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Turku Science Park's circular economy roadmap & action plan

31.8.2026



Illustration: City of Turku, Lundén Architecture Company, Renell Käppi Architects & Cobe

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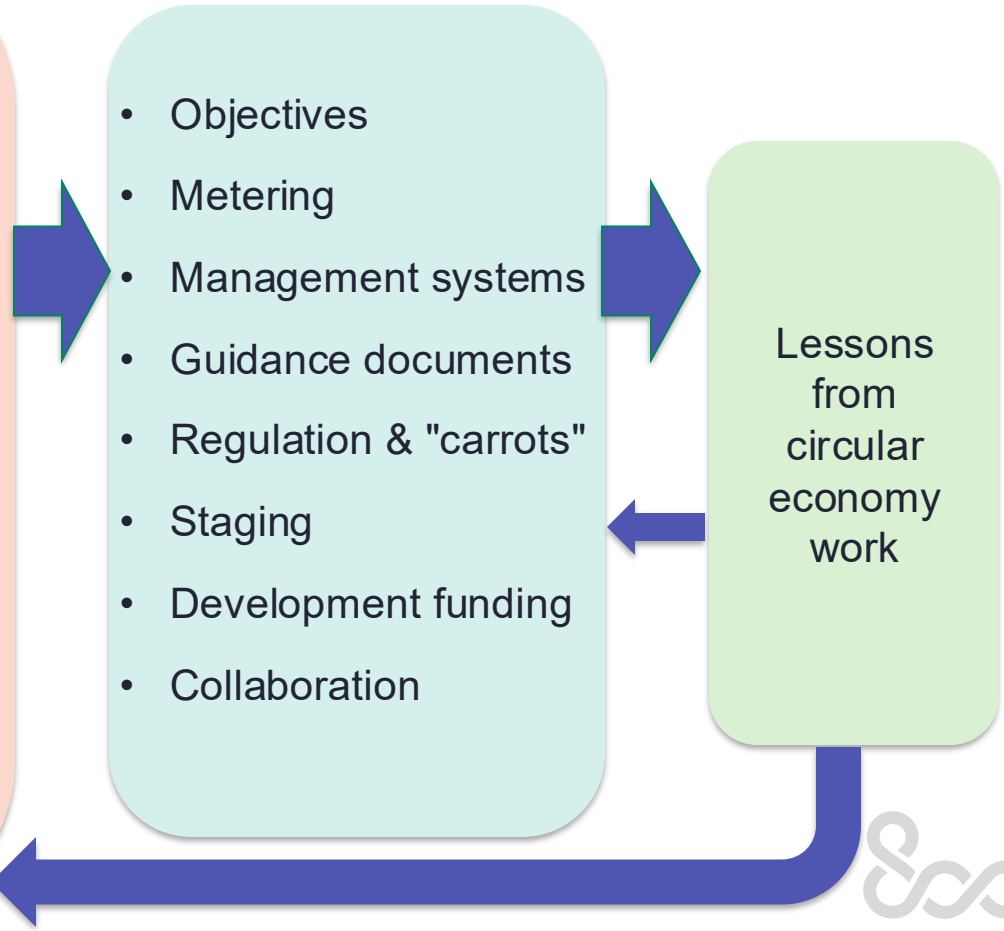
Introduction

Strategies, programmes and guidelines
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Theme group meetings 2024-26

Strategies, programmes and guidelines

These guide development and offer opportunities to apply lessons learned when the documents are updated.

- Urban Region Plan 2050: A common land use strategy for the region that promotes sustainable development and the attractiveness of the area.
- Turku City Region Housing and Land Policy Programme: The aim of the programme is, among other things, to build a dense, functional and climate-friendly city.
- Master Plan 2029 & City of Turku Planning Programme 2026-29
- The City of Turku's strategy, climate plan and circular economy roadmap highlight city-level goals
- The city's procurement strategy and the Act on Public Procurement and Concession Contracts guide public procurements
- Planning guidelines for the City's facility projects (2026) and needs assessment and planning guidelines for infrastructure projects (2026)



Turku Science Park in brief

Geographical dimension

- Existing areas (e.g. Kupittaa workplace cluster, Sairaalanmäki, Yliopistonmäki)
- Itäharju industrial area, i.e. an area of changing land use ("from Prisma to Kupittaa station", including e.g. the planning areas of the Kupittaa Core and Voimakatu)

Current group of actors

- 4 colleges
- 400 companies in the region
- A group of core players
- Circular Economy Forum

In the future

- **almost 1 million m²**
- **+ 18,000 jobs**
- **+ 16,000 inhabitants**
- **+ €4 billion in investments**

The area will be built until about the 2070s.

Further information:

Home - Turku Science Park

Science Park's vision



Illustration: City of Turku, Lundén Architecture Company, Renell Käppi Architects & Cobe

According to the Turku Science Park's vision, the area will be developed into an exemplary area for a sustainable city and urban life.

Construction and urban environment solutions are carbon and energy positive and promote biodiversity

Turku Science Park is the city's most energy-efficient built area, the development of which emphasizes not only high-quality basic infrastructure but also smart and sustainable city solutions and technologies

The Science Park is lively and comfortable around the clock. Platforms, solutions and services that promote well-being and health are a natural part of the everyday lives of the area's residents, students and employees.

The Science Park will be profiled internationally as a significant and boldly experimental innovation and competence cluster, and will create a competitive operating and growth environment for knowledge-intensive research and business activities.

In the Science Park, seamlessly interconnected forms of sustainable mobility and the services that support them make everyday life smooth.

The Turku Science Park's circular economy roadmap aims to contribute to the realisation of the Turku Science Park's vision

Theme-specific content of the roadmap

- Situational picture in 2026
- Example measures that are already progressing independently implemented by operators in the area or projects operating in the area or with the support of the Circular Science Park project
- Measures that have been identified and prioritised to be promoted, as well as potential project and experimentation ideas

The roadmap serves as a handbook for the facilitation, operation, implementation and dissemination of lessons learned in the Science Park's circular economy work.

The circular economy roadmap is addressed to all Science Park operators

The roadmap has been themed and updated in cooperation with stakeholders.

The goals of the Science Park's circular economy roadmap will be achieved through multidisciplinary cooperation

A platform for circular economy learning and participatory solutions.

A pioneer in long-lasting and resource-wise construction.

A bold pilot site for nature-based solutions.

Climate-positive, pioneer of new energy solutions.

Promoter of shared mobility and a sustainable lifestyle.



Phases of updating the roadmap


Photo: Vesa-Matti Väärä

The first version of the roadmap was prepared under the leadership of the City of Turku in 2023 in cooperation with stakeholders.

