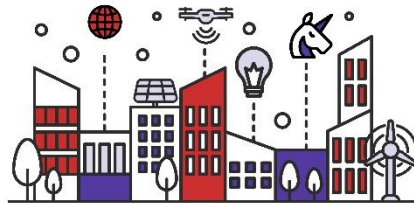
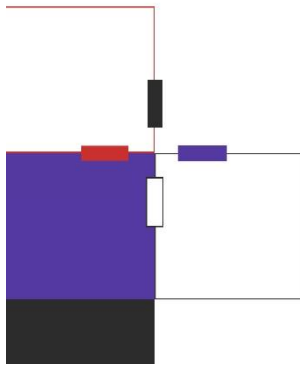


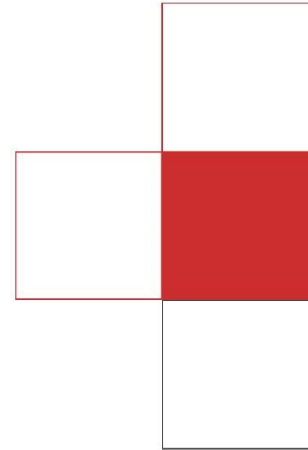


#iCapitalAwards



**THE EUROPEAN
CAPITAL OF
INNOVATION 24**

10TH ANNIVERSARY



Horizon Europe Application Form

Technical Description (Part B)

The European Capital of Innovation Awards 2024
(iCapital)

Version 1.0
05 March 2024



IMPORTANT NOTICE

What is the application form?

The application form is the template for EU prize applications. It must be submitted via the EU Funding & Tenders Portal before the call deadline.

The form consists of 2 parts:

- Part A contains structured administrative information.
- Part B is a narrative technical description of the application.

Part A is generated by the IT system. It is based on the information which you enter into the Portal Submission System screens.

Part B needs to be uploaded as PDF (+ annex) in the Submission System. The templates to use are available there.


How to prepare and submit it?


The application form must be prepared by the city and submitted by a Representative. Once submitted, you will receive a confirmation.

Character and page limits:


- page limit: **30** pages.
- Annex: the only mandatory annex required is a specific endorsement to apply signed by the city Mayor's (or the equivalent highest political representative). This document should be uploaded in the system separately from Part B. (max 2 pages)
- Minimum font size — Arial 9 points
- page size: A4
- margins (top, bottom, left and right): at least 15 mm (not including headers & footers).

Please abide by the formatting rules. They are not a target! Keep your text as concise as possible. Do not use hyperlinks to show information that is an essential part of your project.

 If you attempt to upload an application that exceeds the specified limit, you will receive an automatic warning asking you to shorten and re-upload your application. After you have submitted it, any excess pages will be made invisible and thus disregarded by the evaluators.

 **Please do NOT delete any instructions in the document. The overall page-limit has been raised to ensure equal treatment of all applicants.**

 **Please do NOT modify this template. You must use it without altering its format (i.e., Do not include the logo of your city in the header nor as a footnote).**

 **Before submitting your application, please ensure that the correct prize category is selected.**

APPLICATION FORM (PART B)

COVER PAGE

Part B of the Application Form must be downloaded from the Portal Submission System, completed, and then assembled and re-uploaded as PDF in the system.

Note: Please take due account of the call conditions published on the Portal. Pay particular attention to the award criteria; they explain how the application will be evaluated.

PROJECT ¹	
Project name:	The New Presence – Innovations from the North
Project acronym:	NePNorth
Coordinator contact:	Maria Vuorensola, BusinessOulu/ City of Oulu
Prize category:	European Rising Innovative City
City population (include reference year)	214 633 (2023)

TABLE OF CONTENTS

APPLICATION FORM (PART B)	3
COVER PAGE	3
1. SUMMARY	3
2. DETAILED DESCRIPTION	4
The texts should provide a clear overview of your city's excellence in relation to the objectives of the prize. Describe the application in detail, specifically addressing each of the award criteria set out in the Rules of Contest (<i>see also below</i>). Please, bear in mind there is no character limitation per box (criterion) but remember the overall limit of 30 pages. Please follow the instructions indicated above.	4
3. OTHER	27
3.1 Ethics	27
3.2 Security	27
4. DECLARATIONS	27
ANNEXES	29

1. SUMMARY

Application summary
Oulu is an insightful and down-to-earth city that lives and breathes on the terms of the northern nature. From its world-class research facilities to its vibrant startup ecosystem, Oulu has consistently demonstrated a commitment to fostering new thinking, advancement, and entrepreneurship. The city's unique blend of academic excellence, industry collaboration, public engagement and northern spirit creates an environment where innovation thrives.

¹ For ease of reference and consistency on the Funding & Tenders Portal, the terms 'call', 'project', 'proposal', 'coordinator' or 'beneficiary' (or other project-related acronyms like COO or BEN) are used as equivalent to 'contest', 'application' or 'contestants/applicants'.

The main themes in the city of Oulu's Innovation capital 2024 award application are

- 1) Skills for a sustainable future and continuous learning
- 2) Long history of cooperation and continuous development of the local R&D ecosystem
- 3) Co-development and experiments: The city as a testing ground for innovations

The city's commitment to youth engagement is exemplary. Oulu's educational institutions, from primary schools to the University of Oulu, emphasize STEAM education and digital literacy, ensuring that young people are well-equipped for the challenges of tomorrow.

2. DETAILED DESCRIPTION

Detailed description of the application

The texts should provide a clear overview of your city's excellence in relation to the objectives of the prize. Describe the application in detail, specifically addressing each of the award criteria set out in the Rules of Contest (*see also below*) Please, bear in mind there is no character limitation per box (criterion) but remember the overall limit of 30 pages. Please follow the instructions indicated above.

Award criterion 1, Experimenting – innovative concepts, processes, tools, and governance models proving the city's commitment to act as a testbed for innovative practices, while ensuring the mainstreaming of these practices into the ordinary urban development process.

In this criterion, among others, the applicant should consider answering these questions²: Why are these initiatives and/or concepts perceived as new? In which sense are they different to others? What was the city's role in these innovative concepts and/or models? What impact did they have in the city and ecosystems' stakeholders? How is the city implementing these innovative practices?

The applicant is expected to provide details on concrete results of the showcased initiatives as those will be evaluated by the jury.

Why is Oulu experimenting? The goal of Oulu's city strategy is that in 2030 we will have a humane and cheerful atmosphere, cutting-edge technology and entrepreneurship, and a distinctive, innovative, intelligent culture. Oulu is a city of young people. Oulu is experimenting to give citizens a chance for a good life, companies have a chance for sustainable growth, and our future choices are right for the generations to come.

When the city of Oulu celebrated its 400th anniversary in 2005, the panOulu was launched, an open wireless network, as a gift to all citizens. Since then, dozens of pioneering innovations have been developed in Oulu in collaboration with its residents of different ages. Located in northern Finland, Oulu has long been a beacon of high technology and innovation. Influenced by its geographical distance from other major European centers, Oulu developed robust local collaborations to undertake tasks on both national and international levels. This collaborative approach, known as the "Oulu way," has become a key strength within the Oulu's ecosystem, particularly in the domain of wireless connectivity.

Next chapters describe how we, as a city, provide the city premises as a platform for innovation and help to connect joint offering of testbeds and –labs from our Oulu innovation alliance (OIA)* partners (*= see part 3 Ecosystem building).

Oulu is a forerunner in utilizing Open Innovation best practices in the city development. City's Business Development Agency BusinessOulu has developed ready-made operating models and concepts (for instance own versions of IdeaSprints, hackathons, fast trials) to make open innovation easy and successful for companies. City of Oulu plays a crucial role in this by helping SMEs establish partners

² Applicants are only supposed to address these questions as far as they are pertinent to their proposal. They are not mandatory to reply and their purpose is to solely serve as a guidance when preparing an application.

and providing innovation governance functions for activating initiatives on the Oulu Innovation ecosystem level.

Open Patiolla User Forum brings together product and service developers and potential users for co-creation. Patiolla service enables to collect user experiences and needs as well as to test or co-innovate with users anywhere and anytime. Developers can bring cases to the Patiolla and let enthusiastic people solve challenges on the digital platform. Patiolla is for better customer understanding. Patiolla is a combination of a Citizens Forum and living lab activities.

Challenge-driven co-creation activities

The Open Innovation services provide opportunities for companies to generate new ideas and solutions by utilizing external resources. Demand-based or challenge-driven innovation activities are based on real life challenges or problems that need to be solved. A special case of demand-driven co-creation is fast trials. During Fast Trials -program run by BusinessOulu in 2021 the aim was to speed up new solutions and bring prototypes to practical testing in the real environments with real users in BusinessAsema-building. Companies quickly got valuable feedback on how the solutions work. City opened trial challenges for companies to solve and trials were selected by a bidding contest. Solvers – companies that were testing their solutions – got paid a small sum of money to cover their expenses.

Fresh Air Global Ltd has tested their multi-channel feedback solution that eases up the maintenance of the property in cooperation with the users of the space. In Siili's experiment, the prediction of the need for cleaning and sanitation and the optimization of work were studied with the help of data available from BusinessAsema. Hauru tested smart waste disposal solutions. Currently, The Warming Surfaces Company collects user experience of their energy-efficient interior warming solution and develops their user interface system. The company is a spinoff of Oulu innovation alliance partner VTT and part of PrintoCent cluster. Tailor-made testing is provided also and company called Valfi recently tested their services at an elementary school to gather data and conduct analysis of school dining area visitor numbers to eventually reduce food waste.

Oulu TestBeds – Open Testing Platforms

Selection of the best TestBeds for trialing smart building, healthcare, logistics, manufacturing, sustainability and learning innovations in Oulu: BusinessAsema Smart Building, OYS Testlab – hospital environment, OAMK SimLab – simulated service environment, MittLab – medical imaging, Oulu WelfareLab – social and healthcare, OuluZone+ for autonomous vehicles, 5G enabled research and training center, Urban Air Mobility Oulu, Ruskonniitti Centre for Circular Economy, Port of Oulu - port digitalization, PrintoCent - printed electronics innovations, Smart Campus Oulu (Universities area in Linnanmaa), Oulu Primary Schools, FabLab – FabCity. The newest Testbed is developed together with OIA partners, the city and Oulun Vesi (Oulu's Water), University of Oulu and VTT to develop digital waste water sensing. The so called water test bed is also a use case for Oulu Data Space.

BusinessAsema is a platform for companies to try, test, and co-create their solutions

BusinessAsema (asema = a station) is a meeting place for all right next to railway station in the center of Oulu. Employment and employees meet there in an environment that offers handy options for developing personal expertise as well as business. The smart building offers a free trial and development platform for companies. The building produces property data for developers to utilize. 130 sensors measure presence, use of seats at the restaurant tables, visitor numbers, air quality, and temperature. Data is also gathered about locks, lighting, the room booking system, smart lockers, sanitation solutions, info boards and so on. BusinessAsema, opened in the center of Oulu in February 2020 (!), has been praised for the fact that services related to entrepreneurship and employment, as well as workspaces open to everyone, from DigiLab to FabLab, are easily accessible to everyone.

BusinessAsema as a concept was developed during national 6Aika-project (2016-2020), where Finland's six biggest cities were tackling the challenges of urbanization together. Oulu was responsible for coordination of the Open Innovation Platforms project. Open innovation platforms attracted around 800 companies nationwide.

