Development Ideas Book

LIVE BALTIC
CAMPUS

The purpose of this book;
- Share the brilliant ideas of the project
- Function as a memorandum of the LBC findings
- Guide future campus development projects

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Live Baltic Campus?

What is it about? What is the LBC Development Ideas Book?

Live Baltic Campus aims at developing campuses as innovation hubs by creating better urban environments for businesses and residents. The idea is to create a working method for participative urban planning which the cities involved adopt as part of their normal work.

In practice, the project brings together city planners, government representatives, campus developers and stakeholders in utilizing the campuses as labs. The aim is to develop plans for better integrated urban management of the Central Baltic region. The project creates a network of practitioners ensuring knowledge transfer between the northern and southern parts of the Central Baltic region. Pilot implementations conducted in each area explore participative urban planning in its different phases, from activities preceding the official planning to those supplementing the official planning and following the official process.

As the main result, the project creates integrated campus development plans as well as service concepts and implementation plans for each partner city via pilot cases co-developed with the city government and stakeholders. In addition, the project creates a platform for discussing policy objectives, exchanging best practices and improving the quality of life indicators. By sharing the experiences from the regional pilots and comparing pilots' results, the project aims at better urban planning in which different stakeholders – residents as well businesses – are taken into account. By creating better urban environments, the project results in creating new jobs and in boosting positive development of the local economy.

The lead partner of Live Baltic Campus is Metropolia University of Applied Sciences. Other partners are the City of Helsinki (Executive Office, Economic Development), Riga Planning Region, Stockholm University, the University of Latvia, the University of Tartu, the University of Turku and Uppsala University. Associated partners are the City of Turku and the Helsinki-Uusimaa Regional Council. The project is co-funded by the Central Baltic Programme and the project operates from October 2015 until March 2018.

Development ideas book

It is an advantage for all stakeholders to bring the results of the LBC project closer to the most exhilarating format and thus create an easily accessible and freely usable guide for future campus development – the Development Ideas Book. The intention is to provide the reader with ideas on what kinds of ideas should be taken into account in future campus development projects, from the point of view of the resident, the university, the entrepreneur, the city, the traveler, the environment, the animal.

A Finnish network of next-generation urban designer professionals Uusi Kaupunki ('New Urban Collective') went through the research material of different LBC Partners and formulated the core themes of future campus development. In total, six core themes were found, and together they form a holistic view of the different perspectives that need be taken into account when creating better campuses. The core themes were elaborated on together with LBC Partners in participative design workshops.

At the end of the project, the Baltic Benchmark phase was launched, where the core themes were tested in real campus environments using participatory planning methods and, for example, the Design Sprint™ tool developed by Uusi Kaupunki Oy. The Development Ideas Book has been compiled with the results of Myllypuro Benchmark, where Uusi Kaupunki visioned four of the core themes.

The purpose of the Development Ideas Book is to guide the development of LBC Partners and their stakeholders, function as a note, and as a marketing tool for important findings made in Partner research projects. The results of this publication may be used by all other parties and may be freely distributed.

Process: Visual Study
Getting to the bottom of campus development core themes

All six campuses have produced material on their campus and current development projects. The material consists of reports, blog posts and appendices including maps, surveys and images.

All the material is reviewed, reflected on and labeled with descriptive sub-themes using a software called Trello.

Each significant matter is labeled with at least one label. We call each time a certain sub-theme label is used 'a tick'. In the end, the sub-theme labels are gathered together and the number of ticks is converted to a matrix.

To visualize the importance of each sub-theme in each city, a matrix is formed of bubbles sized according to the number of ticks. Sub-themes (44 in total) are divided into 6 core themes. Core themes are created by digging into the biggest common nominator of the sub-themes. Core themes are given a name, slogan and signal color. Six core themes form a balanced sextet of all the sub-themes, issues and trends in the Live Baltic Campus project.

Process: Neutral & Democratic approach

Digging deep
We were given background material from 6 campus partners (cities), inventory reports, coffee table books etc… In total, there was around 550 pages of different material. How should we do this so that we remain democratic towards each city and are not affected by our personal desires?

Finding the sub-themes
20 years ago we would have just highlighted the important parts. But since the material was so extensive, we decided that, when a significant key issue was found, we would make a tick with a label to point it out later.

Creative collecting and filtering
All ticks were collected into a project organizer software called "Trello" to enable us to go back to specific sub-themes afterwards and to get a holistic understanding of how one sub-theme is considered not only from partner perspective but also the LBC perspective!

The result of the material
In total, we found 44 relevant sub-theme categories and made 697 ticks within the given material
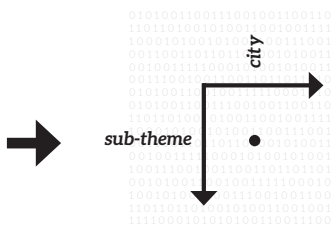
Building algorithm to create the LBC Matrix
Then, we built an algorithm program that collects all the sub-themes into a matrix and organizes them by campuses to make the results more apprehensible. A tick (aka a match) is presented as a bubble. For example, if Riga has a tick in the sub-theme "Accessibility", a bubble is drawn.
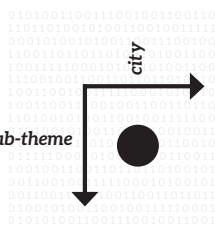
Visual Importance
We coded the algorithm to increase the area of a bubble based on how many times the sub-theme is dealt with. This creates a visual importance for each sub-theme and combines it to each campus.

Bring in the urban designer knowledge!
When all the sub-themes were collected into the LBC Matrix and given the visual importance, we started to color them together based on the "bigger idea behind" in terms of urban design. For example, sub-themes "accessibility" and "built-environment" felt like they belong to a bigger theme – a Core Theme. While doing this, we used Trello again to mirror whether the sub-themes really belong together.
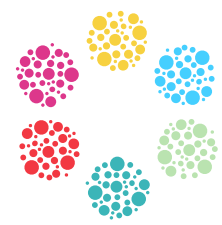
6 Core Themes with equal importance
Finally, we grouped the sub-themes to form 6 Core Themes, each including different sub-themes based on the process. The Core Themes we found are City, Change, Together, Bloom, Service and Heart, and they all have the same amount of importance (the amount of ticks). This means that there is no Core Theme more important than the other.