Circular Science Park project 1.1.2024-31.8.2026

- The measures in the roadmap have been updated and supplemented in connection with the theme group work
- A total of more than 100 people from 70 organisations have participated in the project's network events, 40 of which have been companies.
- The measures in the roadmap have been concretised through experiments and/or by formulating them into project proposals.
- The project learned that the co-creation of the Science Park from the perspective of the circular economy is of interest to several stakeholders.
- Putting the lessons learned into practice often requires adopting new operating models at many different levels of guidance and implementation, as well as navigating and compromising in the jungle of sometimes conflicting goals.
- Finding the right time window and engaging key people in advancing development ideas were identified as cross-cutting challenges.

Theme group meetings 2024-26

Circular construction	Sustainable mobility and logistics	Water and biodiversity	Circular economy business and services	Sustainable energy solutions
13 companies, 42 active persons	4 companies, 16 active persons	7 companies, 36 active persons	8 companies, 16 active persons	4 companies, 7 active persons
Met 8 times	Met 6 times	Met 7 times	Met 5 times	Met 2 times Energy-wise morning coffee with BT 12.12.2025 Energy discussion for landowners 28.1.2026

Also a Teams group!

In addition, two meetings of all theme groups have been organized, on 3.12.2024 and 29.9.2025

A total of 30 meetings + 2 energy discussions

Themes and measures

General action plan
Circular construction
Urban nature and water
Sustainable energy solutions
Sustainable mobility and logistics
Circular economy business and services

The tables show the measures from the original roadmap in blue

In the tables, the measures refined in black text in connection with the update work

General action plan

1. Clarifying the mandate and developing monitoring

- Ensure that the vitality-driven development of Turku Science Park, including its objectives related to the circular economy and other green transition themes, has clear support from the City, and that the means available to the City for advancing these objectives are defined
- A monitoring tool to be developed for the progress of circular economy work in the Science Park's regional development.
- Responsible party: City of Turku and/or Turun teknologia- ja tiedepuisto Ltd

2. Concretisation of goals and measures in the city's projects

- The goals of the circular economy and the measures leading to them still need to be made concrete at the project level.
- Identify the key municipal projects in Science Park and integrate circular economy goals into their management systems.
- Responsible party: City of Turku and companies within the City group

3. Private sector activation

- Identify and implement suitable communication, participation and/or steering methods to extend the circular economy objectives of the Science Park's development work to also apply to the Science Park's private projects (e.g. Development commitment model, planning regulations & steering documents, facilitated co-creation, development and steering group consisting of key actors, such as landowners)
- Responsible party: City of Turku and Turun teknologia- ja tiedepuisto Ltd

4. Further development of innovation activities and strengthening the culture of experimentation

- Alternatives for the continuation of innovation platform activities have been considered in a separate "Operating model proposal for the Science Park's circular economy innovation ecosystem". It must be clarified who is responsible for promoting innovation activities and by whom the work is directed.
- Introduce and resource one or more tools to activate companies and higher education institutions in innovation work that promotes the circular economy and is linked to the Science Park (e.g. Innovation challenge, procurement of pilot services)
- The culture of experimentation must be strengthened by managing the risks associated with it and understanding the benefits
- Responsibility: E.g. City of Turku, Business Turku or Turun teknologia- ja tiedepuisto Ltd



Roof tiles dismantled from the Science Park installed intact
in Mustikkamaa, Helsinki. Photo: Antti Lehto

Circular construction

Circular construction

The goals of the Science Park's vision:

- Solutions for construction, mobility and housing are in line with the principles of sustainable development and promote the well-being of the environment and people.
- In addition to high-quality basic infrastructure, the development will focus on smart and sustainable city solutions and technologies.

The objective of the Science Park's circular economy roadmap:

- A pioneer in long-lasting and resource-wise construction.

Situational picture in 2026

- In the Science Park, individual exemplary projects and small experiments can be demonstrated.

Prioritised recommendations for action, next steps

- Utilisation of the temporary solutions at the Kupittaa Core as a test bed, e.g. in the testing of innovative building materials
- Ensuring circular economy and sustainability criteria in the project planning phase of the Multipurpose Centre planned for the Science Park



Illustration: City of Turku and Lundén Architecture Company

Examples of projects or development activities

Taito Campus demolition and material efficiency analyses

The City of Turku and the alliance project of Kupittaa Core have investigated the demolition of the Taito campus and commissioned a thesis on the material efficiency of the Taito campus. In addition, the Taito campus has been designed with adaptability in mind.

Photo: City of Turku and Lundén Architecture Company



AkvaCity

AkvaCity, built by Turun Teknologiakiinteistöt for Turku Water Supply, is built entirely of wood. A demolition analysis has also been prepared for the building.

Photo: Turun Teknologiakiinteistöt Ltd



Examples of projects or development activities

Turku International School's facility renovation project

- In the design, attention has been paid to the fact that structures that are in good condition and are almost new only need to be demolished to the extent required for the construction of functionally good, safe and healthy facilities.
- Preserved spaces: pupils' cafeteria and teachers' break room kitchen
- Preserved parts: Doors, windows and glass walls have been moved to new locations in the building, and a lot of surface materials in good condition have been preserved.

Photo: Hemsö



Examples of projects or development activities

Selective dismantling experiments and analysis of demolition processes

The City of Turku has carried out one selective dismantling experiment and is planning another. In addition, the city has commissioned a thesis that analyses the demolition guidance process. Turun Teknologiakiinteistöt Ltd has also collaborated with students on a few demolition projects.

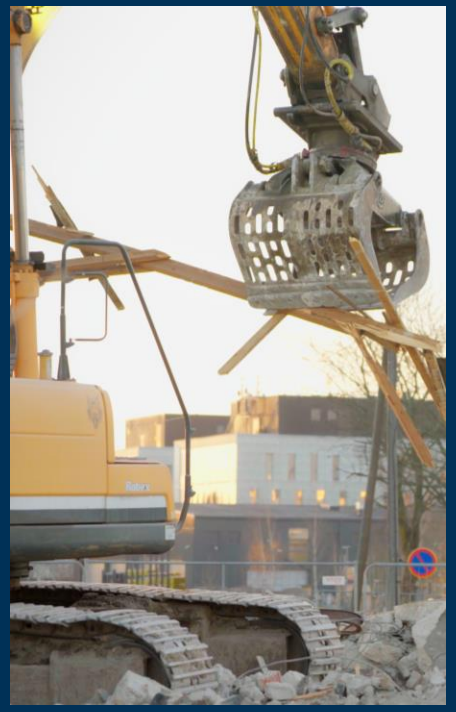


Photo: Rabbit visuals

Experiments that promote reuse

The dismantled roof tiles have been delivered to Helsinki for reuse (Closing Loops project). The dismantled planks have been used to make benches for the Kupittaa multi-purpose field. The properties of the planks are also being further studied by the WoodCircles project.



Photo: Erkan Fere / Puuha Group Oy

Examples of projects or development activities

Industry City

A space alteration project for Turun Teknologiakiinteistöt in which the load-bearing frame was retained.