OYS Testlab is an authentic, hospital-based development and testing environment where companies receive direct feedback on their product development from real users. Oulu university hospital uses the lab to develop its processes and to model plans for the new Future Hospital 2030 currently under construction. OYS Testlab can simulate operating theatres, receptions, wards, control rooms, waiting rooms and whatever is needed. The facilities include 3d virtual space and 5g test network. On health sector, there are also **Oamk SimLab** that consists of versatile simulation environments for product development of health technology and welfare services. **MittLab is a medical imaging teaching and test laboratory**, that is located on the premises of Oulu University Hospital and **Oulu WelfareLab** enables developing solutions and innovating with real end-users: customers, patients and professionals

in social and healthcare centers and homes.

Oulu Zone+ for autonomous vehicles and robotics is an internationally recognized arctic research, education and development centre for infrastructure industry, heavy-duty vehicles, autonomous cars and robotics. Its appeal is based on 5G communications network built in the area, unique technological know-how and cooperation with companies, research and standardization institutions and various educational institutions. The Ouluzone area is the first GreenCross motor sports centre in Europe, and it hosts international motor sports events, exhibitions and recreational events. Oulu innovation alliance partners organize annual learning events in OuluZone and students from various backgrounds and study levels (vocational school to academics) come together and solve problems and test machines.

Urban Air Mobility Oulu (UAM Oulu) is the strategic initiative aiming at contributing to the development of the Unmanned Aircraft System (UAS) domain. The ultimate objective of UAM Oulu is to achieve city-wide coverage as a UAM living lab providing single entry and one-stop service point for any matters associated with business activities within the City of Oulu U-Space as well as applications of UAS, particularly in the Nordic conditions and enabling technologies for testing, research and demonstration purposes to develop safe, secure and all-weather resilient UAS technologies and promote scalable Urban Air Mobility solutions.

Kiertokaari Ruskonniitty Centre for Circular Economy

Ruskonniitty provides a test platform for innovations: it serves as a development platform and enables the development of circular economic business models. Kiertokaari opened a challenge with BusinessOulu and with aid of that has developed a new customer application, the goal of which is to facilitate the waste management of Kiertokaari's customers. The operating model of the application is simple: the resident takes a picture of the open waste container, the application analyzes the filling level of the waste container and, if necessary, orders the emptying of the container. Residents can also order additional dish emptying via the app. The goal of Kiertokaari is to introduce an electronic customer application during 2024.

Port of Oulu - port digitalization

Oulu is the logistics hub for Northern Europe. Sea, land and rail transport meet in the port of Oulu providing transport effectively to the whole of Northern Scandinavia. The largest multipurpose port in the Bothnian Bay serves in the fastest growing city in Northern Europe. All three parts of the port: Oritkari, Nuottasaari and Vihreäsaari are open all-year 24/7. The digital project *PORT OULU Smarter* aims at developing and using modern port digitalization together with clients and stakeholders. In a multi-functional environment, a new type of data platform is created, which collects information on port activities and the status of the port. The digital infrastructure development measures in the area will integrate the transport and communications services in the port area into a seamless package

PrintoCent - printed electronics innovations Pilot Factory and PrinLab The pilot manufacturing lines and laboratories are the key asset in the PrintoCent industrialization and mass production activities. The pilot factory and laboratories, together with the experienced users of them, enables technology development and testing from prototyping to pilot scale production and early market trials. **OAMK – PrinLab** The development laboratory for Printed Intelligence at Oulu University of Applied Sciences is called PrinLab. The team offers Printed Intelligence design, manufacturing, and test services to support R&D work.

Smart Campus Oulu – Linnanmaa the University of Oulu is launched a national Smart Campus project with the aim to build research infrastructure by linking 5G test network, big data and edge computing, IoT networks and VR/AR. In addition to the closed research environment, other environments were also established from semi-open to fully open development environments. Oulu also led the sharing of open data and organized numerous open innovation activities jointly with our project partners.

Experimenting in Oulu primary schools - Intelligent learning environments of the future

Use of 5G tested in City Schools

Initially the 5G network was a joint project of VTT, the University of Oulu and more than a dozen other partners including the city of Oulu the first 5G test network was opened in Oulu. Eventually the network tests expanded to cover other parts of the city. In 2021 DNA (phone operator company), Business Oulu, education and culture services of the city, Hiukkavaara school and Playsign (software company) jointly implemented a 5G pilot at Hiukkavaara school. The pilot was part of the "Sustainable future" theme of phenomenon learning. The goal of the pilot was to deepen learning by enriching it with the means made possible by new technology. In the 5G pilot, augmented reality illustrated things related to the phenomenon to the students, such as the water cycle and forest ecosystems. A parallel world was built into the learning environment, the scenery of which is taken directly from the curriculum. With the help

of 5G tablets and a fast 5G connection, students can explore that world.

Oulu Schools Rowing virtually for the three seedlings

Tervasoutu is a traditional Oulu event that has been rowed since 1984. In the spring of 2021, the first virtual school river rowing was organized, where students rowed in schools for two days using rowing equipment and their progress was visible on a digital platform built into the web browser. Since then, we have rowed playfully every year in Oulu schools. The platform has also been used for other sports, such as walking and cycling. This year (2024), the city officials organized a virtual school river row in May. In addition to the fun competition, human-powered energy was rowed. The rowed journey of all the schools was turned into energy, and the energy produced was turned into a miracle of growth. With the amount of energy we produced, we purchased tree seedlings, and planted the seedlings together with children and young people from Oulu to reduce our carbon footprint. All teams rowed a total of 1444.3 km in the Oulujoki region, which is 376 tree seedlings.

Experimenting in Library: Oulu 5G Library Vehicle

The "Travelling with Library Vehicle" event organized in March 2023 gave the whole of Finland the opportunity to get to know the operation of Oulu's new library car via 5G. With 5G, better connections, streaming and better integration are achieved. When connections and data transfer work smoothly and quickly, the mobile library's employees have more time for customer service and guiding customers. "Kauno" library vehicle, introduced last year, is not only a library car, but is designed as a multipurpose car. It can be easily modified for different use. For example, in February 2024, the library car together with the sports services of the city of Oulu had a multi-purpose day, where the citizens of the municipality could take popular fitness tests in the car in Yli-Ii (remote location).

Letting the people experiment: Oulu, The FabLab concentration of Finland

FabLab is a global concept that originated at MIT University in 2001. Today, the FabLab network comprises approximately 3,000 laboratories around the world. Oulu has a solid foundation and history as a Fab Lab City. The second FabLab in Finland was established in Oulu. Right now, Oulu has half of Finland's Fab Labs. FabLab operating are one in the university (a Super Fab Lab), three in city schools and a FabLab in city's entrepreneurship and employment services department. In 2023 in city's FabLab there was over 3 000 citizens and 130 companies usin the facility. The City of Oulu became the member of international FabCity network in 2023. The objective is to achieve a more sustainable and innovative entrepreneurship, possibility for lifelong learning for all the citizen groups and carbon neutral fab labs.

Developing digital services for residents in Oulu

In the Municipalities' modern customer services (MODA) project in 2020-2021, the cities of Oulu and Jyväskylä implemented 14 pilot projects related to the digitalization of services. In Oulu, OuluBOT was created as a virtual citizens service agent, which is a curated AI assisted service agent. OuluBot is Finland's first digital customer service agent that combines AI and software robotics. The City of Oulu owned bot provides residents, entrepreneurs and visitors with extensive and multichannel information 24/7 and can independently handle many service requests and personalized information. In collaboration with UNIC Oulu chapter in 2022, OuluBot was developed and piloted. Open language model soon enables the bot to interact in hundreds of languages, providing endless opportunities for human-centered urban development and data collection in multicultural contexts.

TechArt. The city of Oulu has took up the challenge of culture and creative industries brought by the corona pandemic with the help of two projects. The TechArt and DigiCult projects combined new operating models by combining art, culture and technology. Since 2021, Oulu has been determinedly introducing TechArt in the cityscape and public spaces with content created in art and culture. Agile experiments have been implemented, e.g. in the three key thematic areas of Oulu Tech Art hub: 1) MetaCity Oulu, grand opening of Oulu in metaverse, overarching TechArt platform enabling versatile experimentation, interaction and engagement of all stakeholder groups. 2) Deep Space, exclusive experiences for all senses, inviting state of the art of the art content and technology developers to bring in their talent. 3) Event platform: building on top of the annual Lumo Light Festival.

MAKING-CITY is a Smart Cities and Communities Lighthouse (Horizon 2020 Innovation Action) project addressing and demonstrating the urban energy system transformation towards smart and low-carbon cities, based on the Positive Energy District (PED) concept. The PED operational models developed in MAKING-CITY will help European and other cities around the world to adopt long-term planning for energy transition (City Vision 2050) and sustainable urbanisation whilst turning citizens into actors of this transformation.

Oulu PED was incorporated in the Oulu's large scale innovation platform, the entire city-wide district heating network providing the integrated energy infrastructure. As rare it is, the successful Oulu PED Kaukovainio solution and business model has already been replicated during the H2020 project, three

times locally and numerous times nationally in Finland by company partner.

UNIC The European University of Cities in Post-Industrial Transition – CityLabs

The City of Oulu is the University of Oulu's partner in UNIC The European University of Cities in Post-Industrial Transition, since 2020. UNIC is an established European Alliance of ten European universities based in cities in post-industrial transition with a mission to boost development of knowledge and co-creation through collaboration, innovation and inclusion for societal impact and improvement. UNIC brings together 29 000 international academics, 277 000 students, 10 city partners and their urban ecosystems. Co-directed by the University of Oulu, two other universities UNIC founded in 2023 a pathbreaking "one-stop-shop" for UNIC universities to engage with cities and communities. In Oulu, city challenges aim to promote human-centric urban development. During 2024, the UNIC Local Chapter in Oulu has linked the Oulu Region Smart Specialisation Strategy objectives with its operations – showcasing how in Europe, it is possible to have a European University Alliance power tool support Smart Specialisation. Ongoing pilot collaboration orchestrated by UNIC addresses Oulu Innovation Alliance strategy for Digitalisation in the Changing Urban Environment. From September 2024 to April 2025, the center will conduct a large-scale educational innovation pilot focused on human-centric urban governance. This initiative will involve over 80,000 hours of co-creation to develop the "OuluBot" service for international students, integrating data and knowledge management efforts between the city and the university.

Oulu's Collective Impact based Cross-sectoral Collaboration Model. The city of Oulu has been implementing a collective impact approach since 2019, enhancing cross-sectoral collaboration across daycare, education, youth work services, social and healthcare services, local employment services, the Social Insurance Institution of Finland (Kela), and non-profit organizations. The basic idea of CI-based collaboration is that addressing complex societal challenges is more effectively achieved through purposeful and model-based collaboration among all relevant stakeholders, rather than isolated efforts by distinct organizations. The aim is to move beyond a fragmented service system towards an integrated, preventive approach, aiming to decrease e.g., the use of services such as child protection and child and adolescent psychiatric services.

The Itla Children's Foundation (Itla) and the University of Oulu work as backbone support organizations for development and implementation. The Oulu Collective Impact Collaboration Model initiative was awarded the Childhood Builders prize by Itla in 2019, and the 'Doing Important Work' prize by Local Government and County Employers KT in 2021. The collaboration with Itla and the city of Oulu continues with the pilot of the CI-based Itla View tool starting in September 2024

Award criterion 2, Escalating – promoting the acceleration of the different actors of the local innovation ecosystem, supporting growth of highly innovative start-ups and SMEs, establishing innovation friendly legal framework, creating an environment that stimulates growth and attracts private and public investments, resources, diversity and talents; and driving innovation demand through efficient innovation public procurement.