Phase 1 – Mapping the sub-themes

|	Background material	Helsinki	Riga	Stockholm	Tartu	Turku	Uppsala
accessibility	•	•	•	•		•	•
activities				•		•	
adaptability	•	•		•			
biodiversity		•		•	•		
built-environment	•	•	•	•	•	•	•
business	•	•	•	•	•		•
collaboration	•	•	•	•	•	•	•
competitiveness	•	•	•	•	•		
cultural-history				•	•		
design (thinking)	•	•	•			•	
digitalisation		•			•		
ecologial sustainability	•	•	•	•	•	•	•
economical sustainablity	•		•	•	•		•
natural ecosystems	•			•			
food	•		•		•		
general public (users)	•	•	•	•	•	•	•
growth			•				
infrastructure	•	•	•	•	•	•	•
innovative	•	•		•		•	
internationality		•		•	•	•	
knowledge	•		•		•	•	
learning	•	•		•		•	•
management		•		•			
mental health	•		•				
municipality	•	•	•	•	•	•	•
participation	•	•	•	•		•	•
publicity		•		•	•	•	
recreation	•			•		•	
reorganizing	•	•	•	•	•	•	•
resilience	•	•	•	•	•	•	•
services	•	•	•	•		•	•
smart	•						
social life (meeting)	•	•	•	•		•	•
social sustainablity	•	•	•	•	•	•	•
space-time use	•				•		
sports	•						
stakeholders	•	•	•	•	•		•
strategy	•	•	•	•		•	•
student housing	•	•			•	•	
synergy				•			
technology / ICT	•						
tourism	•		•				
urban / regional development	•	•	•	•	•	•	•
wellbeing	•	•	•	•			

All the sub-theme findings (row) corresponding the campus city (column) are found in the background material, studies, coffee table book etc. The finding is marked with a bubble.

Phase 2 – Visual Importance

The number of findings / Partner city affects the size of the bubble. The bigger the bubble, the more important the sub-theme is to the Partner.
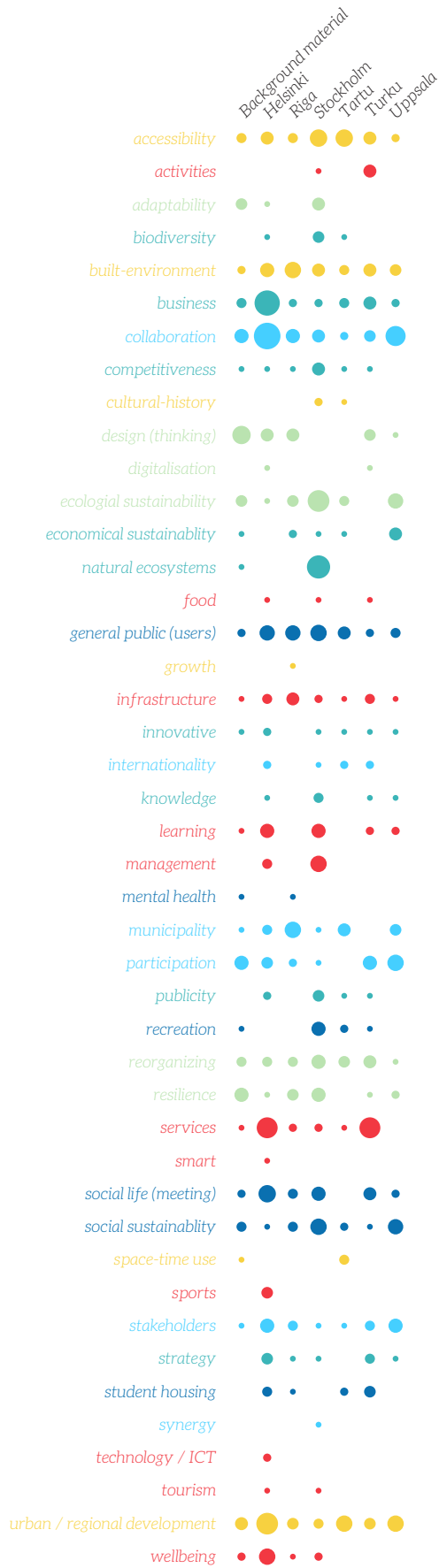
Phase 3 – **Bring in the urban designer knowledge**
The sub-themes are grouped based on the "bigger idea behind" to form core themes.

Phase 4 – **Six core themes**
In total, six core themes were found in the whole material. In this final graph, the themes are organized by color.

City

Symbiosis. What can the city provide the campus and what can the campus give to the city.

The Core Theme City handles the campus in its wide context with the surrounding city and region. Accessibility and connectivity are key aspects in intertwining the campus and the urban structure. Time and resources used in commuting have a significant effect on happiness and ecological sustainability. The surrounding city sets limitations to campus development with its existing buildings, infrastructure and nature. At the same time, however, it enables a unique identity, various opportunities and positive effects on the neighborhood.
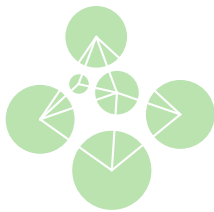
Change

Embrace the change, prepare, adapt and find sustainable opportunities in it!

In a modern society, change is constant when it comes to digitalization, the climate and economic and social aspects, among other things. Structures and systems, both physical and mental, need to be adaptable and flexible in order to advance resilience. Resilience is the key to tackling the obstacles of the unknown future. The concept of resilience refers to the capacity of a system to recover after change while maintaining its basic functions. It also relates to changes in systems and can inform on how the changes, whether social or ecological, relate to sustainability.
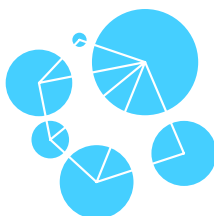
Together

Find balance in extensive collaboration. Involve people and communities with diverse backgrounds, needs and interests!

The Core Theme Together is about collaboration on multiple levels. On campus, it means transdisciplinary studies, student-staff collaboration, international programs and global liaison and involving the local community and businesses in learning and innovation processes. Coming together is effective and creates synergy.
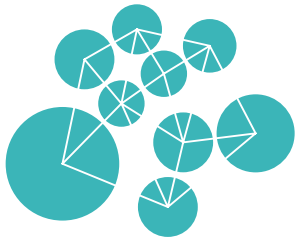
Bloom

From ecology to economy.
Cultivate, nourish, and boost it and
it will flourish!