Photo: Miika Tuominen, Turun Teknologiakiinteistöt Ltd



Interim storage of soil masses in the area

An interim storage area will be established in the Itäharju area, which will facilitate logistics during construction and reduce the related emissions.

Photo: Nea Metsänranta



Ongoing and proposed projects and trials

Project: CircLife

Promoting the circular economy in the city's processes and pilots, the Science Park as a possible pilot area. A joint project with the Finnish Environment Institute and other cities.
Starting in 2027

Project: The Circular Drifter

Easily modifiable and dismantled, assembly and reuse are designed to have as little waste and low emissions as possible. The project takes the principle of "designed for demolition" all the way to reassembly. The project offers construction companies the opportunity to experiment and research. A joint project with VTT, Aalto University and other cities. **In preliminary preparation.**

Common reed pilot

Exploring common reed for a temporary bicycle shelter. Preliminary discussions underway.

Rautakatu 10: selective dismantling experiment

In planning.
Implementation in late 2026.

Project: RE:CITY

Pilot for a city-scale circular construction model that connects future material availability with demand and integrates circularity into planning.
Submitted to the funding call 10/26

Measures to be promoted: Planning phase

Measure	Lead	Status	Next steps
Land use: Development of policy instruments (e.g. zoning regulations, land allocation criteria, land use fees) to increase the circular economy compliance of construction	City of Turku / Land Use and Zoning	• At present, zoning guidance is enabling and/or recommendation-like, non-binding. The challenge is to set e.g. fixed-length zoning regulations due to lack of competence/knowledge/experience. • Preparations for the Green Deal for the circular economy are underway and the CircLife project application has been submitted with these themes in mind, with the Science Park as a possible pilot area. • For example. The plan for the Kupittaa Core has guided e.g. landscaping, stormwater management, the quality of bicycle parking, the treatment of soil and demolition materials, and energy production. In the plan for the Itäharju junction (in the planning phase), sustainability is implemented, for example, by supporting circular economy means suitable for the area and by promoting the goals of carbon neutrality and biodiversity in the Turku City Strategy. In the new construction of the planning area, the aim is to achieve sustainable technical solutions and materials that take into account the entire life cycle of the building, as well as the longevity and adaptability of the buildings.	• Development and piloting of even clearer plan entries, e.g. as part of the implementation of the CircLife project. • Considering the introduction of the BREEAM Communities certificate as part of a future city plan project. • Piloting land allocation criteria in accordance with the circular economy when land allocation is topical. • The possibilities of land use agreements/fees and building guidelines as policy instruments?

Measures to be promoted: Planning phase

Measure	Lead	Status	Next steps
Planning, tendering and implementation of urban development projects Concretising the Circular Economy objectives at the plan and block level as well as in the tendering criteria.	City of Turku / Land Use and Zoning, Urban Planning	• The Science Park's vision update (2024) emphasizes the theme of sustainability, but contains room for interpretation • For example. The planning guidelines for the plan area at the Kupittaa Core emphasise greenery, stormwater management, a sense of community and a focus on walking, but not directly on the circular economy of construction. • The challenge is the reconciliation and emphasis of partly conflicting values and goals.	• Taking the circular economy into account more clearly in the next vision update (2026-Q1/2027) • Concretization of the goals of the vision and terminology > are we looking for e.g. Carbon and energy positivity at the regional level or at the block/plot level? Is climate positivity also taken into account? • Validation of the objectives and measures of the Science Park's circular economy roadmap and their implementation in future tendering, project planning and project management systems. • Introduction of a development commitment tool or, for example. Establishing a development or steering group that involves private landowners/developers.

Measures to be promoted: Planning phase

Measure	Lead	Status	Next steps
Project level: Set circular economy goals and indicators for infrastructure and building projects	Public/private developers	• Partly covered by the Kupittaa Core ATA indicators. • City building projects target YL4 and EU taxonomy alignment, but can meet these goals without a specific circular economy focus. • Turun Teknologiakiinteistöt Ltd targets LEED Platinum for new buildings.	• More expertise, data and monitoring are needed. Integrate circularity into project management, building needs assessments, project planning guidance and every procurement phase.
Project level: Design structures and building services for life-cycle emissions, adaptability and circularity, including materials and dismantling	Public/private developers	• Taito Campus is designed for adaptable spaces and services and energy class A. Dismantling has been assessed, but demolition is not planned. • Most Science Park building projects are private and follow city requirements. Developers include YIT, Turun Teknologiakiinteistöt Ltd, Hartela/Terveystalo and Elomatic (preliminary agreement).	• Ensure design expertise in future city building projects. • Influence private projects through regulation and coordinated co-creation and innovation.

Measures to be promoted: Implementation phase

Measure	Lead	Status	Next steps
Investment level: Use circular procurement criteria and pioneering suppliers	Public and private developers	• No data on private investments. • Some city investments use low-carbon criteria.	• More active use of market dialogues • Piloting the use of criteria
Investment level: Integrate trials into construction and identify concrete opportunities to experiment in the Science Park	Public and private developers	• Partly included in the Kupittaa Core partnership project ATA indicators	• Increasing dialogue • Mapping the need for experimentation
Build circular construction expertise through developer–university cooperation and training	City of Turku, Business Turku, higher education institutions	• Network cooperation: Circular Construction theme group, Business Turku Sustainable Construction Network and TUAS Construction 2035 project	• Closer cooperation between networks
Develop selective dismantling practices and markets for reused building components, including circular materials and reused or repurposed concrete elements	Public and private developers	• Selective dismantling trials by the city (Ilmarisenkatu) and Turun Teknologiakiinteistöt Ltd, alongside development work	• Identify reusable components before demolition and inform designers well in advance
Land use: Soil stockpiling	City of Turku	• An interim storage area in Itäharju supports site logistics and cuts emissions. Most contaminated soil must be transported elsewhere.	• Assess interim storage for components from buildings dismantled in the area

Measures to be promoted: Operational phase

Measure	Lead	Status	Next steps
Promoting the maintenance of buildings and infrastructure and extending their life cycle	Public and private property owners, infrastructure managers	• No clear situational picture of the Science Park in particular	• Raising awareness, increasing life cycle thinking



Sustainable energy solutions

Sustainable energy solutions

Science Park vision goals:

- Construction and urban environments are carbon and energy positive.
- Turku Science Park is the city's most energy-efficient built area, combining quality infrastructure with smart, sustainable urban solutions and technologies.

Circular economy roadmap objective:

- A climate-positive pioneer of new energy solutions.

Status in 2026

- Energy studies for Kupittaa Core and the wider Science Park have been presented to landowners. Zoning enables diverse energy production.
- The RESPONSE project has been implemented in the Student Village.
- Turku Energia is investigating combined heating and cooling storage in Itäharju. Fifth-generation district heating solutions are being implemented in the area.
- Almost all new buildings target energy class A.

Priority next step

- Resume facilitated energy discussions with a clear focus and timely engagement.



