
- Invite partners for field visits and ensure face-to-face meetings.
- Be prepared for plan B.
- Communicate actively.

Keys to success

- A clear objective(s) need to be in place for the experiment and the experiment's linkage to a contextual problem needs to be explained.
- Facilitator's role in supporting and sparring the teams is crucial during the experimentation phase. The facilitator coordinates the dialogue between experiment's counterparts, organizes workshops, looks for mentors and manages the experimentation toolbox.
- Funding opportunities should be clarified to the teams as in most cases experiments require some seed funding to cover the necessary costs.
- Collecting feedback actively and documentation of the experiment are important tools to assess the experiment afterwards. Proper documentation helps to analyze the preset hypothesis, draw conclusions on what has been learned and cumulate data for further development.

Phase 4: Assessment and next steps

ONCE THE EXPERIMENT IS DONE, it is crucial to assess what has been done, what impact it had and what opportunities for scaling exist.

What went really well? What didn't go well? What were the key components of success or failure? What could have been done differently? What should be tested next?

Months

10–12

Intensity of annual resourcing

Further assessment should be done on two levels:

1. What was validated or falsified with the experiment? How does the experiment advance innovation (i.e. in terms of TRL)?
2. How did the experiment contribute to the defined challenge and contextual problem area?

ONCE THE ASSESSMENT IS DONE, the results need to be shared, utilized and distributed. It is important to also identify new actors and stakeholders who could have an interest in the results and discoveries. Could the solution be transferred from schools to nursing homes? Is the scaling of the solution appealing for business angels and investors?

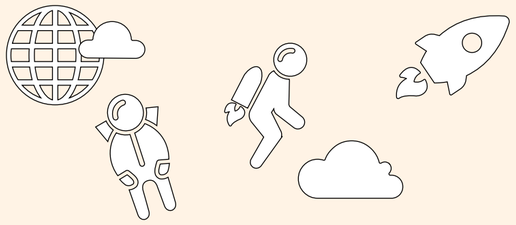
TEAMS CAN EVALUATE and assess their experiments with supportive documents and assessment templates. It is important to bring all the teams together to an evaluation workshop for peer learning and to support the teams moving forward. Once the internal assessment is done, it's time to present the results to a wider audience and celebrate the ECP carried out.

Workshop: experiment evaluation & assessment

A half-day workshop for teams to build their capacity from experiments, share what they've learned and the obstacles they've faced – and to gain resources for the future. Guidance and tools are provided for the teams to distribute and communicate the result. Teams exercise their pitches.

Results publishing event

A relaxed event to publish the results from the experiment phase to identified key stakeholders and new faces. Teams control the stage with well-prepared pitches, and a jury is present to evaluate and comment on the presented results. Discussions on the potential for further development. Congratulations to everyone!



Template for experiment assessment

What were the objectives and hypotheses set for the experiment?

What were the steps in the experiment's execution?

Who were the experiment's counterparts and stakeholders, and what were their roles?

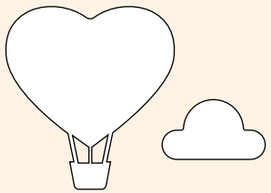
What was measured and/or found?

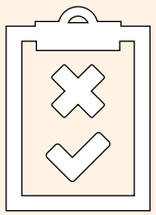
What was the anticipated impact?

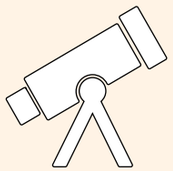
What was validated or falsified? What would be the next experiment?

What were the conclusions?

How reliable or context-specific are the experiment and its results?







Applied from the template developed by Turku University of Applied Sciences

Ready, Steady, Go!

Cities

- Make a decision with political and administrative support to promote experimental development on the city level.
- Define and decide strategic goals or problem areas for experiment co-creation platforms. Utilize major investments (i.e. the construction of a new campus) or mass events as platforms and always look for new development arenas that could be opened up for experimentation?
- Be proactive and create a longer-term vision of how specialization in solving specific urban challenges can lead to comparative advantages for whole the city.
- Allocate resources and decide on the person responsible for coordination. A lot can be achieved even if only five officials have a mandate to participate in the ECP model for five days a year.
- Create an access point to the city mayor and your local media.
- Take an active enabler and facilitator role. Innovation platforms are self-organising systems but evolve through an interaction between top-down policy choices and bottom-up creative forces.

Higher education institutions

- Define and decide on strategic goals and the desired impact of the platform.
- Define what is the role of the institution and how its responsibility is limited.
- Decide on people responsible for the platform's coordination and communications.
- Create strategic conditions where the value of the platform is shared and commitment is therefore secured.
- Secure funding to ensure the continuity of the platform.
- Identify and encourage potential research teams to participate. Clearly communicate how the ECP benefits researchers.
- Actively communicate about the platform and seek non-academic partners.
- Discuss IPR issues – the earlier the better.

Non-academic partners

- Decide on your goals and desired outcomes that are in line with your strategy.
- Choose a person in charge of the collaboration.
- Communicate the platform's benefits to the organization and ensure internal commitment for the platform.
- Provide funding and other resources, such as mentors, spaces for experimentation and activities on the platform in order to contribute to positive societal development processes.
- Take advantage of the collaboration by focusing on learning, capacity building, a growing mindset and networking.
- Strenghten higher education institution collaboration beyond the ECP.

THE TRY OUT! (2016–2018) project was a co-creational and experimentative platform aimed at strengthening emerging business models in cleantech, the circular economy and smart cities. It brought together newly established teams with backgrounds in the University of Helsinki in particular, as well as the City of Helsinki, existing businesses and urban inhabitants to experiment with new business models, products and services. The project enabled experimentative business model development together with people in a real urban setting. Moreover, the project produced a diverse set of solutions to existing problems faced by the city of Helsinki and other cities globally. Teams ran their experiments from August 2017 onwards. During the project, a prototype of a novel innovation platform was developed and is presented in this publication.

Visit our website to find more information and tools to carry out the ECP.

https://www.demoshelsinki.fi/en/julkaisut/try-out/

TRY OUT! PARTICIPANT TEAMS

aiQu, Padurn, Kliffa, Ultraphotons, pasrea, MOPRIM, REMSOIL, VISIONAIR

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DEMOS HELSINKI'S TRY OUT! TEAM:

Mikael Sokero, **Antti Lippo**, **Kati Vuks**, **Tuuli Kaskinen**, **Katja Lairikko**, **Mikko Airikkala**, **Joel Wolff**

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