The campus is a place for distributing knowledge, accelerating local economy and leading the way for sustainable life. The campus is a place for open-minded and fearless innovation that will benefit the society. Generating new business and innovation thrives from finding solutions to current challenges, including sustainable ecological development.
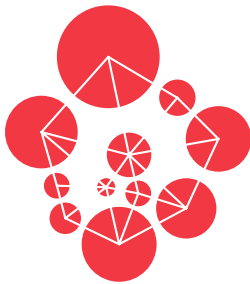
Service

Make the campus a 24/7 service!
Produce services from knowledge –
to serve knowledge!

Services include study-related student services, infrastructure that supports learning and free-time functions for students, staff, locals and passers-by. A vast range of services provides food for the mind and body, enjoyment, exercise and round-the-clock life on the campus. The local community can also function as a testbed for student service innovations and produce services and activities for the campus.
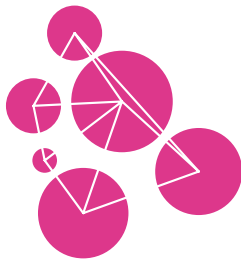
Heart

Recreation, meeting, sharing
and caring are the key to a socially
sustainable campus.

People are the basis of every community and they form the core of the campus. Keeping in touch via new digital media does not diminish the importance of face-to-face meetings. The campus has to enable both organized and spontaneous gatherings, for small groups of friends and the entire academia, were it information-packed lectures or reckless student parties.
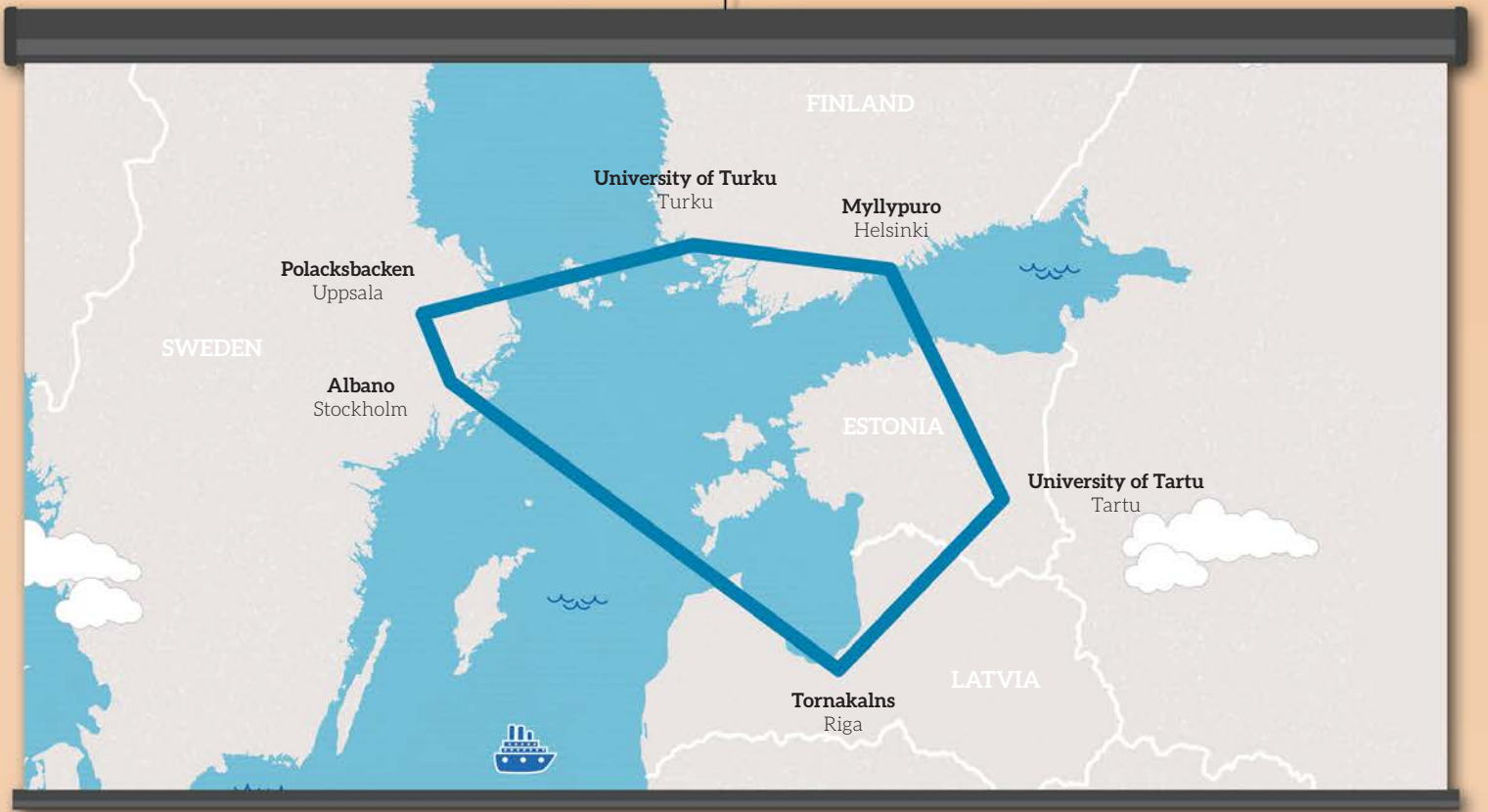
6 Partner campuses
Piloting for a better Baltic Region

The Helsinki (Finland) pilot concentrates on creating services and vitalizing the suburban **Myllypuro** neighborhood, the home of the future campus of Metropolia University of Applied Sciences. This campus for 6000 students will be finished by 2019 and it will also host the Health & Wellbeing Competence Hub of Metropolia. The pilot aims at connecting the local community, higher education institutes, the business sector, city government, and other stakeholders in order to create a learning platform that focuses on the themes of health, wellbeing, construction and real estate.

The Helsinki pilot case is a collaboration between Metropolia UAS and the City of Helsinki.