Carbon positive: more carbon is sequestered than emitted (e.g. with the help of wooden structures)

Energy positive: more energy is produced than consumed (e.g. with the help of solar panels)

Climate positive: the overall impact on the climate is positive

Examples of projects or development activities

Taito Campus

Taito Campus meets the criteria of YL4 star and energy class A and is in line with the EU taxonomy (the main criterion is climate change mitigation).



Photo: City of Turku and Lundén Architecture Company

Terveystalo

The project implemented by Hartela will be built in accordance with the EU taxonomy, and the goal is to achieve a LEED Gold level environmental certificate. The property will be designed for energy class A, and part of its energy needs will be covered by an energy-efficient heat pump and solar energy system. In addition, the property's waste energy will be recovered and utilised in heating. The heating and cooling of the property will be produced with 100% renewable energy.

AkvaCity

The carbon footprint and handprint have been taken into account in the design solutions, e.g. the window area has been reduced. Turun Teknologiakiinteistöt Ltd is aiming for the LEED Platinum level in its new buildings.

Photo: Turun Teknologiakiinteistöt Ltd



Examples of projects or development activities

Tyyssija's energy solution

The energy solution for the site was provided by Turku Energia, VTT, Oilon and HögforsGST. The award-winning energy solution focuses on utilising the return heat of district cooling as a heat source for the heat pump, with the aim of energy-positive living.

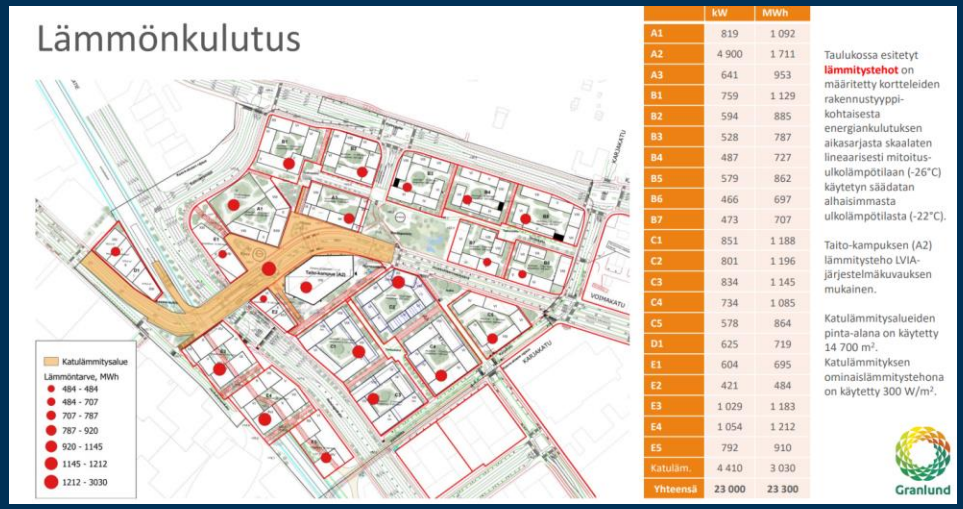


Photo: Kuvatoimisto Kuvio Oy

Science Park energy surveys

An energy review evaluating different options has been prepared for the Kupittaa Core area in 2024. The review has also been continued, where applicable, more extensively to the Science Park area in 2025.

Photo: Granlund Oy



Examples of projects or development activities

Report on the location of the hybrid battery in Itäharju

- Turku Energia is investigating the implementation of a combined heating and cooling energy storage facility in Itäharju, Turku. The hybrid battery would support the production of district heating and cooling, improve the flexibility of energy production and respond to the increased demand for cooling.
- The key objective of the project is to improve the utilisation rate of electricity-based generation, reduce production costs, improve security of supply and reduce the use of fossil fuels.
- The battery to be built in this way would be only the second in Finland.
- The final investment decision on the construction of the hybrid battery will be made in 2027
- Source: TS 24.3.2026



Measures to be promoted: Planning phase

Measure	Lead	Status	Next steps
Land use: reserving space for energy production and storage	City of Turku, Kupittaa Core Alliance	• The plan for the Kupittaa Core aims to enable different forms of energy production and storage. • Plan for Voimakatu (in the proposal phase): In one block area of commercial buildings (KM-1, which accounts for about 15% of the area of the plan area and about 19% of the building rights of the plan area), the plan enables the construction of an energy plant that does not cause environmental disturbances for the production of local heat. In residential block areas (AL and AL-1, which account for about 48% of the area of the plan area and about 71% of the building rights of the plan area) (solar collectors and other devices for energy production can be installed without a plan regulation, the plan does not force it, but the plan regulation requires that the technical equipment is integrated into the façade architecture in an integrated manner. • Plan for the Itäharjun liittymä (in the planning phase): The aim is to enable different forms of energy production and storage.	• Let's pay more attention to this issue in future plans
Area solution: Fifth-generation district heating	Turku Energia	• The district heating and cooling network to be built in the area will take into account fifth-generation smart and energy-efficient solutions (which may include low temperature or regional production, but also battery solutions, promotion of smart features, recovery of waste heat, etc.)	• Planning solutions at the regional level together with partners and organisations in the region

Measures to be promoted: Planning phase

Measure	Lead	Status	Next steps
Regional solution: A regional hybrid system (district heating, heat pump solutions, waste heat) supports each other by producing cooling to balance demand.	Turku Energia, private and public property owners	• The energy survey prepared for the area supports, among other things, the planning of dimensioning • Organised energy discussion between landowners and companies	• Continuing to facilitate energy discussions in order to encourage possible regional cooperation
Regional solution: Energy circular economy: utilisation of waste heat, e.g. condensation heat and wastewater from shops	Turku Energia, private and public property owners	• At least so far, no large producers of waste heat have been identified in the area of variable land use • Award-winning energy solution in the Student Village	• Monitoring a possible swimming pool/community centre project and promoting waste heat solutions in connection with it
Regional Solution: Establishment of a Regional Energy Community	For example. Private and public property owners	• As far as is known, there are no discussions on the subject yet in the area of variable land use	• Maintaining the topic as part of landowners' energy discussions

Measures to be promoted: Planning phase

Measure	Lead	Status	Next steps
Project level: Promotion of energy efficiency principles for energy saving in buildings, e.g. through building certificates RTS/LEED/BREEAM & joint commitments	Public and private developers and property owners	• According to the minimum goals of the City of Turku, Taito Campus aims to become a YL4 star (formerly Taito Campus). RTS) • Turun Teknologiakiinteistöt Ltd aims for LEED Platinum for new buildings • At least for the time being, no "common commitments" • The general perception is that new buildings are primarily built to be energy-efficient • No information on the energy efficiency of the existing building stock	• Analysing the energy efficiency of the existing building stock and encouraging energy efficiency measures • The most energy-efficient built area would be concretized if, for example, the target E-value, YL classification, etc. (cf. what is happening elsewhere in Turku now, what is the goal of the projects implemented in the Science Park). Could an SRI indicator and a target level be set for measuring the intelligence of buildings in the same way?