In this criterion, among others, the applicant should consider providing information³ about concrete actions taken to pursue and accelerate the growth of highly innovative start-ups and SMEs and of the rest of actors of the local innovation ecosystem, as well as their quantitative and qualitative implications, about actions to promote the establishment of innovation friendly legal frameworks, about the use of innovation procurement and their impact into the city, citizens, and the market, about actions aimed to promote investments and growth within the city, or to attract and retain resources, diversity and talents.

The applicant is expected to provide details on concrete results of the showcased initiatives as those will be evaluated by the jury.

Oulu had a startup boom from 2012 onwards caused by the massive Nokia layoffs which resulted from the layoffs of 7000 people. However, from 2019 onwards there was a notable decrease in startup activity. With the new Oulu Innovation Alliance program period 2021-2027 and through several joint projects Oulu University of Applied Sciences (OAMK) & City of Oulu/BusinessOulu started diligently examining the current status of the entrepreneurship ecosystem to see which roadmaps we should utilize to re-build and strengthen the startup ecosystem to provide a platform for growth for strong new startups. OIA's Startup program team built 5 different roadmaps with several focus areas to ensure and

³ Applicants are only supposed to provide this information as far as it is pertinent to their proposal. It is not mandatory to include and its purpose is to solely serve as a guidance when preparing an application.

develop a dynamic startup ecosystem. Different roadmaps that overlap include the ecosystem of hubs, ecosystem of teams and doers, ecosystem of events and programs, ecosystem in a network of national and international players, and ecosystem of low thresholds for easy collaboration.

During the last years the city together with OIA partners have significantly accelerated the growth of start-ups and SMEs by fostering a strong regional innovation system through public-private collaboration and targeted injections of city funding.

Proof of Concept-funding (PoC) is an example, the city supports innovative experimentation with the goal of creating new business by providing budget for innovation experimentation in the form of Proof-of-Concept funding, of which the city covers 50% of costs, and the local Universities and the vocational school the other 50% for doing new innovation experiments. Currently, City of Oulu finances PoC activities for three years (2023–2025) at the University of Oulu, Oulu University of Applied Sciences and OSAO. The PoC funds were previously allocated annually, year by year but three-year period gave the PoC model longevity and predictability.

In 2023, a total of 63 Proof of Concept funding applications (POC) were processed, of which approximately half (31) received funding. The amount spent by POC's was in total 286,954€. 14 POCs were conducted at the University of Oulu. All applications to the University of Oulu came from the staff. Oulu University of Applied Sciences was also granted 14 POCs, almost all of which were implemented by students (13 students and 1 staff representative). The sum of OAMK's POCs was 11,440 euros. OSAO was awarded three POC grants, all targeting students. OSAO's amount was 9,234 euros.

POC experiments included the testing of ideas from development of bio-based packaging material from mushroom mycelium, childcare and cleaning services operational concept testing all the way to the testing of urea sensors for continuous monitoring of home peritoneal dialysis or to feasibility assessment for industrial production of PETBF polymer.

Oulu Innovation Alliance (OIA): The Alliance is presented in more detail Criteria 3/ Ecosystem Building. The alliance has facilitated RDI cooperation and entrepreneurship support. For example, the OIA was crucial during the downturn of the mobile industry, leading to the creation of Business Kitchen, an entrepreneurial hub for universities to foster start-up culture. OIA has continuously overseen the status of the startup ecosystem and when gaps have been identified, different OIA projects have been created to keep developing the startup ecosystem.

Company Collaboration: Emphasis on mapping RDI needs, conducting joint projects, organizing themed business events, and fostering strategic partnerships. These efforts have aimed at creating robust business networks and enhancing visibility through joint marketing efforts. Concrete examples include themed business events (PRINSE, Innofest, Circural Economy Arena, Polar Bear Pitching side events), guided collaboration in business networks, and tailored strategic partnership agreements between public organizations and companies. ICTOulu ecosystem, clusters development Printocent, OuluHealth, and StartupOulu – The new StartupOulu startup ecosystem channels and activities also serve as a gateway for companies to do collaboration with students, researchers and startups.

Business Development: Providing extensive services such as commercialization support, internationalization, funding assistance, and business modeling, even up to IPO preparation. For example, BusinessOulu offers test labs, piloting and prototyping services, and business incubators and accelerators. The focus on agile experimentation to improve and accelerate innovation and commercialization reflects the joint understanding of regional development needs.

Competence Development: Focusing on training, continuous learning programs, and talent attraction. Initiatives include internships, student thesis work, and joint forums for curriculum development to align education with industry needs. Notably, the University Innovation Centre was established in 2019 to support both universities and RDI communities in innovations, commercialization, and company collaboration, following the Business Kitchen model. OIA partners scan future competence needs of strategic target fields and set up joint initiatives, such as H2School, hydrogen knowledge for all levels of education. Our unique cooperation within OIA partners paves the way for effective cooperation across organizations, including cross-organizational teams and forums, where all activities are jointly planned and executed regardless of the organization. (OIA Startup team, Oulu Startup Ecosystem RoundTable, OIA steering group meetings.) Thus, we are quickly up and running with new initiatives and avoid double or even triple work, when we have a clear map of activities and view of the responsibilities.

In 2023 many new startup initiatives were created:

Startup Station – co-working and community space in the city centre run by the city of Oulu, and a new project for startup pre-incubation and startup community development, called *Startup Express* saw the

dawn of daylight. Startup Express is a 14-week pre-incubator program with workshops, 1-on-1 mentoring and access to Startup Station Results from the Express Program so far: 1st cohort (Oct-Dec 2023) 36 participants, 13 ideas pitched, 6-8 companies. 2nd cohort (Feb-Apr 2024), 30 participants, 12 ideas pitched, 7-9 companies.

The Universities made a joint agreement that OAMK develops the universities (Applied Sciences and the University of Oulu) startup activities. *Business Corner startup space* in the campus area has been opened on campus serving 24000 students as a startup co-working space and a community platform for the student entrepreneurship society and soon to be built campus startup program. The City of Oulu decided to grant PoC funding for next three years 2023-2025. Through PoC-funding Oulu has supported 225 Proof-of-Concept projects 2020-2023 which have led to significant new business development.

Polar Bear Pitching, a world-famous event (“The coolest startup event in the world”) where entrepreneurs pitch in an ice-hole, was relaunched in 2024 after a 4-year hiatus. There is no time limit for the pitch, but usually the pitches held from the ice hole in a swimming suit are not too long. Polar Bear Pitching is used to build international connections beyond the Oulu event itself. There were satellite startup events in Hokkaido, Japan and in Kirkenes, Norway prior to the Oulu Polar Bear Pitching competition in 2024.



Communication channels and platforms were launched: new StartupOulu brand is under development, and website is being built at startupoulu.co and other community channels were introduced (Dealroom Oulu, Social media groups, OuluES events and club activities). Vibrant activation efforts in the form of goal-oriented events for every stage of the startup journey: Hackathons (for example AI, Printed intelligence, Health (coming up), Startup Weekends, Startup Founder story events such as Dine&Disrupt, skill development events (pitching, AI etc), investor matchmaking events, and numerous community building events. Some events dive deep into bridging deeptech and commercialization, such Innofest (see Criterion 3/ Ecosystem building, PrintoCent Cluster), that creates new printed intelligence innovations.

Many joint and individual projects support the startup-efforts, to give an example of the latest project to get funding: *Growth entrepreneurship in the Oulu region* -project, which develops the startup ecosystem through a series of activation and matchmaking events, a campus startup program and validation experiments, and connects the Oulu startup ecosystem with similar startup ecosystems in the world.

Impact of the efforts is visible, and the new exciting bubbly feeling is in the air. The formation of new startups tripled from 2022 to 2023 (from 5 to 17), with the new startup ecosystem development efforts launched in early 2023. Additionally, according to Startup Genome our startup ecosystem value grew 1188.9% last year calculated from company and exit values, and for the first time ever, Oulu's startup ecosystem is in the Global Startup Ecosystem listing. Last year we held over 170 events in Startup Station. -->Ecosystem value is 2.69 bn USD-->Total early-stage funding is 10 m USD-->Total exit value is 890 m USD.

Accelerating business growth especially in health sector

In addition to support for new business and creating startups in general, Oulu is highly committed to digital transformation in healthcare. Besides the city area, Northern Finland is very sparsely populated, so long before Covid-pandemic remote and digital solutions in health care were a focus area in our RDI efforts. What do we do to accelerate digital wellbeing and health innovation and business?

OIA agreement's second target field is digital health. Our OuluHealth ecosystem is described in more detail in Award Criterion 3: Ecosystem building but many of OuluHealth's actions and projects aim to accelerate business growth in health sector and also create a pathway for innovation through

procurement. OuluHealth ecosystem actors pave currently the way to OYSTER, which will serve as a cutting-edge digital health Research, Development, and Innovation (RDI) center and strategically it is designed to synergize with the new Oulu University Hospital OYS2030. One concrete step towards OYSTER this year was launching the Oyster Incubator program. The aim is to create new health and life science companies and business operations in North Ostrobothnia, fostering the commercialization of new research innovations and the generation of new jobs. The first call for new business ideas and startups is currently open and the journey of 100 days towards building an actual business begins this September 2024.

Innovation in public procurement

In the city of Oulu, we seek innovative new ways to serve our citizens and thus, constantly seek new ways of conducting public procurement. The most recent project the city of Oulu (and OuluHealth) took on is international network project *Prepare - Regional impact through demand-driven innovation*. The project Prepare aims at creating new, more effective and sustainable policies and instruments that promote the adoption of impactful innovation, including via innovation procurement, at regional level, but also relevant and scalable across Europe.

What have we done so far? With the emergence of the idea that the built environment is a source of competitive advantages for urban regions, there has been a growing need for new ways to carry out integrative and proactive urban planning and development. Since 2014, City of Oulu has piloted **urban development projects as business laboratories** providing the context for researching innovative opportunities and advantage exploration and exploitation. This specific operational model was developed within the Integrated Urban Development Concept: Case Sustainable Winter City (INURDECO-SWC 2012–2014). This innovative practice has been applied e.g. in Karjasilta Business Lab (2014) and Väilivainio Business Lab (2015). Furthermore, **land use agreements-based invitations** for development companies were used to set up the partnership for Positive Energy District development in 2016.

To tackle inefficient and costly customer interaction, in 2018, Business Finland provided the City of Oulu the **Innovation Procurement grant for the development of OuluBot**. This resulted OuluBot, Finland's first digital customer service agent that combines AI and software robotics. The City of Oulu owned bot provides residents, entrepreneurs and visitors with extensive and multichannel information 24/7 and can independently handle many service requests and personalized information. Procurement process of OuluBot was unique. The process consisted of competitive procedure with negotiation including co-creation in the demo phase. It took 6-8 months planning time with public pre-announcement and call for information and market dialogues with 24 participants. Requirements and award criteria were 20% price, and 80% quality and conditions were that the IPR belongs to the enterprise. Oulu has a Licence included development possibility (mentioned in the contract with the city of Oulu). Overall, the process was efficient: development and demo phase and implementation phase were on time and within the contract. Service is in function and procurement impacted positively new markets and service production. City of Oulu was a good and useful reference to the service production enterprise.