The University of Latvia is developing a new campus in the **Tornakalns** neighborhood in **Riga**. The pilot case concentrates on research on cooperation opportunities between the University and local businesses, the integration of various businesses on campus and creating links between the neighborhood and the campus. Our goal is to better understand the synergy between the campus and the city and to facilitate interactions among various parties: academics, students, businesses, local inhabitants, other higher education institutions, the municipality and state.

The Riga pilot case is a collaboration between Riga Planning Region and the University of Latvia.

Campus **Albano**, **Stockholm**, Sweden, is an example of a participatory planning process where the integration of both social and ecological values in campus design has been key. Partners continued the collaboration after the official plan was accepted and developed an alternative, even more far-reaching vision where the focus was on creating and managing physical outdoor environments, such as urban gardens, green roofs, and green walls.

The Stockholm pilot case is coordinated by Stockholm Resilience Centre.

The University of Tartu aims at understanding how campus location influences the diversity of activities, time use, and the daily travel load of university members. The pilot uses smart phone GPS positioning of 200 campus users, both students and staff, during 15 months. The long-term study helps to clarify the role of higher education institutions and creative jobs in the urban fabric through the preferences and choices of campus users.

The Tartu pilot case is coordinated by the Mobility Lab of the University of Tartu.

In Finland, the higher education campus cluster of **Turku** is embedded in the city center and the grid plan. It is a mosaic of four universities and universities of applied sciences with over 20 000 students. The area reaches from the historic locations in the old town to the Science & Innovation development area in the Itäharju–Kupittaa area within a 1,5-kilometer radius from the old town. The aim of the pilot is to find out whether the area could be developed in wide-ranging co-operation as a whole instead of separate parts by focusing on services while applying and testing participatory design methods. The end result will be a suggestion for service development on the cluster area.

The Turku pilot case is coordinated by the University of Turku.

The city and the region of **Uppsala**, Sweden, are in an expansive period and the development of the University can play an important role in the development of the area. The pilot case will also benefit the making of Uppsala University's Campus plan 2040.

Our focus is on various future scenarios for the regiment area of Polacksbacken and its integration with the university campus as well as adjacent emerging townships. For the participatory dialogue, we are setting up a physical meeting and maker space in the center of Uppsala.

The Uppsala pilot case is coordinated by Uppsala University.

Myllypuro Campus
Helsinki, Finland
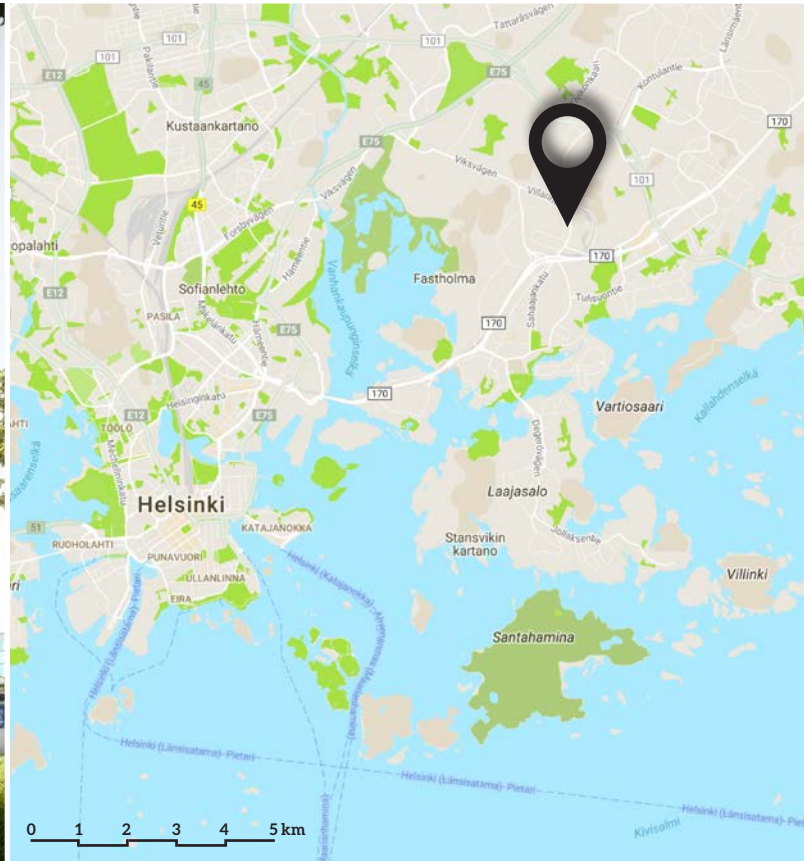
Myllypuro Campus in a nutshell

Status

Under construction, completion in two phases in July 2018 and August 2019.

HEI
Higher education institution

Metropolia University of Applied Sciences

Fields of study

Social Sciences and Health Care, Construction and Real Estate as well as University Management and Centralized Shared Service

Students
6000

Staff
500

Arriving
By metro, 9 bus lines, car and bicycle

The brand-new campus of Metropolia University of Applied Sciences in Myllypuro, Helsinki, will be the largest of Metropolia's four future campuses. The campus will host 6000 students and 500 employees. Along with Social Sciences and Health Care as well as Construction and Real Estate, also University Management and Centralized Shared Services will move to Myllypuro. The campus will include sport, therapy and laboratory facilities, which are also required for educational purposes. A modern library as well as wellbeing services will also be available for residents of Myllypuro. The foundation stone was laid in September 2016 and the planning of the interior design and furniture of the campus started in September 2017. This campus partly built on top of

Myllypuro vs. Live Baltic Campus

The Myllypuro Campus concentrates mostly on Core Themes **Service** and **Together**. The sub-themes **Collaboration**, **Urban/Regional Development** and **Business** got the largest amount of ticks (biggest amounts on the whole chart). Smallest value is on Core Theme **Change**.

Today vs. Future?

We asked* Metropolia how they correlate with the Core Themes today and how they would like to correlate with them in the future? This was the result.