Ongoing and proposed projects and trials

No known project and experiment ideas



Water and biodiversity

Water and biodiversity

The goals of the Science Park's vision:

- Construction and urban environment solutions promote biodiversity, among other things.
- Green areas will be developed into a coherent network and diversified so that they support the growth of biodiversity in the entire area.
- Nature-based solutions promote both comfort and the water cycle and support the development of diverse nature in densely built urban areas.

Objective of the Science Park Roadmap

- A bold pilot site for nature-based solutions.

Situational picture 2026

- There are a few innovative implementations in the Science Park area, mainly in the existing urban structure. The construction of the adaptable land use area has only just begun, and the area is expected to be of high quality from the perspective of urban nature.

Prioritised recommendations for action, next steps

- Ensuring the implementation of planned nature-based solutions and green areas in new areas that strengthen biodiversity
- Harnessing temporary solutions for the construction of the area for experiments

Solutions that promote biodiversity and water cycles must be integrated into construction, design and implementation from the very beginning.



Examples of projects or development activities

Science Park's green wall

Turun Teknologiakiinteistöt Ltd has built Finland's largest outdoor green wall. The green wall utilises stormwater for irrigation and offers a wide range of ecosystem services. The green wall has been implemented by InnoGreen Oy.

More information: https://www.teknologiakiinteistot.fi/ajankohtaista/turun-tiedepuistoon-rakennetaan-suomen-suurin-ulkoviherseina



The microforest of the Compass Hospital

A microforest will be implemented in the Compass Hospital, which will serve as one of the hospital's sensory rooms. The multidisciplinary project will study, among other things, the import and preservation of soil microbes. The project is implemented by the Separately We Disappear project, which involves artists and researchers in cooperation with Varha, the developer of the hospital.

Further information: Separately we disappear project / Mikrometsä - Kone Foundation

Examples of projects or development activities

Nature-based solutions in the Kupittaa Core area

Various solutions that support water management and biodiversity have been designed for the Kupittaa Core area, which are suitable for a densely built urban area. Investments will be made in water management, e.g. in stormwater basins, pools and green strips, green strips in street areas and green edges in front of buildings. Biodiversity will be promoted in the area with new habitats, local species, and the addition of decaying wood, for example, is recommended. Integrated green solutions are recommended for the blocks, e.g. green roofs and walls. Ilmatar Park is a key green area in the area, which supports contact with nature in a dense area and local diversity, for example, with new types of dynamic plantings that take into account seasonal changes and minimise the need for maintenance.

- Design instructions for the Kupittaa Core: 76-2023SuunnitteluohjeID14710-Valmisteluehdotus.pdf



Examples of projects or development activities

Microbial sandbox in Kupittaa Park

A new type of forest microbial box has been built in connection with the Kupittaa Park playground next to a regular sandbox.
In addition to traditional sand, the forest microbial box contains decaying wood and soil from the forest floor. The aim is to provide children with a new kind of play stimulus and enable them to be exposed to forest microbes, which, according to the city, have a positive effect on the immune system. The box will be built from felled park trees with decaying defects.

Further information: Children will get a new kind of play box in Kupittaa Park with forest humus | Turku.fi

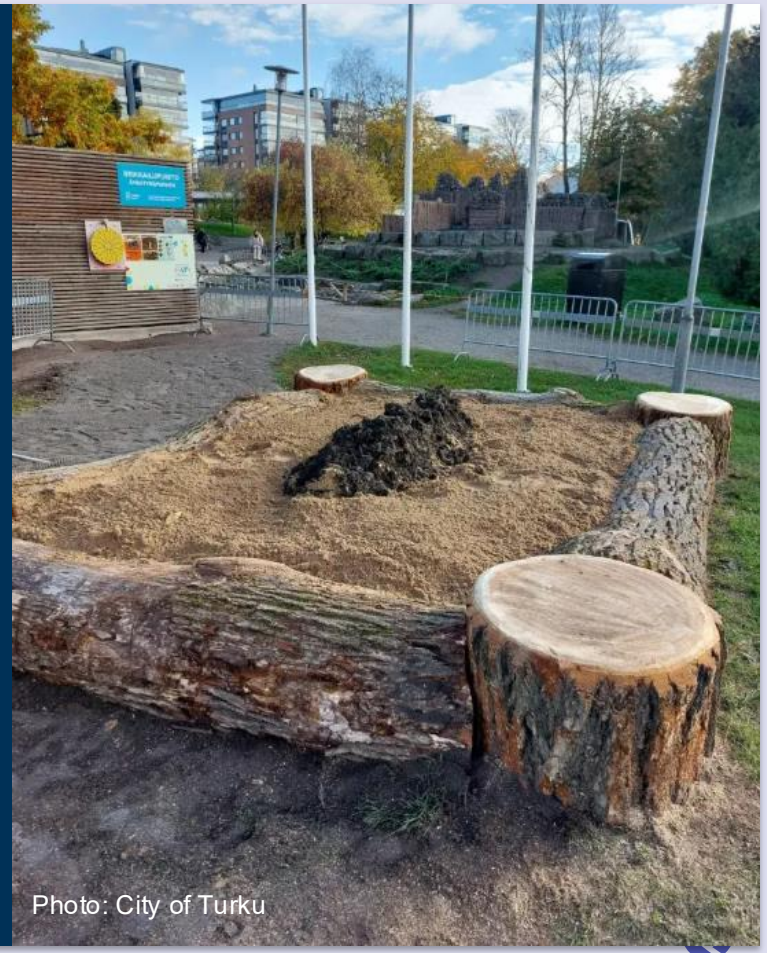


Photo: City of Turku

Measures to be promoted: Planning phase

Measure	Lead	Status	Next steps
Land use: Identification of existing carbon sinks and green areas and corridors that produce ecosystem services (connectivity) before planning and preservation in future planning areas (e.g. preservation of large trees, endangered species)	City of Turku	• The area at the Kupittaa Core is an old industrial area, the soil of which needs to be cleaned, which means that it is not possible to preserve the current vegetation / trees. Endangered species identified in the planning and a relocation plan for houndstongue to Turku cholera cemetery.	• New landscaping must support biodiversity and improve the connectivity of the green network. • The measure must be promoted in later planning areas, the preservation of large trees must be promoted (see principle 3-30-300)

Land use: Development of policy instruments and incentives: incentives, zoning regulations, plot allocation criteria to increase urban greenery and Lumo solutions	City of Turku	• The detailed plan for the Kupittaa Core (phase I) sets green coefficients (0.6–0.8) in line with the city's target level in the block areas. A regulation on the use of domestic, preferably local, species. A design guideline has been drawn up that discusses solutions related to vegetation and stormwater.
		• Plan for the Itäharju liittymä (planning phase): The importance of the urban nature environment is emphasised in the Kupittaa and Itäharju areas, as the planned urban structure will be dense. The goal of Turku Science Park is to create platforms, solutions and services that promote well-being and health that are integrated into the everyday lives of the users of the area. The goal of well-being is examined not only from the perspective of humans but also from the perspective of other species.
			• The development of policy instruments and incentives is an effective way to promote the implementation of nature-based solutions. Examples of measures:
			  • Raising the target level of the green factor in future planning areas.
			  • Engaging landowners and setting common goals at the beginning of planning.
			  • Development of policy instruments and regulations to promote, for example, the preservation of existing trees and soil, nature-based construction, the maximisation of ground-supported surfaces, the use of native and native species, the addition of decaying wood
			• The report on effective steering measures prepared by the Urban Biodiversity Parks project (to be published in 2026) will be utilised.