The story of Maintenance of the district bike roads in the city of Oulu. Besides ICT the city of Oulu is also widely recognized as the *Winter Cycling Capital of the World* (evidence from BBC: <https://www.youtube.com/watch?v=URMQ0d286hY> and about the route maintenance: <https://www.youtube.com/watch?v=X6EaJ1Zd8Kk>) we of course do our due diligence in city's environmental services when contracting the cycling lanes maintenance. In the picture below there is nicely maintained cycle lane and also an innovative way of projecting signs to the street, where people should use bikes and where to walk (the snow makes the signs in the road invisible for the long wintertime).



Efficient maintenance of cycle lanes ensures that cycling and walking are always a noteworthy option for most trips – even in the winters. Winter maintenance of cycle lanes is divided into three maintenance classes: I, II and Super. 165 km of cycle lanes located in the regions of Oulu and Kempele are included in class Super. Real-time maintenance information is available through city's (Oulunliikenne) website.

Procurement: Saction-Bonus model. The city aims to service providers understand that piece work in not only maintenance, but customer service. Service providers of the City of Oulu are together in supporting and strengthening the local vitality by sustainable activities (social employment, low carbon vehicles). Each contract year the service provider earns yearly bonus (certain sum) if the set and certain conditions actualize. Service provider can choose: 1) No sanctions, 2) Bonus: Choose yearly 3 criteria of the list which prove added value to the work: social employment, using low carbon vehicles, continuous initiatives, using social media in consumer service and information, gathering statistics from customer feedback and analyzing and developing services, co-operation with residents (for example during the big events), moving snow efficiently in the near district. Bonus is voluntary criteria. So far, all the service providers have chosen the Bonus option. Mystery bikers are used to test the quality of service.

What new is brewing in regards of Oulu's urban development and innovation procurement?

The city of Oulu developed a hybrid model for its arena project - a public procurement process that gives space to the initiatives and ideas of private actors. The city is currently starting to develop Oulu's *experience arena* and its surroundings. The procurement process started with vigorous planning in 2022-2023 and is currently in tendering process. For the Arena, the city requires participants in the competition to have a precise plan in terms of size, appearance and business model. As for the arena's environment, the ball is in the partners' court. They are free to present what kind of services, functions and facilities should be built around the arena, so that all parties can get along. The hybrid model means a change in the way of thinking. Instead of the arena and its surroundings being built under the city's strict guidance, it is developed together with the operators.

In the joint projects of Oulu innovation alliance family, procurements are made, and thus opportunities for innovation are present. To raise awareness of innovation in procurement during projects, OIA has organized workshops and conducted own guidebook "Courage and creativity for procurement", a joint effort with KEINO Competence Centre for Sustainable and Innovative Public Procurement, in 2023.

Award criterion 3, Ecosystem building – unlocking cities' potential as local innovation ecosystem facilitators by fostering synergies among different innovation ecosystem players, from public, industry, startups, civil society, citizens to academia, to contribute to the development of an innovation ecosystem within the city.

In this criterion, among others, the applicant should consider providing information⁴ about the role of the city on boosting the city's innovation ecosystem (e.g. is the city a key actor in these interactions?), the level of maturity of the ecosystem, the actions taken to ensure the involvement of all innovation

⁴ Applicants are only supposed to provide this information as far as it is pertinent to their proposal. It is not mandatory to include and its purpose is to solely serve as a guidance when preparing an application.

ecosystem players and its results.

The applicant is expected to provide details on concrete results of the showcased initiatives as those will be evaluated by the jury.

As a region, Oulu and North Ostrobothnia ranks number one in Finland in RDI spending, 5,3% of regions GDP. The national target set by the government is to reach 4% RDI spending by 2030. For more than half a century, Oulu's ICT know-how has produced development and new innovations for the whole world, and today almost 3 billion people around the world use the technology developed in Oulu every day.

While the University of Oulu and VTT are vital players in Oulu's ecosystem, it is fair to say that Oulu's journey in high-tech was heavily contributed by Nokia, which established a significant presence in the city developing mobile phones and key components. In early 2011, Nokia announced substantial reductions in its workforce. Oulu's ICT sector demonstrated remarkable resilience. By rallying behind local projects and fostering new ICT startups and scale-ups, the city transformed its technological landscape.

Today, Oulu is a global leader in next-generation wireless networks and their components. The city is home to pioneering work in RFIC (Radio Frequency Integrated Circuit) design, essential for the development of advanced communication systems. Oulu's expertise in RFIC design is supported by a robust ecosystem of companies and research institutions, driving innovation in wireless connectivity technologies, coordinated by the university's 6G Flagship program, that is the most significant research and development program in Europe within the area of connectivity. Today Oulu's ICT ecosystem has 1,000 ICT companies, employing around 25,000 professionals. Oulu's ICT sector holds the largest share of export turnover compared to other Finnish cities and is the second-largest ICT hub in Finland, following the capital area.

Building the RDI ecosystem – The Role of the City

Behind our major developmental milestones as innovative high-tech hub, is collaboration and Oulu Innovation Alliance (OIA), a cohesive partnership network of education, research, business, and the public sector. The foundation of the Oulu Innovation Alliance is based on 50 years of successful cooperation. The cooperation between the University of Oulu, founded in 1958, and VTT's electronics laboratory, founded in Oulu in 1974, was fruitful from the start, rather than a potential competition. The contribution of the city of Oulu to the birth and development of the Oulu technology village from the 1980s onwards was significant. Technopolis Oulu was born in 1998 based on the Technology Village, which built offices and accelerated the opportunities for companies to start operations with even a small contribution.

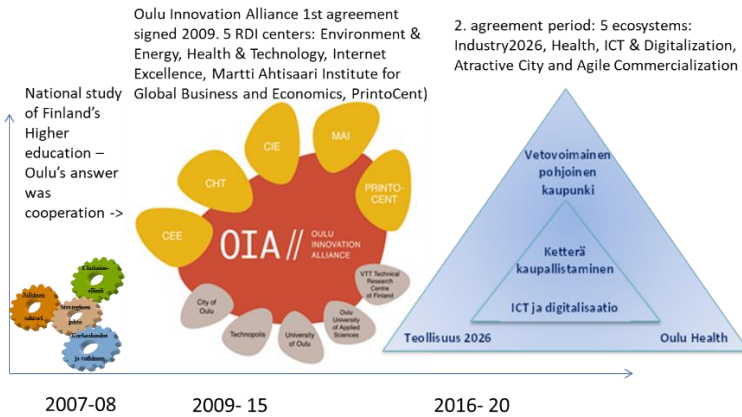
In 2009, the City of Oulu, University of Oulu, Oulu University of Applied Sciences, VTT Technical Research Center of Finland Ltd and Technopolis Ltd signed the strategic Oulu Innovation Alliance agreement, the purpose of which was to continue Oulu's long tradition of cooperation between education, research and business life and the public sector. With the OIA agreement the city wanted to ensure and continue multidisciplinary cooperation connecting the fields of science, research and business across organizational boundaries, and thus help generate business and jobs from research and innovation in strategically selected target sectors. Currently, the Oulu's RDI alliance is in its 3rd contract period and there are a total of eight signatories, in addition to the original founders: North Ostrobothnia wellbeing services county Pohde, vocational school OSAO and Natural Resources Institute Finland.

In this strategic period of 2021-2027, the target areas of the Alliance are 1) Digitization in the changing urban environment, 2) Digital solutions for well-being and health - OuluHealth, 3) Sustainable circular economy and clean solutions and cross-cutting theme 4) Supporting business ecosystems and startups, continuous learning and know-how, and providing the city as an innovation platform for various experiments and for testing.

A systematic way of working and clear goals. Alliance is guided by the City Mayor's "strategic steering group", in which the OIA-organization's top leaders and regional stakeholders' groups and business representatives participate. Operational activities are monitored by an operational management team "operational steering group", which is led by the University of Oulu's vice rector. Practical cooperation, such as the planning of joint projects and fund seeking, as well as the realization of various R&D events, has been distributed to the *network leaders* of the target sectors and their teams. Alliance cooperation is coordinated and prepared at BusinessOulu, the city of Oulu's business department. In short, the overall OIA ecosystem coordination is in the hands of the city's business

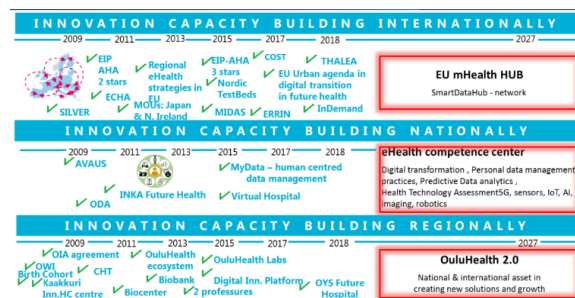
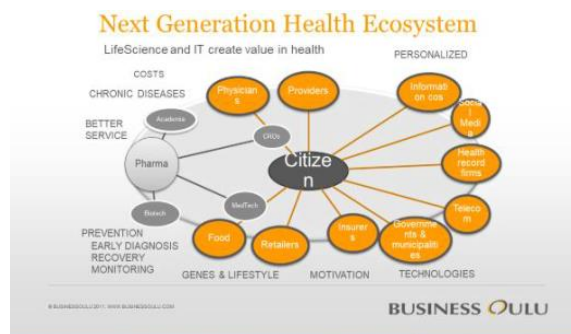
department BusinessOulu but the responsibility of the concrete implementation is shared between the different contracting parties, and everyone participates in the implementation of practical work.

Pictures following show the evolution of Oulu innovation alliance over the years (the latest OIA strategy-in-a-nutshell is presented on Criteria / City's innovative Vision.



OuluHealth

From the early years of OIA cooperation it was clear we need to use our high-tech know-how in different verticals (other than mobile phones, since Nokia was facing problems in the area). It was agreed between OIA partners that we start building the health ecosystem and in the year 2012 OuluHealth was born. The pictures following show some of the planning phases in 2011 and the OuluHealth ecosystem building journey. The planning of the OuluHealth was coordinated from within the city of Oulu (BusinessOulu).



From 2012 to today, OuluHealth ecosystem could be described as a success story of ecosystem building from ground up, with visionary cooperation within Oulu innovation alliance partners.

The impact of our effort is tangible. OuluHealth is a forerunner in digital health from many angles. Education: National coordination of MEDigi-project to digitalize and harmonize medical education in Finland. Research: Digital Health is a strategic profiling theme of the University of Oulu. Profi5 "DigiHealth". Profi6 "6G-Future Sustainable Society, future healthcare" (2021-2026) OuluHealth Labs: A digital testing platform for companies from all over the world & healthcare professionals with 5G. Companies: Significant number of companies focusing on digital health. ESKO EHR: world's first

electronic health record (EHR) system ESKO. EIP on AHA (European Innovation Partnership on Active and Healthy Ageing) reference city **** (highest class). Oulu is part of EDIH Health Hub Finland. The turnover of health companies has increased in 2018 to 2023 for 51% and export turnover by 66%, the personnel amount in health companies has risen by 15%.

OIA in numbers

The city of Oulu earmarks funds from its annual budget (2 000 000 M€) to OIA cooperation's "development fund" which is used to seed fund mainly Sustainable Urban Development ERDF projects that support the OIA strategy and ESR+. The SUD funding is made attracting for ecosystem partners: city supports each funded project up to 30% of total project costs.