Today		Future
Heart		**Heart**
City		**Service**
Service	correlation	**Together**
Bloom		**Change**
Together		**Bloom**
Change		**City**

Change 8%
5 Design Thinking
3 Reorganizing
1 Resilience
1 Adaptability
1 Digitalisation
1 Ecological sustainability

City 15%
14 Urban / Regional Development
6 Built Environment
5 Accessibility

Together 22%
21 Collaboration
6 Stakeholders
4 Participation
3 Municipality
2 Internationality

Heart 12%
9 Social Life (meeting)
7 Genereal Public (users)
3 Student housing
1 Social Sustainability

Bloom 18%
19 Business
4 Strategy
2 Innovations
2 Publicity
1 Competetiviness
1 Biodiversity
1 Knowledge

Service 25%
13 Services
8 Wellbeing
6 Learning
4 Sports
3 Infrastructure
3 Management
2 Technology / ICT
1 Food
1 Smart
1 Tourism

the metro will be completed in two phases in July 2018 and August 2019. The other campuses will situate in Arabianranta, Helsinki, Leppävaara, Espoo, and Myyrmäki, Vantaa.

Myllypuro Campus is estimated to have a major impact on the vitality of the whole Eastern Helsinki area in the coming decades. The campus aims at boosting a positive cycle leading towards the strengthening of business operation and increasing the number of jobs as well as to enhance the image of Eastern Helsinki as an attractive dwelling place. Given the location of the Myllypuro Campus and the emphasis of Metropolia's strategy for open cooperation, the campus has outstanding opportunities to become a significant flagship and meeting place in its neigh-

borhood. In this way, the campus will attract also companies and residents. Metropolia and its students will also actively take part in the operations of the surrounding community.

The Excellence Center for Wellbeing and Health Promotion of Metropolia will also locate on the Myllypuro Campus. This Center aims at building a service model of wellbeing and health – in other words, how wellbeing and health know-how, services and products for students, residents, companies, public sector and communities will be produced. This work will be done in the framework of innovation ecosystem.

New, suburban Myllypuro Campus – boosting local vitality and creating spaces for innovative cooperation.

*Riitta Konkola, President of Metropolia gave her opinion for the Core Theme correlation Survey.

Tornakalns
Riga, Latvia
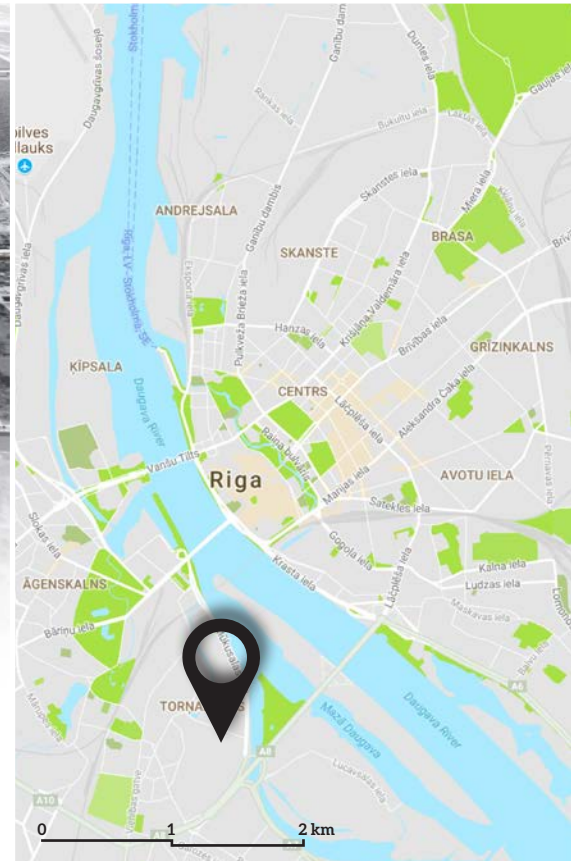
Tornakalns Campus in a nutshell

Status

Under construction/in planning. Study buildings should be finished by 2020 in addition to the dormitories, the sports infrastructure and technology transfer center

HEI
Higher education institution

University of Latvia

Fields of study

Geography, Biology, Chemistry, Medicine and Physics, Mathematics, Law, Letters, Pedagogy, Psychology, Art, Theology, History, Philosophy

Students

12 500 - 15 000

Staff

3 000

Arriving

*1 bus line (Doorstep)
Several bus lines 7min walk
Train station 10min walk*

The new campus of the University of Latvia in Tornakalns, Riga will bring together all the faculties of Latvia's largest comprehensive university. The three main buildings of the campus – the House of Nature, the House of Science, and the House of Letters – will host approximately 15 000 students and 1800 staff members (academics and administration).

The development of the campus project began in 2009, and the first building, the House of Nature, was built in 2014–2015. It houses four faculties with around 2500 students and 250 employees. The construction of the second building, the House of Science, is currently in progress and is expected to be completed in the autumn of 2018. In 2021, the third building, the House

Tornakalns vs. Live Baltic Campus

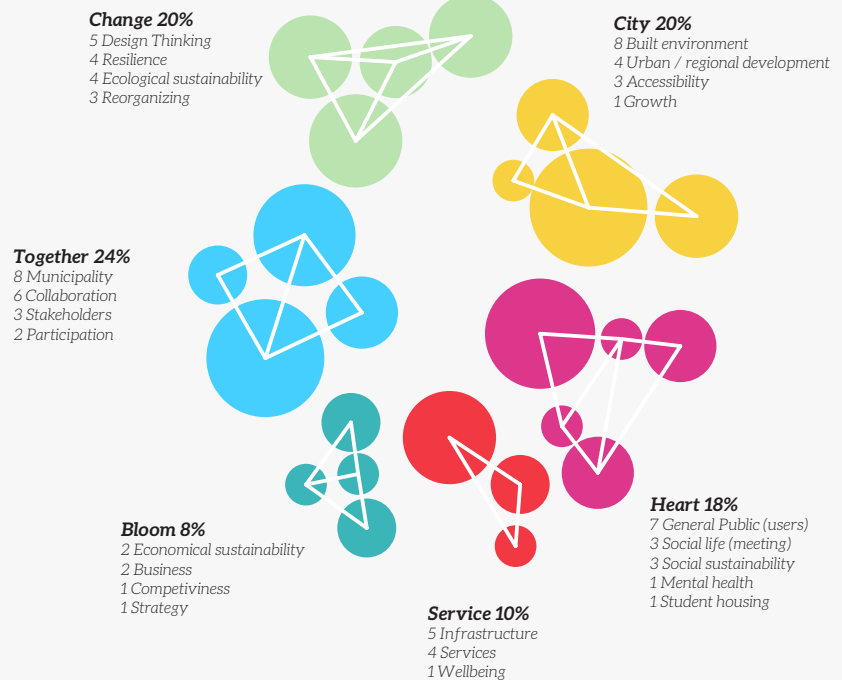Riga has a balanced set of four Core Themes with almost equal value: **Together**, **City**, **Change** and **Heart**. **Service** and **Bloom** carry the smallest weight. Riga has a well-rounded distribution of Core Themes.