Measures to be promoted: Planning phase

Measure	Lead	Status	Next steps
Mapping the possibilities of closed water circulation regionally.	The City of Turku? Higher education institutions ?	• Not identified as possible in the current planning areas. • Mapping opportunities with benchmark examples.	
Objectives: To concretise city-level goals in the planning of new planning areas, e.g. carbon neutrality, biodiversity	City of Turku, other		• Application of the 3/30/300 principle in the areas of the Science Park to be zoned later. • We need to develop principles for carbon sink calculations at the district level (no model in use at the moment). • Methods should be developed for measuring nature objectives in suburban renewal projects. Can e.g. The ARVO project's guidelines for assessing the ecological status of habitat types in the built environment be utilised in Science Park?
Procurement: Measuring the nature target and developing criteria in large procurements	The City of Turku and other developers	• The large investments at the top of Kupittaa have undergone a taxonomy review, in which biodiversity is one of the DNSH criteria.	• Utilisation of the guidelines drawn up by the Vauhti network in 2025 in Science Park: *Infrastructure construction and maintenance procurements and biodiversity & Real estate construction procurements and biodiversity*

Measures to be promoted: Implementation phase

Measure	Lead	Status	Next steps
Strengthening biodiversity and local species in the planning and implementation of the area (public areas)	City of Turku,	• In the plans for the Kupittaa Core, two new parks will be established in the area, Ilmatar Park and Ilmarinen Park. Ilmatar Park is a key green area in the area, which supports contact with nature and local biodiversity in a dense area, e.g. with new types of dynamic plantings that take into account seasonal changes and minimise the need for maintenance. The park must use domestic, preferably local species. By using seed or seedling material of local origin, habitats are created for declining and endangered species while building green structures for stormwater management. Avoiding grasslands.	• Let's implement the plans in accordance with the above.
Promoting and strengthening biodiversity at the block level	City of Turku, private developers	• In the area at the Kupittaa,Core integrated urban green solutions (green roofs and walls) are encouraged. According to the zoning regulations, domestic, preferably local wild meadow or meadow species must be used in the implementation of green roofs and deck yards. Vegetation in endangered sun-drenched environments and species in dry and rocky meadows are recommended for green roofs. • A design guideline has been drawn up for the Kupittaa Core area, which recommends the following block-level solutions: increasing decaying wood, storing branches and cutting waste in the ground, stones and piles of stones as habitats, nesting sites, e.g. birdhouses and insect hotels. • The plot streets bordering the green edge areas of the blocks at the tip of Kupittaa must be implemented as courtyard streets and greenery should be brought to them with street trees and diverse vegetation.	• Communication and better guidance are needed to implement solutions • Include instructions on local plant species in the planning instructions for developers and promote the availability of species in implementation (e.g. cooperation with Skanssi Biodiversity Park) • Promoting biodiversity as part of the implementation of an infrastructure project (solutions for the roof yard, canopies and façade of the parking garage)
Increasing the number of urban trees	City of Turku, private developers	• In the area at the Kupittaa Core, at least one large ground-supported tree must be planted in the block yard. It is recommended that at least five large trees be placed in each square.	• Consideration of the 3-30-300 principle in future planning areas • Room for improvement: Preservation of existing trees and experiments with tree relocations and temporary plantings.

Measures to be promoted: Implementation phase

Measure	Lead	Status	Next steps
Solutions for natural water management at the regional level and on the streets	City of Turku	• Stormwater basins are planned for the planning area at the Kupittaa Core in Ilmattarenpuisto Park and in the Taito campus block, where surface runoff water will be delayed. Ilmattarenpuisto is a key green area and also significant in terms of stormwater treatment. The water will be led to the stormwater wetland located in the southeastern part of the park, for example, through a depression at the edge of the cycling route. • Green lanes have been reserved for street areas, into which most of the surface water is directed. Green lanes are designed as filtration depressions. Courtyard streets are also significant stormwater treatment areas. In particular, stormwater from parking and street areas must be treated qualitatively. Surface water from parking areas is led to drained filtration or green depressions. As much of the surface as possible must be semi-permeable. • Filtered water and overflows will be led through the stormwater sewer network in the direction of Jaaninoja. Existing flood routes will be preserved and replaced with new routes.	
Solutions aimed at natural water management at the block level	City of Turku, private developers	• In the area at the Kupittaa Core, block-specific plans and water must be led to the public system. Stormwater must be delayed in the area so that the design volume of retention depressions, basins or tanks must be 1.5 m3 / 100 m2 per impermeable surface. • On the side of a street, square, park or public pedestrian connection, a green periphery of the apartments, business premises and common areas on the ground floor must be located in front of the façade of the building when the building is not built close to the plot boundary.	• Development of new solutions for the utilisation of storm water and rainwater, e.g. collection from roof surfaces and soil with technical and biological (ponds) solutions, their filtration and utilisation, e.g. in irrigation. Preparation of experiments and development projects related to the solutions.
Updating the Construction Site Water Guide	City of Turku	• The guidelines are outdated and need updating, an update planned for 2027	

Measures to be promoted: Other measures

Measure	Lead	Status	Next steps
Build expertise in implementing and maintaining biodiversity solutions	City of Turku, higher education institutions, developers	• Kupittaa Core design guidance recommends green edges, vegetation and stormwater treatment solutions.	• Communicate recommendations and offer targeted training, or promote existing training to Science Park operators, such as future Urban Biodiversity Parks courses. Reaching developers remains a challenge. • Strengthen university–developer cooperation on new solutions.
Build biodiversity awareness among residents and maintenance teams during use	Private developers	• Block Gardener concept already piloted with housing companies	• When blocks are complete, explain their solutions to residents and maintenance teams. How should this be organised? • Develop the Block Garden concept in future projects. • Engage residents through biodiversity solutions such as community gardening, using lessons from Urban Biodiversity Parks and Coevolvers.
Share successful solutions and raise awareness	All	• Microforests and green walls could scale beyond the Science Park. The Circular Economy Forum and theme groups have shared these examples.	• Use Science Park benchmarking and lessons from elsewhere
Promote healthy soil and closed nutrient cycles	City of Turku,	• Monitor the Compass Hospital microforest pilot and share lessons across the Science Park	• Could growing media be improved and produced locally in line with circular economy principles?
Temporary solutions and trials during use	City of Turku, companies, private developers		• Link trials to area development, for example through a biodiversity innovation competition. • Use temporary sites for experiments, such as temporary meadows and local seed banks, to strengthen biodiversity.