Each member of the OIA alliance contributes annually 20 000 € to the joint table. The last 3 years, the money has been spent to Oulu's joint marketing efforts in the chosen target field themes and the rest (around 120 000€ annually) is spent on strategically important EU project application support (grants).

Today, our joint project portfolio gives a glimpse of the RDI collaboration significance and volume we (OIA partners) have at the moment. So called OIA- projects are funded from various sources and instruments, thus the number of them and the overall volume could be estimated, but exact figures we have from the projects that the city of Oulu has partly funded: Joint ERDF, ESR+ project portfolio volume 5,4 M€. Joint JTF project portfolio ~40 M€. In addition to these, there are several projects that have received direct EU funding, which have been awarded an "OIA grant" during the application phase to cover preparation costs. A total of 290,000€ in grant money has been awarded and 4.4€ million has been repatriated so far (in 2022-2024). A few examples of those ongoing international EU-funded projects whose preparation has been supported: Data Spaces Support Centre, DS2 Data Space/ Data Share, HYINHEAT – accelerating transition to a more sustainable and decarbonized energy future, Metacities – Connecting Pockets of MetaCity Excellence around Baltic Sea Region and Prepare – Get ready for Innovation Adoption.

In total, around 150 people work actively in the Alliance's various cooperation groups, and dozens more if you include the project work groups. Around 200 different companies are actively involved in the activities and projects of the flagship programs, and all in all, Oulu's ICT sector, health and life science, circular economy and cleantech companies that are particularly affected by the OIA-activities, a total of about 1400 companies. Nationally, our "OIA model" of local RDI ecosystem model seems to be working quite well and we are executing our Innovation Ecosystem Agreement (an agreement made with the city of Oulu and the Ministry of Economic Affairs and Employment) in an impactful way. In comparison to other "Innocities" (16 biggest cities in Finland who have made a similar agreement with the state)) Oulu is only second to the Capital Area (Helsinki Espoo Vantaa) in the usage of Sustainable Urban Development ERDF.

Clusters in Oulu

Part of Oulu's innovation ecosystem are of course company clusters. We as a city and as a "OIA family" support clusters to form and grow, in the strategic target fields of Oulu. For example, one current project aims to develop the innovation services of the city targeted to clusters and how to incorporate future needs for competencies into cluster development and another project aims to strengthen and open international doors to circular economy and automotive clusters.

Printed intelligence cluster. PrintoCent ecosystem has a strong base in Oulu, Finland, with 500 printed intelligence experts in companies and in research in the Oulu region. PrintoCent has also a wide global reach with its 40+ international industry member companies, and other partners forming the PrintoCent Cluster. By bringing together experts, innovators, and industry leaders under one roof, PrintoCent has created an unparalleled platform for knowledge exchange, collaboration, and the exploration of groundbreaking ideas that push the boundaries of technology. This initiative has positioned Oulu at the forefront of creating flexible, lightweight, and cost-effective electronic solutions that have applications in various industries, from healthcare to consumer electronics. PrintoCent was founded in 2008 by OIA partners. The start-up companies in the cluster have received more than € 40 million in funding and their business is rapidly expanding in an international network. For creating an international impact, PrintoCent organizes bi-annual PRINSE event. The 2024 event attracted over 50 companies presenting and around 300 participants from around the world. PrintoCent has hosted PrintoCent InnoFest events in Oulu annually since 2014, so 2024 will be 10th anniversary. The open innovation event has been the launching arena for several innovations and start-ups, new products and business opportunities in existing companies during its decade long history.

Circular Economy Cluster Oulu has more than 120 companies from different sectors, tied together by

the concept of circularity and the aim of a profitable circular transformation. The cluster is running for its 3rd year and, as the concepts of circularity, corporate responsibility, and circularity gain space in business, so does the interest towards the cluster. We have both small businesses in the beginning of their journey, as well as SME's that have an established position - we have even witnessed a company (Manna Insect) growing into a global market leader. The cluster being in its initial phase of growth, rapidly gaining members, hasn't yet assessed its impact for the growth or profitability of companies. Cluster together with OIA partners participate in city's CE-roadmap updating process, which supported by Urbact project together with 10 European cities in Let's Go Circular! -project. Oulu is aiming at being one of the top regions to get added value from circular economy. The Circular Cluster Oulu's area of expertise is digitality, as Oulu is widely renowned for the research and development of digital solutions. The city of Oulu is coordinating and further developing the CE cluster with the help of project funding from ERDF and JTF sources.

Oulu Automotive Cluster (OAC) Oulu's automotive cluster was established in 2019. Today, OAC is an open ecosystem where companies and research institutes co-develop solutions for electric cars, autonomous driving and new business models for mobility. The Cluster is managed by BusinessOulu/City of Oulu and developed currently with ecosystem partners to get to the next level. Currently OAC has 130 companies, and 80 companies are from Oulu and the rest from other parts of Finland. The automotive industry is not a completely new area occupation for Oulu. Not many people who have driven a Volvo XC 90, for example, know that the car's multimedia systems have expertise from Oulu.

In summary, Oulu's high technology focuses, coupled with its collaborative spirit and history of resilience, make it a dynamic and forward-looking city, covering wireless connectivity now and in the future, RFIC chip design, structural electronics for the good of the citizens and the globe.

Award criterion 4, Expanding – acting as a role model for other cities by supporting the dissemination and replication of tested solutions that boost the local innovation ecosystem; by promoting mutual learning, knowledge transfer and capacity building; and by enhancing cooperation and synergies between cities that are front-runners in driving the local innovation ecosystem, and those that are still exploring and testing their role as innovation enablers.

In this criterion, among others, the applicant should consider answering to the following questions⁵: e.g. What are the activities and initiatives for which the city can be considered a role model for others? How is the city sharing its knowledge with other cities? Is the city cooperating with other cities in the areas of this competition, for example with cities located in regions that are moderate or emerging innovators under the Regional Innovation Scoreboard⁶? How does the city collaborate with other cities?

The applicant is expected to provide details on concrete results of the showcased initiatives as those will be evaluated by the jury.

One major building block of regional innovation ecosystem is the people. And especially the experts of the future. In Oulu, we have worked actively for a long time to ensure that the young people who grow up here become part of the local talent pool and innovation ecosystem. As a city, of course, we operate on many different levels, but here, we start the story from young people and future capacity building. Oulu is a city of young people. The average age of the population in Oulu is 39.6 years, while it was, for example, 43.7 years in Finland in 2022. Since we have a lot of future hopes and torch bearers growing up, it is important that our education and training methods are the best possible and bring continuity to the skilled population of Oulu, from early childhood to higher education. This is something we are proud of and continuously seek ways to expand our best practices, both nationally and internationally.

The next chapter is twofold, first it describes a few examples of best practices in "long term boost injections" to the local innovation ecosystem's cornerstone, the future talents and skilled people. Then, the chapter goes on to showcase the vast amount of work the city of Oulu and the Oulu innovation ecosystem partners do in several different national and international networks to expand our best practices and in turn, to learn from others.

STEAM in education

⁵ Applicants are only supposed to address these questions as they are pertinent to their proposal. They are not mandatory to reply and their purpose is to solely serve as a guidance when preparing an application.

⁶ Regional innovation scoreboard - European Commission (europa.eu)

STEAM in Oulu is a network of schools and units of early childhood education, basic education and upper secondary school, where STEAM pedagogical approach to learning and teaching is developed. STEAM stands for Science, Technology, Engineering, Arts & Mathematics. STEAM started as a Ministry of Education and Culture funded project in 2018 but has since evolved to a pedagogical movement beyond the city borders of Oulu.

STEAM pedagogy uses technology, science, and art as approaches to teaching student self-direction, interaction skills, and critical thinking. The goal is to cultivate persistent, responsible, cooperative and courageous problem solvers. STEAM-education emphasizes teaching cross curricular subjects and 21st century skills. Currently, more than 30 STEAM schools are involved in the network. STEAM is student-centered, experimental, and community-based learning that improves a school's operating culture from the perspective of doing and learning together. The network of STEAM schools shares their know-how. STEAM requires room for crafts, coding and doing things in groups. Some Oulu schools have built separate STEAM classrooms or makerspaces that are usually equipped with 3D printers, vinyl and laser cutters and electronic tools.

City of Oulu organizes two event platforms **Amazing North & Tool Camp and Hope Agenda**. These events are held with a rotating biennale schedule, providing one STEAM – event every year. Amazing North connects local businesses, organizations, and young people using STEAM pedagogy. The event attracts a wide audience from all over Finland and offers a unique opportunity to network, learn, and be inspired. As a part of Amazing North, ToolCamp Day takes place. ToolCamp is an annual event celebrating ingenuity, creativity and cooperation. During it, children and young people of different ages work on challenges and come up with solutions to them. Children and young people work in groups first in their own units and representatives are chosen from them for the ToolCamp day. During the day, the groups present their creative and responsible solutions to the audience and the jury. The challenges to be solved in 2024 were for example "Natural energy. Plan an innovative solution to generate energy in nature or by moving around". In 2024, ToolCamp was held in Oulu icehockey Arena and 50 groups of children participated in the event.

Hope Agenda underlines the Paris Agreement, Agenda 2030 which is perhaps one of the most important documents for humanity. The goals of the Agenda aim to make the world a better place for all of us; this is an agenda for all of us. Hope Agenda is about Global Education and Sustainable Development for all schools in Finland, which city of Oulu has proudly taken the leadership with the STEAM in Oulu innovative approach which is part of the City's strategy as well as an integral part of European Capital of Culture 2026 program line from "Peace Machine" to "Go with the STREAM" and "Art & Tech". Oulu's STEAM approach is codeveloped further together with schools, universities and early childhood education, teaching in the area and developers form a unique partnership network.

Sustainable Future Learning Flow for Young People (Kestävän tulevaisuuden Opinvirta)

Sustainable Future Learning Flow brings together sustainability education in Oulu: goals, activities, knowledge, hope and support. The three key themes of Flow are the relationship with nature, the circular economy and climate literacy. Through these themes, Flow is moving towards eco-social literacy. Ecosocial literacy is built and grows through learning. The mission of the Learning Flow is to increase cooperation and awareness of a sustainable future among city administrations and citizens alike. The core actors of a Sustainable Future in Oulu are the units of the city of Oulu that promote the operating culture of a sustainable future, e.g. Sustainable development teams and Green Flag-early childhood units and elementary schools. The sustainable future steering group has a multidisciplinary composition, and its task is to show and guide the direction of Sustainable Future activities in Oulu towards a community of sustainable lifestyle and responsibility. The city of Oulu has also created physical environments to support STEAM pedagogy and SD-Learning Flow, starting from learning environments for daycare children.

Talents for the Future (Työn Taitajat)

The city of Oulu, wants to ensure future talents for our companies and other organizations. Our city's economic development unit BusinessOulu works tirelessly towards ensuring fertile business environment, and that there are jobs and talented workforce available – with the help of our ecosystem and business clusters.

Talents for the Future ie. Työn Taitajat in Finnish is an Oulu-based model designed to bridge the gap between youth and working life. The activity is based on cooperation between the city of Oulu (more precisely BusinessOulu and Educational and cultural services), companies, organizations, and educational institutions in the area. The need for the activity has arisen from the employers. The main objectives are to ensure skills and competencies needed in the future, to minimize mismatch between

skills and jobs, to prevent social exclusion and segregation and emphasize the meaning of continuous learning. One very essential part of the Työn Taitajat activities is to highlight the fact that society needs very different kinds of people, skills and abilities. The number of work life lessons has increased from the 14 work life lessons held in the first academic year 2020-2021 to 55 in the 2023-2024 school year.