Today vs. Future?

We asked* Riga University how Tornakalns correlates with the core themes today and how they would like to correlate with them in the future? This was the result.

Today		Future
Heart		**City**
Bloom		**Bloom**
Service	correlation	**Heart**
Together		**Together**
Change		**Service**
City		**Change**

Change 20%
5 Design Thinking
4 Resilience
4 Ecological sustainability
3 Reorganizing

City 20%
8 Built environment
4 Urban / regional development
3 Accessibility
1 Growth

Together 24%
8 Municipality
6 Collaboration
3 Stakeholders
2 Participation

Bloom 8%
2 Economical sustainability
2 Business
1 Competiviness
1 Strategy

Service 10%
5 Infrastructure
4 Services
1 Wellbeing

Heart 18%
7 General Public (users)
3 Social life (meeting)
3 Social sustainability
1 Mental health
1 Student housing

of Letters, will be finished and the majority of the University's operations will be transferred to the new campus.

In addition to education and science infrastructure, sports infrastructure, student apartments, health center and other support facilities will be located on the campus as well. Most of them will be available not just for students but also for the local community. The overall territory of the campus is estimated to be around 45 500 m2, including green areas for recreation.

The new UL campus is the first modern and comprehensively planned campus in Latvia. The process is a new experience not only for the University but also in the local, regional, and national context. Together with other knowledge institutions and universities located on the left bank of the River Daugava, the campus forms Riga's Knowledge Mile, an area where education, science and innovation facilities are concentrated.

The aim of the new campus is not only to bring the faculties and institutes of the University closer or to spark internal collaboration. It is also to attract businesses, NGOs, and the public to the University to create new synergies.

By building the campus, the livability of a brownfield area is being improved, and it is expected to impact also the surrounding areas positively. Although many challenges are still to be overcome in ensuring a livable and sustainable campus, it has already become a landmark of Riga's urban landscape and will continue to grow into one of Europe's most modern centers of education and science.

Set in a brownfield territory a ridiculous 15-minute walk from Old Riga and yet functionally an island with problematic accessibility.

*Anita Kazina, project coordinator assisting the Vice Rector for Infrastructure gave her opinion for the Core Theme correlation Survey.

Polacksbacken Campus
Uppsala, Sweden
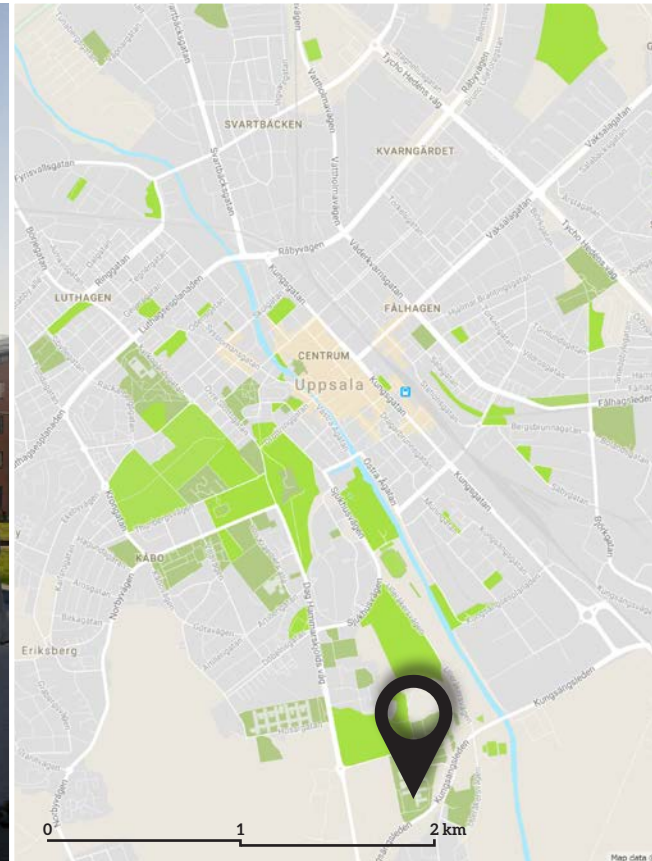
Polacksbacken Campus in a nutshell

Status

Will undergo a transformation when the new building for the Information Technology Center (ITC) is completed in 2022.

HEI
Higher education institution

University of Uppsala

Fields of study

:Chemistry, Physics, Engineering, Mathematics, Computer Science and IT.

Students

Polacksbacken 11 000 students. The Department of IT 4000 students .

Staff

The Department of IT 290.

Arriving

Bus lines 4 and 12, biking easy (~3 km south of Uppsala city center)

The Polacksbacken campus consists of two neighboring areas, the Ångström Laboratory and the Information Technology Center (ITC). The campus accommodates all research and education carried out at Uppsala University in Mathematics, Information Technology, Physics and Engineering as well as two thirds of the research and education in Chemistry. All these disciplines except Information Technology are nowadays located in the Ångström Laboratory while Information Technology can be found in the old military barracks. With the new ITC building, this will change and Information Technology will be incorporated into the Ångström Laboratory. The question is how – or into what – the old military barracks could be transformed?

Polacksbacken vs. Live Baltic Campus

Uppsala highlights the Core Theme **Together**. The largest amount of ticks goes to Collaboration. No wonder, they have Kollaboratoriet! **Service** has least value with only a few ticks.

Today vs. Future?

We asked* Polacksbacken how they correlate with the core themes today and how they would like to correlate with them in the future? This was the result.