Ongoing and proposed projects and trials

Project idea: Block Garden

Promotion of the block gardener concept. Cooperation and small experiments have been carried out with housing companies. Thesis: Block garden as a promoter of planetary health. Possible further development in a new project.

GreenAdapt project application (ERDF call, not funded)

Collaborative project: nature-based solutions for adaptation in dense urban environments.

Project idea: Landscaping environments

Preliminary idea of landscaping environments development as part of a densifying urban structure. Didn't progress during the project.

CircLIFE project application (LIFE funding call)

Possibly: vegetation and soil rotation in land use and planning, examinations of green structure and canopy cover.

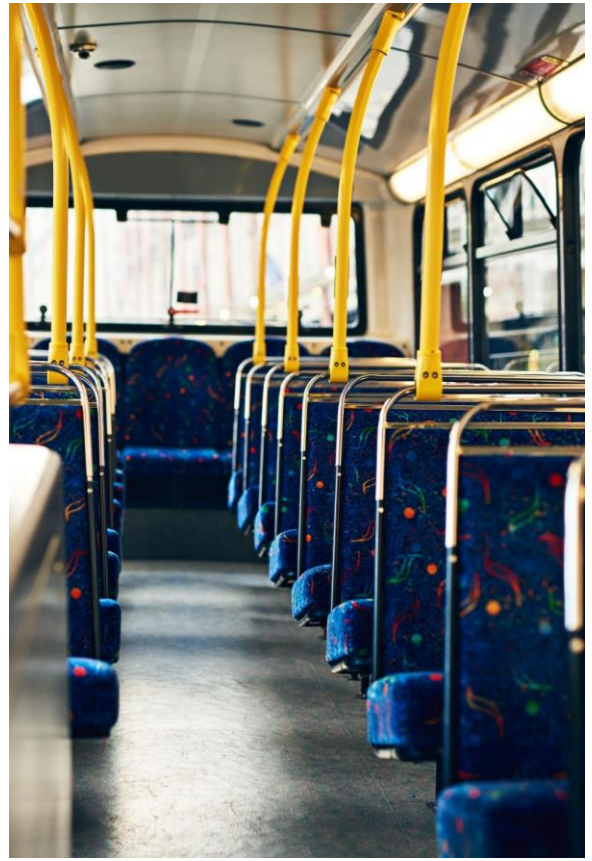


Sustainable mobility and logistics

Sustainable mobility and logistics

The goals of the Science Park's vision:

- The Science Park will attract companies, investors and residents by offering emission-free, smart and smooth alternatives for local and regional mobility needs, and the area will develop into a logistically attractive centre for smart mobility. Seamlessly interconnected forms of sustainable mobility and the services that support them will make everyday life smooth.



The objective of the Science Park's circular economy roadmap:

- Promoter of shared mobility and a sustainable lifestyle.

Situational picture 2026

- Tramway construction approved by the City Council on 18 May 2026
- The starting point for the design of the Kupittaa Core has been a mixed urban structure that reduces the need for mobility and taking into account different modes of transport, especially pedestrian and bicycle and public transport. A mobility hub has been enabled under the surface structure, which removes the obstacle effect of the track. In part, compromise solutions have had to be made, for example. in terms of parking.

Prioritised recommendations for action, next steps

- Conceptualisation and promotion of mobility and logistics hubs
- An investigation of how the area serves, for example; service production based on the use of drones

Examples of projects or development activities

Solutions for sustainable mobility and logistics in the Kupittaa Core area

- The Green Deal for emission-free construction sites will be followed during construction
- Once the area is completed, the deck structure to be built at the Kupittaa core will remove the barrier effect of the track, streamline traffic and improve the cycling network connection between Kupittaa and Itäharju
- The area will be built at a public transport hub and changing from one vehicle to another is designed to be easy (e.g. climbing to the deck & bicycle parking under the deck), shared forms of transport are also possible
- Walking and cycling have been at the heart of the planning.
    - In the deck area, the lanes have been kept unfrozen, which makes it easier for pedestrian and bicycle traffic even in winter.
    - Accessible and safe mobility environment from children to the elderly (8/80 principle)
- It is possible to implement the mobility hub in a central location in the area in the maintenance yard under the deck.



Examples of projects or development activities

Sustainable mobility at TAITO Campus

- Bicycle charging cabinets for the staff on the TAITO campus.
- The bicycle parking area is covered and there is a protected access to the building.
- Accessible parking spaces under the deck
- The building is easy to reach by all modes of transport
- 15 car charging stations nearby

Station and rail service level review

Park-and-ride

- The Prisma store in Itäharju joined the SCALE-UP park-and-ride trial. Parking linked to shopping received positive feedback, but travel behaviour did not change quickly. The concept is still being developed.
- SCALE-UP also tested other sustainable mobility and logistics solutions. The Science Park can apply the lessons learned.

Further information: Scale-up: Towards more sustainable mobility

Examples of projects or development activities

Pedestrian and bicycle parking improvements and a shared electric cargo bike

- Turun Teknologiakiinteistöt Ltd offer shared electric cargo bikes in the area and have added parking spaces for electric scooters in the Science Park area and increased frame locking places for bicycles
- Further information: Pedestrian and bicycle parking in Science Park to be renewed - Turun Teknologiakiinteistöt

Kupittaa station bicycle garage

- Next to the Kupittaa railway station, there is a bicycle garage developed in the USER-CHI project, which has space for about 40 bikes. The bicycle garage also has a service point.
- More information: Bicycle parking, maintenance and charging points | Turku.fi
- Photo: Oona Uusitalo



Measures to be promoted: Planning phase

Measure	Lead	Status	Next steps
Land use: Prioritise safe, easy walking, cycling and public transport in street space, including centralised parking, park-and-ride and adaptable parking facilities	City of Turku, Kupittaa Core Alliance	• Kupittaa Core enables all modes, prioritising walking and cycling. Parking will not be centralised across the whole area: some is on plots under the deck. The future parking facility will be partly adaptable. • Voimakatu (proposal stage): zoning and street plans provide smooth walking, cycling and public transport connections. In AL and AL-1 residential blocks, parking is under courtyard decks and in two facilities. In KM-1 and KM-2 commercial blocks, parking is mainly in facilities. Their structures are not yet designed, and zoning does not require adaptability. • Itäharju liittymä (planning stage): walking, cycling and public transport connect the area to city-centre services and nearby recreation. Zoning supports sustainable mobility and a walking/cycling bridge over Helsinginkatu, as set out in the Science Park vision. It would connect the urban areas divided by the railway and Helsinginkatu and improve access.	• Keep these issues in focus as the Science Park develops and new zoning plans emerge