By the end of 2023, almost 200 working life representatives have participated, 135 working life lessons have been organized and there have been close to 30,000 meetings with young people and teaching staff. The current partner network consists of 80+ company representatives.

One concrete example of Työn Taitajat activities is annually held virtual, open for all company visit: **World's Largest Virtual Company visit**. The visit introduces the company to future talents of various ages in a manner that considers the age of each target group and other special needs. During the day, pre-planned sessions are organized for different age groups with voluntary pre-tasks. The event is held as a live YouTube event on the City of Oulu's YouTube channel. Virtual Company Visit has been arranged three times now and it has attracted annually 3500 -6500 visitors. Year 2025 theme will be "On the way to a sustainable future: circular economy and sustainable development, digitalization and AI".

National collaboration and expanding Oulu's best practices in Finland

Oulu is known for its smart city solutions and participates in several national and international smart city networks. In Finland in particular, the cooperation between the six biggest cities in Finland has long been fruitful and several joint initiatives have developed these cities forward. During the 6aika -project with the six cities 2014-2020, Oulu coordinated the national Open Innovation Platforms flagship project, which is seen today in Oulu's many experimental environments.

Innovative cities and communities "InnoCities network" during 2021-2027 consist of 16 Finnish cities who have made an innovation ecosystem agreement between their city and the Ministry of Employment and Economic Development. The network supports and promotes new ways of thinking and acting as pioneers of change. InnoCities create opportunities for urban developers, businesses and researchers to develop, come together and brainstorm. Oulu is a active member of the cooperation and has hosted network event in Oulu. The city of Oulu and the Oulu Innovation Alliance model has been a case example in various Innocities-events, for a successful local RDI cooperation model.

The story of green wave for emergency vehicles – how the green wave expanded to almost every city in Finland

In 2004, the city of Oulu began to develop a new priority system for emergency vehicles at traffic lights. All that time, a system that gave pre-planned routes a mandatory green light was in use, but they were not satisfied with it. In this case, a fully automatic and all-encompassing system was set as the goal, with satellite positioning and wireless communication as the starting point. The concept could only be properly tested with advanced technology in 2008, when it was found possible to implement the system. The cost-effectiveness of the system and the quality goals set for it required updating the communication connections of the traffic lights. The development schedule was linked to the construction of the new traffic light communication network.

The procurement, based on the concept developed by the client, was tendered in 2010 and was divided into three one-year periods, the last of which was an option. In November 2012, the system was put into production use, and during 2014, the system covered almost all fire trucks and ambulances in the Oulu domain (Oulu, Haukipudas and Kempele) of the Oulu-Kollismaa rescue service.

According to Fintraffic, roughly a fifth of traffic lights in Finland already use the HALI system. Fintraffic estimates that the HALI system can reduce emergency vehicle accidents by at least 80 percent. The national HALI system is currently coordinated by the Association of Finnish local and regional Authorities and Fintraffic.

Expanding through International Collaboration

Oulu actively creates and maintains international relations. International network work is done in regional and city networks, through state administration and political networks, and in city diplomacy. International cooperative relations and networks also serve the goals of international interest monitoring, for example in the EU and in northern politics. The city of Oulu's international services bring different people working in international settings and networks together in order to coordinate the city's efforts and also to expand best practices and information within the city and its ecosystem. International networks include Living in EU work, Eurocities Bothian Arc association, UNIC, Open and Agile Smart Cities and, as well as cooperation relationships between two or more, such as friendship and partner

city activities and international cooperation projects.

Living in EU/ Mayor's Digital Assembly and Join, Boost and Sustain – Founding Member Oulu.

Living-in.eu is an EU initiative whose purpose is to promote European digitalization development from the point of view of EU cities and regions. A municipality, city or region can join the cooperation by committing to the Join, Boost and Sustain declaration. The initiative started in Oulu in 2019 as part of Finland's EU presidency. Oulu signed the Join, Boost and Sustain declaration as the first city in 2019. Oulu's city representative has served on the executive board as a co-chair of the Mayor's Digital Assembly in 2023-2024.

Eurocities. Oulu has been a full member of Eurocities since 1998. The goal of Eurocities is to improve the quality of life of people living in member cities through cooperation between cities and information sharing, and by jointly influencing urban policy at the level of the European Union. In practical work, Oulu is involved in different forums as needed but currently Oulu's representatives participate actively EC-networking Digital Forum, Economic Development Forum and Cultural Forum. The last few years we have actively promoted our MetaCity approach, 5G and 6G development, Digital twins usage in Oulu.

Open & Agile Smart Cities. City of Oulu supports experimental activities within the Open & Agile Smart Cities network. Oulu supports the network by publishing Open Data in order to facilitate standardization of smart city data models following a "driven by implementation" approach. Oulu acknowledges that open data will be made available to cities, communities, and developers worldwide for free experimentation based on open licenses. Oulu supports OASC by taking part in its governance via the Council of Cities and the General Assembly, either directly or through an elected representative.

Urban Agenda for the EU Digital transition coordinator city. The objective of the Digital Transition Action work was to provide improved public services to citizens, to support European cities in exploiting the possibilities of digitalization and assist European businesses to develop new innovations and create new business opportunities for global markets. The action plan was part of the implementation of Urban Agenda for EU, adopted by the Pact of Amsterdam in May 2016. The plan was linked to several EU level strategies, such as the Digital Single Market Strategy for Europe, European Commission's Digital Agenda which forms one of the seven pillars of the Europe 2020 Strategy and The EU eGovernment Action Plan 2016-2020. Oulu acted as a coordinator city during the project.

Unesco Creative Cities Media Arts UCCN strives to realize the enabling and transforming power of culture and creativity by building cities that are future-proof and thus also supports the implementation of the UN Sustainable Development Agenda 2030. The network now includes 350 cities in more than a hundred countries, representing seven creative fields: crafts and folk art, design, films, gastronomy, literature, media art and music. Oulu was accepted as a member of the network in 2023 under the theme of media art. The media art theme now includes 26 cities from five different continents. From the perspective of global cooperation, the theme of media art emphasizes the connection between art, science, technology and digital media in accordance with Oulu's cultural strategy and also our cornerstone ICT know-how.

LUCI (Lighting Urban Community International) is an international urban lighting network of cities. Founded in 2002 and based in Lyon, France, LUCI is a non-profit organization that brings together nearly 70 member cities around the world that use light as a tool for social, cultural and economic development. Oulu's role was recently strengthened when the city joined the leadership board of the global urban lighting LUCI network, which gathered at the annual meeting in Montpellier, France, in April 2024. The city of Oulu has been an active participant in the LUCI network since 2015.

The Bothnian Arc Association promotes cross-border cooperation and the social and economic cohesion of the Bothnian region. Focus areas are business life, tourism and education. The members of the association are Oulu, Kemi-Tornio region, Raahen and Kalajokilaakso in Finland, Haaparanta, Kalix, Luleå, Boden and Skellefteå in Sweden. The area has a total of more than 700,000 inhabitants. The Bothnian Arc association is one of the twelve Nordic border committees whose activities are supported by the Nordic Council of Ministers. The association is led by the cities of Oulu and Luleå.

Declarations and Commitments:

UNICEF Child Friendly Cities. The city of Oulu is a UNICEF Child-friendly city. UNICEF Finland has awarded Oulu the third Child-Friendly Municipality recognition in March 2024. The first recognition was granted in 2017 and the second in 2020. The latest recognition is valid for the next four years.

Integrating Cities Charter. The European charter of urban integration work highlights the duties, responsibilities and multiple roles of cities as political decision-makers, service providers, employers and buyers of goods and services in different areas of integration work. The goal of cities committed to

the charter is to develop a city where the diversity of the population is a wealth, immigrants integrate, and equal opportunities can be offered to all residents. Oulu signed the commitment in 2012. **Covenant of Mayors for Climate and Energy.** The city of Oulu has signed the Covenant of Mayors for Climate and Energy, in which the city undertakes to reduce its greenhouse gas emissions by at least 40 percent from the 1990 level by 2030. The agreement is accompanied by the Sustainable Energy and Climate Action Plan (SECAP) approved by the city government. Emission reduction measures concerning buildings, street lighting, traffic and waste management are recorded in the action plan. In addition, there are measures aimed at increasing the use of renewable energy, a healthy community structure and changing operating models. **The Declaration of European Circular Economy Cities.** The purpose of the Declaration of European Circular Economy Cities is to speed up the transition from a linear economy to a circular economy in Europe and thus create a resource-efficient, low-carbon and socially responsible society. Oulu signed the commitment in 2020. **Cities' commitment to a more sustainable and inclusive culture.** Eurocities Lille's call to action for a low-carbon and more inclusive culture is an initiative led by the city of Lille and Eurocities, which invites Mayors from all over Europe to commit to the development of local cultural policies and events that prioritize sustainability and inclusion.

Award criterion 5, City innovative vision – applicants should demonstrate their long-term strategic vision/plan, highlighting the innovative initiatives that have positively contributed to the transformation of the city and which will further support the development of a sustainable and resilient innovation ecosystem ensuring the green and digital transitions.

In this criterion, among others, the applicant should consider answering to these questions⁷: e.g. what was the “point of departure” of the city and what has been achieved by now? What does the city want to achieve, and which are the tangible actions already taken or put in place to get to those objectives? How does the city support the development of a sustainable and resilient innovation ecosystem ensuring the green and digital transition?

The applicant is expected to provide details on concrete results of the showcased initiatives and to provide information on how all showcased activities follow the innovative vision/strategy as those will be evaluated by the jury.

Since the establishment of University of Oulu in 1958 we have had a multidisciplinary university doing extensive research and product development. The products of our northern, real-life living lab have not only made locals' day-to-day lives smoother but also gifted the world with smart solutions (Nokia's mobile phones and networks, Oura rings and Iloq security systems to drop a few).

One of the first important milestones was Nokia establishing its main development site in Oulu in the 1970's. The city founded Europe's largest technology park in 1982 and the first GSM base station started operating in Oulu in 1984. Firm steps, like having the world's first open, urban wifi network, have brought us to the 2020's, where Nokia is building a new site in Oulu, called the Home of Radio.

Widely discussed 5G technology solutions can be in many cases tracked to Oulu. University of Oulu is leading the way in research with its 6G Flagship Program. Program's global research teams focus on working with 5G adoption and 6G innovation, investigating technical answers to the problems and possibilities of emerging digital marketplaces, a rising, ageing global population, changing social and sustainability requirements, and other elements influencing our digital future.

For decades, city of Oulu has systematically supported the forming of RDI ecosystems and clusters in our strategic target fields. New world-class business areas supported by the city include circular economy, hydrogen, arctic construction and property technology, automotive, printed electronics and health tech. These verticals are utilizing partly same digital technology base and radio technology solutions.

⁷ Applicants are only supposed to address these questions as they are pertinent to their proposal. They are not mandatory to reply and their purpose is to solely serve as a guidance when preparing an application.