Today		Future
Bloom		City
Together		Service
Heart	*correlation*	Together
Change		Bloom
Service		Change
City		Heart

Change 14%
7 Ecological sustainability
2 Resilience
1 Reorganizing
1 Design (thinking)

City 17%
8 Urban / regional development
4 Built Environment
2 Accessibility

Heart 15%
7 Social sustainability
3 General public (users)
2 Social Life (meeting)

Together 37%
12 Collaboration
8 Participation
6 Stakeholders
4 Municipality

Bloom 13%
5 Economical sustainability
2 Business
1 Knowledge
1 Innovations
1 Strategy

Service 4%
2 Learning
1 Infrastructure

The municipality plans to build 7 000 new apartments by 2030 in the Ulleråker area located directly south of Polacksbacken. Thus, the surroundings of the campus will change dramatically in the years to come. Moreover, the future ownership of the military barracks is uncertain as the present property owner, Akademiska Hus, may decide to sell the them once ITC has moved out. The area with the old military barracks could be transformed into an area that adds value to the emerging urban community surrounding Polacksbacken.

Moreover, Uppsala municipality is planning a tramline that will run from the Swedish Agricultural University, located three kilometers to the south, via Polacksbacken to Uppsala city center. This tramline has been named the "knowledge track". Directly west of the campus one finds Kronskogen, one of the oldest forests in Sweden. The rapidly growing area of Rosendal is located a bit further in the west. 4 500 new apartments are currently being built in the area.

To conclude, the construction of the new ITC building in Polacksbacken, together with the rapidly expanding urban structure, provides for a truly challenging and uncertain development scenario as areas of high ecological quality located in the direct vicinity must also be preserved.

Today, the campus is located in the outskirts of Uppsala but in 10–15 years, it will be surrounded by an expanding urban structure.

*Henrik Ottosson, Associate Professor in Organic Chemistry gave his opinion for the Core Theme correlation Survey.

University of Tartu
Tartu, Estonia

| 0 | 0.5 | 1 km |
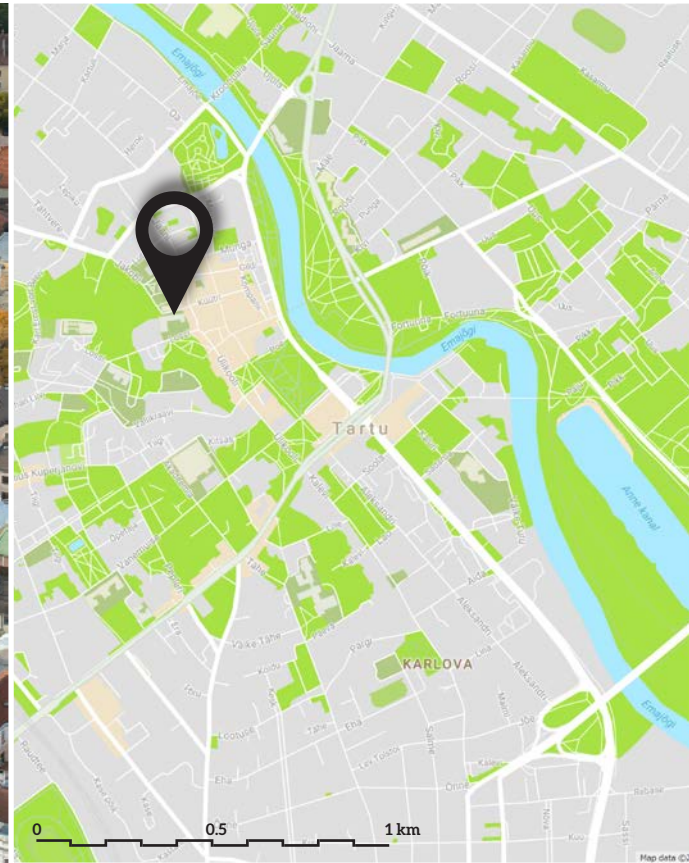
Tartu Central Campus in a nutshell

Status

In use since 1632, new Delta complex will be completed in 2019.

HEI
Higher education institution

University of Tartu

Fields of study

Humanities, Social Sciences, Computer Sciences, Mathematics and Statistics, Sport Sciences and Physiotherapy, Stomatology.

Students
10 000

Staff
1 350

Arriving

Walking, cycling, 15 inner-city bus lines, intercity bus lines, train, car

The central campus area of the University of Tartu has been co-developing with the city center since the first half of the 17th century, both having a strong infuence on the other. The spatial interaction between the city center and the central university campus creates synergy in the provision and distribution of various functions for students, staff, businesses, residents, visitors, etc. The symbiosis results in rich living and study environment, good accessibility, a historic milieu, a balance between built environment and greenery, and an active life in the area throughout diurnal and seasonal rhythms.
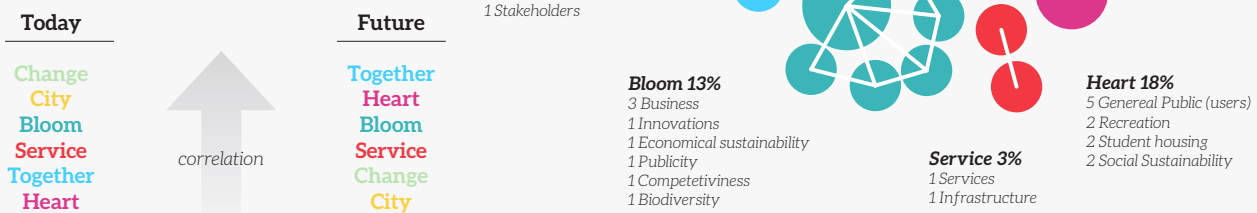
The historic central campus hosts mainly students and staff of humanities, social and computer sciences and forms the biggest campus area of the

Tartu University vs. Live Baltic Campus

Tartu's winning theme is clearly **City**. Tartu concentrates on sub-themes **Accessibility** and **Urban/ Regional Development** and is the only one focusing on **Space-time use**. Smallest weight of the entire matrix is given to **Service**.

Today vs. Future?

We asked* Tartu how they correlate with the core themes today and how they would like to correlate with them in the future? This was the result.