Measures to be promoted: Planning phase

Measure	Lead	Status	Next steps
Regional solution: Regional shared hub or network (where you can get shared vehicles and services)	Kupittaa Core Alliance, private service provider	• Shared forms of transport and a mobility hub have been made possible under the deck of the Kupittaa Core	• In the future, the logistics solutions in the area will have to be examined as a whole at the level of the entire Science Park as the number of residents and the number of people in employment increases. • A conceptualization of the operation of the hubs is needed, possibly a private service provider
Regional solution: Solving the last mile challenge of mobility and logistics	The city and private service providers	• In the area at the Kupittaa Core, investments have been made in walking and cycling, the service yard area is technically accessible, e.g. for transport robots (e.g. kept unfrozen)	• Preparing for new innovative solutions in urban planning • Development and experimentation of new solutions

Measures to be promoted: Implementation phase

Measure	Lead	Status	Next steps
New experiments & innovations: robots and drones, logistics boxes	Operators in the area	• So far, there are no known experiments carried out in the Science Park area.	• Ideas from service providers would be needed, and it could be possible to organise experiments in areas that are already built (e.g. campuses and workplace clusters)

Ongoing and proposed projects and trials

Traffic volumes, logistical functionality and traffic environment of the Science Park/Kupittaa workplace cluster, possible thesis assignment



Circular economy business and services

Circular economy business and services

Science Park vision goals:

- Turku Science Park offers a competitive environment for knowledge-intensive research and business growth.
- Solutions and services supporting health and well-being are part of everyday life for residents, students and employees.
- Connected sustainable transport modes and supporting services make everyday journeys easy.
- Active ground-floor premises support diverse urban life and opportunities to meet.

Circular economy roadmap objectives:

- A platform for circular economy learning and participatory solutions.
- Start-ups and SMEs implement innovations and promote trials.

Status in 2026

- Existing circular services include Werstas shared spaces, bicycle maintenance and Ekotori. Trials of new services have had mixed results.

Priority next step

- Develop services around user needs and improve the user experience.

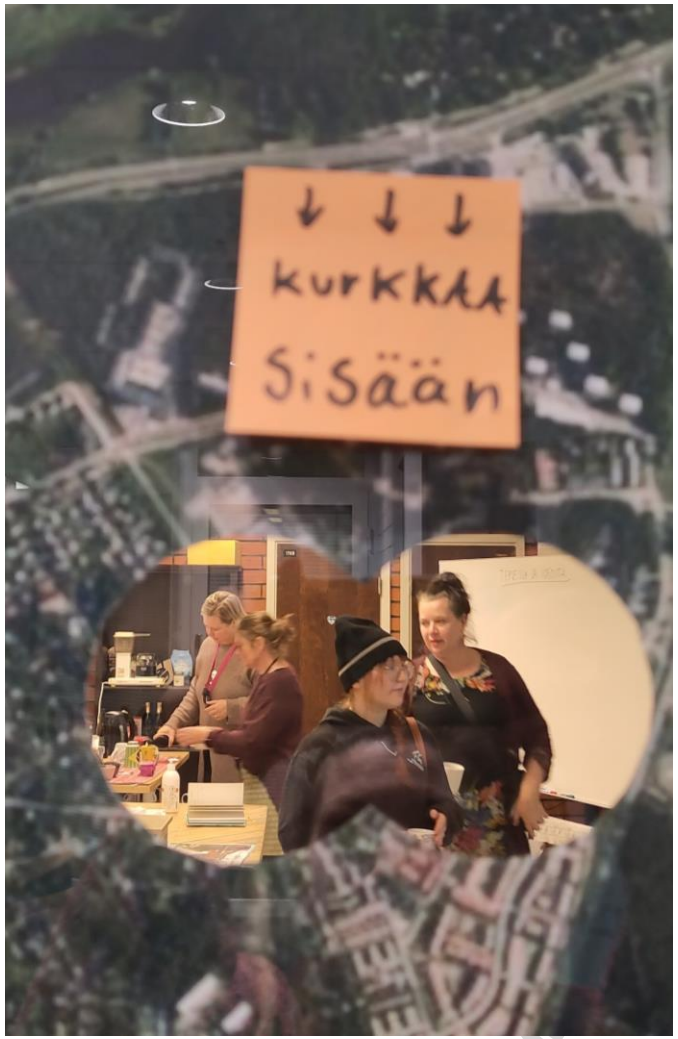


Photo: Turku University of Applied Sciences

Examples of projects or development activities

Swap Corner and Christmas Party Corner

People working in Kupittaa could donate unused clothes and accessories to the Swap Corner. Anyone could take items free of charge.
Trial 1: spring 2025
Trial 2: December 2025
Lessons learned
Photo: Turku University of Applied Sciences



Science Park Living Lab

Living lab trials
For different audiences:
1. Park pop-ups for residents, summer 2024
2. Campus pop-ups for students, autumn 2024
3. Temporary space for companies and staff, winter 2025
Lessons learned
Photo: Turku University of Applied Sciences



Examples of projects or development activities

Food waste on campuses

Reducing food waste with a digital platform.
The Superhood trial shared local information on meals and surplus food.
Implemented in autumn 2025.
Lessons learned
Photo: Turku University of Applied Sciences



Sharing economy trials

A private Circutus group for Werstas businesses and one housing company launched in autumn 2025.
It enabled safe lending and peer-to-peer rentals within the community, supported everyday circular practices and encouraged informal encounters.
Lessons learned
Photo: Turku University of Applied Sciences



Measures to be promoted

Measure	Lead	Status	Next steps
Manage shared spaces and coordinate ground-floor commercial premises	To be determined	• Addressed in the Kupittaa Core Business Impact Assessment	• Assess a suitable shared-service management structure and establish a separate company (cf. Hiedanrannan palvelut Oy). • Consult owners and service providers as needed. • Learn from previous trials when planning further experiments.
Develop shared multipurpose spaces, cars, guest flats, hobby spaces, parcel lockers and lending of tools and hobby equipment, with support for self-organised activities	To be determined	• Requests from the 2024 TTK service survey and ideas from the Hiedanranta visit. • Swap Corner, Living Lab and platform trials have had mixed results.	
Promote services that help combine work and leisure	To be determined	• Requested in the 2024 TTK (Turun Teknologiakiinteistöt Ltd) service survey	
Local services: pharmacy, cafés, kiosk, second-hand shop, bicycle maintenance, clothing collection and office supplies	Service providers, property owners	• Requested in the 2024 TTK survey. • Ekotori will move closer to Prisma.	• Share requests with current and future property owners and consult service providers as needed
Provide quality repair and maintenance services	Service providers, property owners	• Bicycle maintenance is already available	

Ongoing and proposed projects and trials

No known project and experiment ideas