OULU'S TRACK RECORD IN WIRELESS WORLD

Today, Oulu's city strategy for 2030 is based on three central values: *courage, fairness and responsibility*. *Courage* means that we boldly make choices for a better future in the North. We have the courage to try something new and give up the usual. *Fairness* is that we do things openly, as a group, and take others into account. We treat each other without prejudice and with humane appreciation. *Responsibility* means that we intelligently promote a sustainable lifestyle and act in such a way that future generations also have the opportunity to make choices. A responsible way of working creates safety. The goal of Oulu's city strategy is that in 2030 we will have a humane and cheerful atmosphere, cutting-edge technology and entrepreneurship, and a distinctive, innovative, intelligent culture.

Oulu's city strategy in a nutshell.

As part of our strategic focus area "Oulu is Finland's most business-friendly international growth centre" the more detailed steps are 1) we are developing networks and ecosystems, 2) We operate and influence actively in national and international networks, 3) We participate in cooperation in which business and networks that promote the circular economy are created and strengthened. We act as a platform for circular economy experiments and pilots. 4) We actively participate in piloting and testing activities and enable international references for companies, 5) We encourage companies to create and implement solutions to achieve the goal of carbon neutrality and 6) The State-Oulu ecosystem agreement and the Oulu Innovation Alliance cooperation create the conditions for functioning ecosystems and clusters. As a measurement of success, we annually do qualitative impact reviews and follow certain statistics: Number of pilots and experiments in the city group, Oulu Innovation Alliance main indicators, R&D spending, Experimental environments and pilots, number of participating companies (& stakeholders) in experimental environments.

As part of strategic focus area "Oulu will be carbon neutral in 2035" the more detailed strategic goal 1. Climate change mitigation and adjusting to climate change, and the measures to achieve that particular goal are: We support decision-making in administrative sectors to mitigation of climate change according to the city's environmental program.

2. We promote sustainable ways to move in the city, during our four seasons of the year (walking, cycling, public transport). 3. Accelerating the transition to climate-friendly public transport, 4. We implement the circular economy road map, 5. finding out the effects caused by climate change.

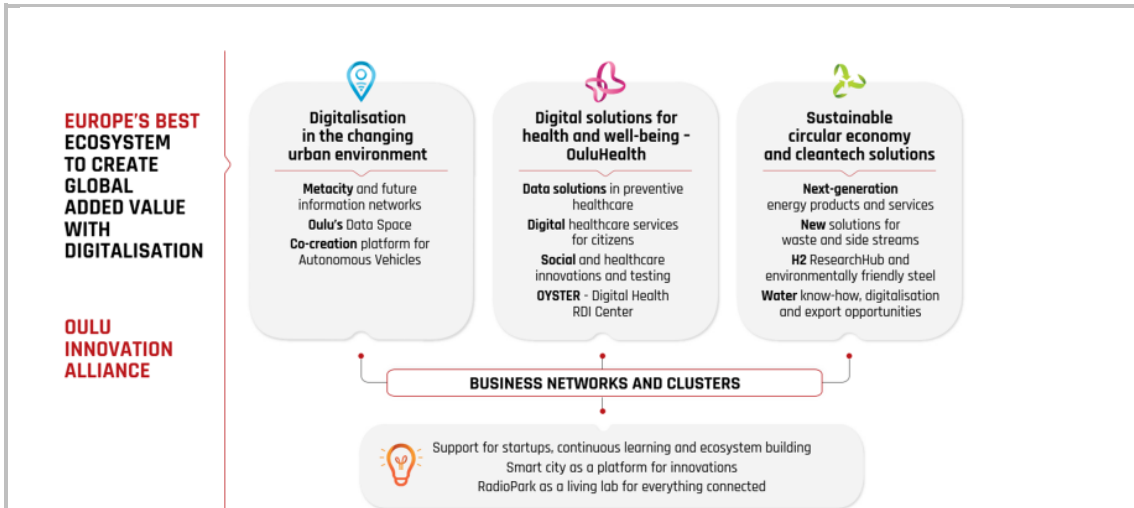
Digital Oulu program. In the 2010s, the need to develop digital services began to accelerate in Finland nationwide. In Oulu, we wanted to be pioneers in the theme and to do it in a planned and goal-oriented manner. For this reason, the city established the Digital Agenda Program for the years 2014-2020. The city strategy was renewed in 2020, which also took into account the effects and possibilities of digitalization. To promote this, the Digital Oulu program was created, which has functioned as the city's smart city program. The City Council approved the Digital Oulu program on February 3, 2020. The DigitalOulu program was implemented in 2020-2023. The program had two priorities: 1. pillar Vitality through digitization and developer partnership, whose main goal was the development of experimental environments. 2. pillar Impact by utilizing digitization and data, where municipal services were digitized.

Smart City Oulu: 100 steps towards smarter Oulu roadmap. After the Digital Oulu program, the work has been continued in the new Smart City Oulu 2024-2028: 100 steps to a smarter Oulu roadmap. In the new roadmap, Oulu takes 100 steps towards a smarter city. The goal is that 50 steps are experiments carried out by companies in the urban environment and 50 other actions towards a smart city. Activities focus on seven themes: the city's functioning as an experimental environment for companies, supporting Oulu's cultural capital year 2026, pursuing carbon neutrality by 2035, involving citizens, using future technologies and circular economy themes in education, using artificial intelligence and utilizing the metaverse "MetaCity Oulu".

Innovation Ecosystem Agreement and Oulu Innovation Alliance's strategy

We believe that the input of the entire urban community is needed to create new digital solutions meeting the diversified user expectations and to achieve the city's economic, social, and environmental sustainability goals. This includes residents, employees working in the city, politicians, universities and educational establishments, governmental and non-governmental organizations, businesses and the surrounding natural & built environment. *Our model is also known as quintuple helix of innovation, from theoretical perspective.*

Oulu Innovation Alliance (OIA) is known innovation ecosystem and actual agreement bringing together our universities, research institutions and leading companies and the city with our citizens as a development & innovation platform. Our joint vision is to be Europe's best ecosystem to produce global added value through digitalization. The content of the ecosystem agreement was cocreated together with the OIA partners (partners: see Criteria 3/ Ecosystem building). The goal is to enhance the creation, development and internationalization of companies based on high competence and to solve global ecological, economic and social sustainability issues by offering the city as a platform for innovations. The measures are long-term focused on the strategic priority areas Digitalization in the Changing Urban Environment, Digital solutions for Health and Wellbeing – OuluHealth and Sustainable circular economy and cleantech solutions. Supportive, crosscutting theme is support for startups, continuous learning and ecosystem building.



One of alliance’s spearhead programs is Metacity and future information networks. Oulu wants to be trail blazer in metaverse development for the public good, to our city residents and visitors from afar. In the fall 2021 the idea of “MetaCity Oulu” was seeded in the halls of Linnanmaa campus and soon after the OIA family was planning joint projects.

MetaCity Oulu – The new Presence

MetaCity concept is a leap into the new generation of smart cities: it accelerates the development of digital and virtual city services and administration in the post-pandemic era. The pillars of MetaCity are the know-how and cutting-edge technology concentrated in Oulu, but its development requires strong cooperation with different sectors of the public sector, research, development, business life and residents. In Uni.Oulu’s coordination executed Finnish national strategy (2023) which defines the metaverse in the following way, among other things: "The metaverse is a collective, virtual and shared space that encompasses and transcends physical, digital and augmented reality." The University of Oulu's MetaCity report defines MetaCity as follows: "...the implementation of services and their use is partially based on the experiences brought by social networks and virtual games. They apply immersive technologies that are based on digital 3D modeling of service environments and their use in addition to conventional terminal devices and also with e.g. virtual glasses." In the MetaCity concept, the key is the significant promotion of interdisciplinary research and coupling latest findings and innovations to urban planning processes and principles in smart city development.

For local residents, business visitors and tourists, MetaCityOulu appears as smooth everyday services, ease of movement, opportunities for virtual presence and visits, augmented reality experiences around the city and, for example, mind-blowing cultural and tourist experiences. For companies, MetaCity Oulu offers a product development and innovation partnership, testing and development environments for services and products utilizing high technology, a bubbling R&D ecosystem and an encouraging culture of experimentation. The following growth areas are such as the healthcare sector and the entertainment industry. In the Oulu area, also safety and the defense industry are potential growth areas.

Climate Work roadmap of the city of Oulu

The climate work roadmap was adopted in December 2023. It consists of two areas: mitigation and adaptation. To curb climate change related measures are divided into the following entities: energy production and Oulun Energia's carbon neutrality, sustainable movement and traffic, construction and facility services, waste management and circular economy, land use and carbon sinks, and education, education and culture sectors.

Emissions must be reduced in all operational sectors and no operations, even small ones, can be closed off. In particular, bold and open-minded decisions and actions are needed to reduce traffic emissions. Taking adaptation measures as early as possible is often the most cost-effective, and often the same measures can influence both adaptation to climate change and improvement of biodiversity. Cooperation between city departments and industries is particularly important in climate

work. Urban residents are also among the key stakeholders in climate work, and their wishes and needs must be considered when planning climate measures and when implementing.

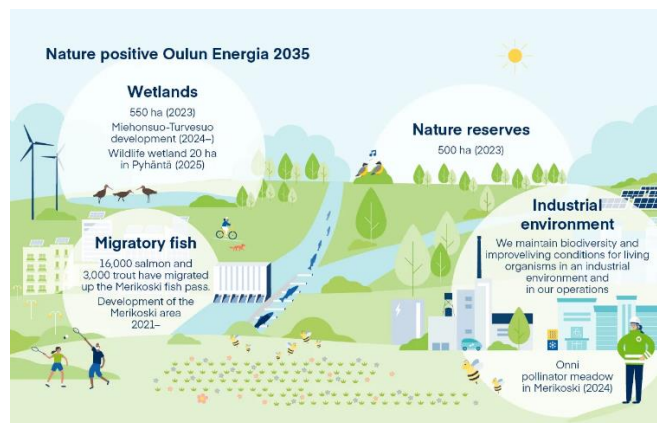
Circular Economy Roadmap for City of Oulu

In 2016, Finland became the first country to prepare a national circular economy roadmap. Oulu is now updating its circular road map from 2021, and the OIA partners and Circular cluster participate in the process, bringing in outlooks from larger group of stakeholders and companies. The updating process is supported by Urbact project together with 10 European cities in Let's Go Circular! -project.

Business cooperation, wider regional cooperation, utilization of procurement partnerships and digitization were identified as the key factors for the realization and success of the circular economy roadmap of the city of Oulu. With the circular economy road map, the city of Oulu forms a unified direction and goal for implementing the circular economy. The road map has 4 focal points: energy, construction, material cycles and the food system. The most significant sectors in terms of emissions were selected as the priorities of the roadmap. In addition, the road map emphasized the perspective of education and sustainable consumption, because know-how and understanding are key to the realization of a circular economy. Land use and zoning, as well as sustainable procurement according to the circular economy, also emerged as important themes. Business cooperation, wider regional cooperation, utilization of procurement partnerships and digitization were identified as the key factors for the realization and success of the circular economy roadmap of the city of Oulu.

The first biodiversity roadmap for the Oulun Energia Group in early 2024

Oulun Energia is a 100% city owned energy company. Oulun Energia's biodiversity vision is to be nature positive by 2035. Nature positivity means that the business operations as a whole benefits biodiversity more than it harms it. Customers and interest groups want to know about the concrete actions and plans towards sustainability. Oulun Energia has identified the biodiversity impacts of its operations. Direct impacts include air, water, and soil emissions, as well as the impacts caused by construction. Supply chains and partner operations cause indirect impacts. The construction of the Merikoski power plant in the 1940s closed the lower part of the Oulujoki river catchment area with a dam. The construction of the hydroelectric power plant caused significant impacts for aquatic organisms and especially for migratory fish. The procurement of fuels for energy production has both direct and indirect impacts. Oulun Energia uses wood fuels, peat, and Solid Recovered Fuel as fuel for the plants. The introduction of peat extraction land has weakened the biodiversity of marshlands. In terms of forest energy, the impacts are indirect, as we buy the fuels through a supply chain.



Regional strategies: Finland's Northern Agenda – a national strategy for growth, security and cooperation

The geopolitical situation in the whole of Europe changed 2022. Russian war of aggression and with the subsequent NATO membership for Finland, the energy crisis and the emphasis on security of supply, the importance of the North has increased significantly. The city of Oulu and other actors in the North (provincial associations, other cities, universities, chambers of commerce and entrepreneurial organizations) jointly crafted and signed a Northern Agenda and lobbied together to get the Agenda to national government's program in 2023. The Northern Agenda is the first of its kind. In February 2024 the joint Agneda was officially launched. The main themes in the agenda are: Nordic know-how: RDI investments, Nordic cooperation to attracting talent, availability of labor. Northern energy: clean energy

technologies and the industry that utilizes it. Investments in Finland instead of energy exports. Northern gateway to the west: Securing security of supply and enabling investments. Northern meanings: The role of cities and other actors as promoters of vitality and well-being. The growing importance of tourism. International cooperation: Together with Sweden, Norway and NATO and EU allies will be developed cooperation which serve common security and vitality goals that benefit the entire Nordic region. Now, we are currently drafting the implementation program of the Agenda.

Oulu Region's Smart Specialisation 2021-2025

The Oulu Region's smart specialisation strategy aims to promote, at the regional level, measures leading to and utilizing innovations that meet the challenges posed by digitalization, climate change and the energy transition. The strategy aims to actively disseminate innovations and innovation activities throughout the region and increase the regional economy and well-being. The strategy leads to cooperation by crossing industries and borders. The Oulu Region is an international, attractive and networked region, whose competitiveness is based on high know-how as well as renewable and sustainable industry.

The main topics are 1) **Renewable and healthy** (Digital services and products, Field of health and well-being, Renewable and low-emission industry) 2) **Climate-smart** (Energy production and storage, Sustainable construction, logistics and movement, Innovative bio and circular economy, Smart food production) and 3) **International, attractive and networked** (An internationally competitive and interesting placement environment, Networked innovation activity and strong ecosystems and RDI activity, Innovative tourism).

Award criterion 6, Citizens' rights – the use of innovation to strengthen democracy, to protect citizens' rights, to foster social cohesion, and ensure integration with a special view on minorities, gender, disability, or race.

Equality and non-discrimination work in the city of Oulu

The City of Oulu promotes the equality and non-discrimination of its residents and customers in all of its services and activities. The City of Oulu has approved the European Charter for Equality by the decision of the City Board in 2009. With its signature, the City of Oulu has publicly committed to promoting equality. The Non-Discrimination Act, which transformed in 2015, requires municipalities to promote non-discrimination in a goal-oriented way. The Act on Equality Between Men and Women requires that municipalities promote equality between sexes in a goal-oriented way in all of its activities. After 2015, the act's purpose is also to prevent discrimination based on gender identity or gender expression. Most schools in Oulu have also created their individual plans for equality and non-discrimination. In schools, the plans have been designed through themes suitable for each grade. Equality and non-discrimination work is executed on all City of Oulu administrative branches, whose activities are guided by the Operational Plan for Equality and Non-Discrimination. The Operational Plan for Equality and Non-Discrimination 2022-2026 concerning the services of the City Oulu has been approved at the City Board meeting on 2022.

International House Oulu collects different guidance services for immigrants and companies recruiting international talent under one roof in BusinessAsema building. IH Oulu also offers various events, info sessions, pop-up guidance and counselling. IH Oulu is situated in the same premises as city's employment and business development services.

Child-friendly municipality The city of Oulu is officially a UNICEF Child-friendly municipality. UNICEF Finland has awarded Oulu the third Child-Friendly Municipality recognition in March 2024. The first recognition was granted in 2017 and the second in 2020. The latest recognition is valid for the next four years.

Youth participation

Growing towards participation in civil society already starts in daycare centre, continues at school in the student association and in local participation groups for children and young people operating in different parts of the city. In these groups, children and young people get to influence the affairs of their own area. The city involves children and young people to generate ideas, plan, implement and evaluate. The goal is to ensure that children and young people are heard, and that the city supports their opportunities for influence.

Concrete examples of youth participation actions: ONE is Oulu's youth council, consisting of young

people, ONE's activities aim to promote the well-being of every young Oulu-resident and a person studying in Oulu in the city's decision-making: opinions are given, young people's ideas are brought forward, Oulu's decision-making is monitored, decision-makers are interviewed and, if necessary, the ONE representatives take decision-makers to bowling, for example. ONE distributes Youth NERO (= "Genius") activity money intended for young people from Oulu, which can be used to organize activities for other young people. The theme is free. Money is granted for activities where young people are active, i.e. they come up with ideas, plan and implement their activities themselves.

The School of Politics for young people is an entity that contains various operational models designed to strengthen young people's influence opportunities and social knowledge and skills. Its purpose is to get young people excited about influence and to get the essential knowledge and skills needed to influence and function in society. The Politics School started as Sitra's Democracy Experiments 2020 project in February 2020. The project, funded by Sitra and the City of Oulu, ended in March 2021. After the end of the project, the operational models of the politics school were adopted as part of the City of Oulu's own operations.

Participatory Budgeting

Participatory Budgeting has been implemented in Oulu since 2018. For the first years, it was implemented by the Civil and Cultural Services. From 2021, participative budgeting was transferred under the group administration (City Hall), and it began to be systematically developed, and the decidim platform (Participating Oulu website) was taken as a help. Since participatory budgeting was transferred to City Hall in 2021, there have been 186 accepted ideas and over 15.000 participants. Voting has "strong identification" system in place, so there is reliable data of the volume and the voters age, gender and so on. The results of the city of Oulu's 2024 Participatory Budgeting vote have been settled. In May, the citizens of Oulu voted on which proposals the city will implement with the participatory budgeting's total budget of 240 000 €. Participatory budgeting has been very well received by residents. The number of voters continued rising this year as well. A total of 5 453 citizens of Oulu participated in the vote. That is approximately 2 200 more voters than last year's 3 256 voters. Each voter could vote for as many proposals as they wanted to within the total budget, or just for a single proposal important to them. In total, we received 127 456 votes. All 13 years old and older citizens of Oulu were eligible to vote. Participatory Budgeting interested the citizens widely and in different age groups: there were votes all the way from 13-year-olds to 80-years-old.

Oulu2026 – European Capital of Culture year brings inclusion

The Peace Machine, part of Oulu2026 preparations of the culture capital year, is based on modular architecture and is usable simultaneously and virtually in different places. It harnesses artificial intelligence to facilitate conflict resolution and promote world peace. The Peace Machine combines art and technology which can be experienced as an immersive aesthetic experience. It is a part of Oulu's STEAM philosophy, where children and young people themselves can explore the nature of conflicts and learn to resolve them through science, art and technology. In Spring 2022 Oulu Culture Foundation invited local schools in the area to make their own Peace Machine Prototypes. The construction of the prototypes was offered to teachers as a tool to help students and children deal the feelings brought up by the war in Ukraine. Children built their own Peace Machine prototypes and wrote user manuals for them. Oulu2026 team organized an exhibition in the winter 2023 featuring several Peace Machine prototypes created in schools and kindergartens from Northern Ostrobothnia. In 2026, the Peace Machine will be on display in Oulu. In 2027 the Peace Machine's journey will continue to the next ECoC cities in Portugal and Latvia.

Make Air Not War. Peaceful gunpowder has been tooted into the atmosphere from Oulu for over 20 years. The battle, which once even raised heated discussion, has become an international media magnet of good mood, built on the foundation of captivating and avowed enthusiasts around the world. The purpose of the Air Guitar World Championships is to promote world peace. According to the competition ideology, wars will end, climate change will stop and all bad things will vanish when all the people in the world play the air guitar. At the end of each years event everyone is invited to play the air guitar all at once to save the world. **Air guitar is for all.** Air guitar playing is not instrumental sports or arts, nor does it require any special venues or skills, so it is accessible to all. Air guitar can be grasped regardless of gender, age, ethnic background, sexual orientation and social status. Air guitar playing is equal. Licensed National Championships are organized all over the world: each country sorts out the best of their air guitarists in their own competitions.

Air Guitar World Championships have the EcoCompass environmental certificate. The event aims at reducing the environmental strain caused by large events and wants to be in the frontline of the field of events in sustainable development. By taking care of the environment, participants also take care of the quality of everyone's mutual instrument: all the air guitars in the world. The event is organized by The

Oulu Culture Events Association and Airnest Productions Ltd and run with the help of volunteers. So, the city of Oulu does not take credit for this peaceful crazyness taking over the center of Oulu every August, other than as a partner organization, supporter and of course bringing up people brave enough to make up something like this. And to create a world-class phenomenon out of it. Playing air guitar was added to the national inventory of living heritage in Finland in 2024.

3. OTHER

3.1 Ethics

<p>Ethics</p> <p><i>Describe ethics issues linked to your application (if any) and the measures you took/intend to take to solve/avoid them.</i></p>
<p>The city of Oulu complies with national and international legislation in all its activities. In addition, own supplementary regulations have been drawn up to support the ethical principles.</p> <p>The city of Oulu implements goals according to the Sustainable Development Goals.</p> <p>The city of Oulu has a valid personnel equality and equality plan 2022-2026, the principles of which are followed. In the city of Oulu, there is also a disability and elderly council, from which opinions are requested. When processing personal data, the data protection principles in accordance with the data protection legislation are always followed. The city's environmental protection regulations and legislation are followed.</p>

3.2 Security

<p>Security</p> <p><i>Describe security issues linked to your application (if any) and the measures you took/intend to take to solve/avoid them.</i></p> <p><i>Indicate if any of the information is/should be EU-classified (Decision 2015/444).</i></p>
<p>No security issues.</p>

4. DECLARATIONS

Double funding	
<p>Information concerning other prizes for this project.</p> <p> <i>Please note that there is a strict prohibition of double funding from the EU budget (except under EU Synergies calls). Applications that have already received an EU prize cannot receive a second prize for the same activities</i></p>	<p>YES/NO (If NO, add details)</p>
<p>We confirm that to our best knowledge neither the application as a whole nor any parts of it have benefitted from any other EU prize.</p>	<p>Yes</p>
<p>We confirm that to our best knowledge neither the application as a whole nor any parts of it are (nor will be) submitted for any other EU prize.</p>	<p>Yes</p>
Admissibility self-declaration	
<p>Has the endorsement to apply to this competition been signed by the city's Mayor or the</p>	<p>Yes</p>

equivalent highest political representative?

Please remember that only endorsements signed at that level of representation will be accepted.

ANNEXES

LIST OF ANNEXES

1. Endorsement letter from the city of Oulu

The only mandatory annex is the specific endorsement to apply, signed by the city Mayor (or the equivalent highest political representative). (Max 2 pages). It should be uploaded as a PDF file separately in the system.

HISTORY OF CHANGES		
VERSION	PUBLICATION DATE	CHANGE
1.0	05.03.2024	Initial version.
Final	18.6.2024	Final version