Today		Future
Change		Together
City		Heart
Bloom	correlation	Bloom
Service		Service
Together		Change
Heart		City

Change 11%
4 Reorganizing
3 Ecological sustainability

City 39%
9 Accessibility
8 Urban / regional Development
3 Built Environment
3 Space-time use
1 Cultural history

Together 16%
5 Municipality
3 Collaboration
2 Internationality
1 Stakeholders

Bloom 13%
3 Business
1 Innovations
1 Economical sustainability
1 Publicity
1 Competetiviness
1 Biodiversity

Service 3%
1 Services
1 Infrastructure

Heart 18%
5 Genereal Public (users)
2 Recreation
2 Student housing
2 Social Sustainability

University. On the other hand, the majority of education and research within the fields of medicine, natural sciences, and technology takes place in the more recent Maarjamõisa campus in the suburban region of Tartu. Major infrastructure projects in the coming years will considerably improve the connectivity of these two areas.

The renewal of existing and development of new facilities in the central campus area help to keep pace with the changing needs of a contemporary society. The latest cooperation project in development is the construction of the Delta study complex, which is an infill project located on the banks of River Emajõgi. It will host the Institute of Computer Science, the Institute of Mathematics and Statistics, and

the School of Economics and Business Administration as well as a connected business house for IT-related firms and labs. Choosing the location for the study complex was the most influential spatial decision the University made in 2016. The inner-city placement of the complex gained strong support from the city government and IT cluster alike as it carries the idea of a lively and multifunctional city center with close-knit cooperation between the University and businesses.

A historic campus area intertwined with a highly functional city center and greenery

*Age Poom, Kristi Post and Rein Ahas gave their opinions for the Core Theme correlation Survey.

Albano Campus
Stockholm, Sweden
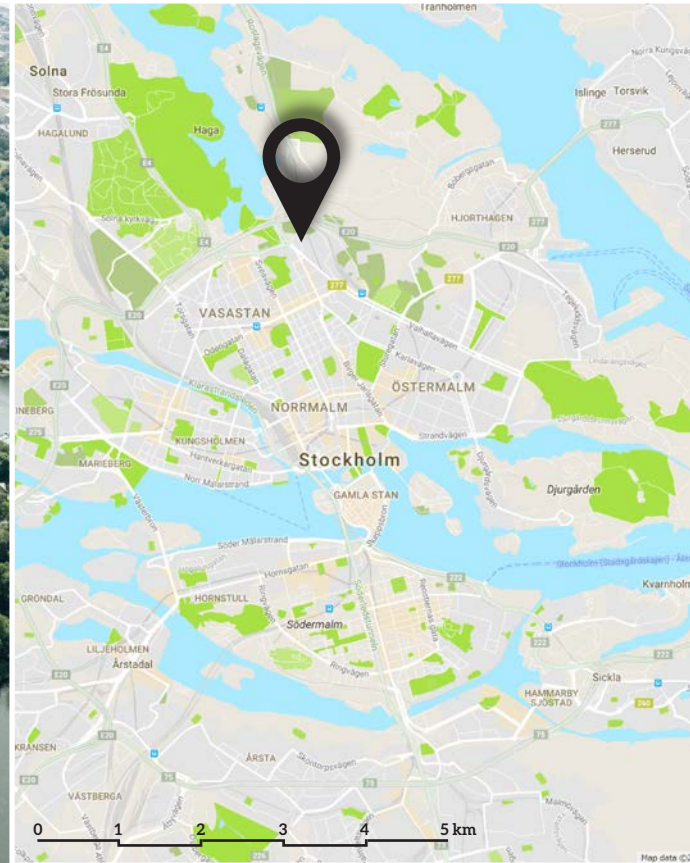
Albano Campus in a nutshell

Status

The first student- and research-er accommodations, and university buildings are expected to welcome their tenants in 2020. Construction is expected to be completed in 2022.

HEIs
Higher education institutions

Stockholm University, KTH Royal Institute of Technology

Fields of study

The campus will host a number of institutions with research covering a range of disciplines, both from KTH Royal Institute of Technology and Stockholm University.

Students & Staff

More than 15,000 students and researchers will study and work at Albano

Arriving

Bus, bicycle, and train

Campus Albano is the newest addition to the Stockholm University campus in Sweden. Construction commenced in November 2015, after a five-year planning and design process. The student and researcher accommodations and the university buildings are expected to be ready around year 2020.

Currently, the constructors Akademiska Hus and Svenska Bostäder are trying hard to fulfil the social-ecological design of the detailed plan that will brand the campus as a world-class campus and a guiding star for sustainable urban development. This involves the challenge of combining technical solutions

Albano Campus vs. Live Baltic Campus

Stockholm is the campus of **Change** and **Bloom**. Stockholm has a great amount of material with a clear emphasis on sub-themes **Ecological Sustainability** and **Ecosystems**. Smallest value is on **Together**.

Today vs. Future?

We asked* Albano how they correlate with the core themes today and how they would like to correlate with them in the future? This was the result.
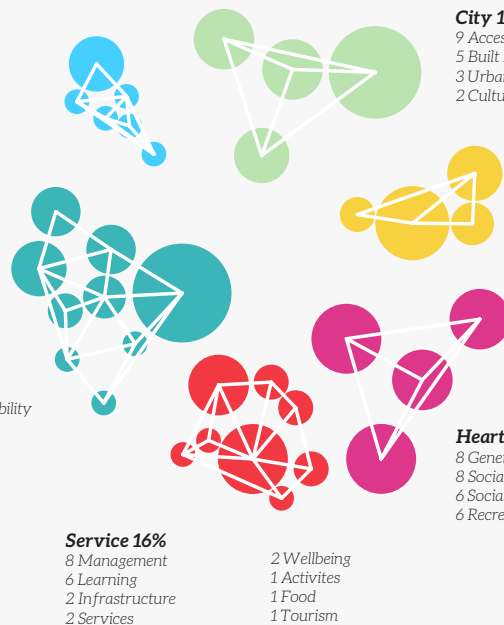
Today		Future
Bloom		Bloom
City		City
Change	*correlation*	Change
Heart		Heart
Together		Together
Service		Service

Change 21%
14 Ecological sustainability
6 Reorganizing
5 Adaptability

Together 7%
5 Collaboration
1 Synergy
1 Stakeholders
1 Internationality
1 Participation
1 Municipality

City 12%
9 Accessibility
5 Built Environment
3 Urban / regional development
2 Cultural history

Bloom 25%
16 Ecosystems
5 Competiviness
4 Biodiversity
4 Publicity
3 Knowledge
2 Business
1 Innovations
1 Economical sustainability
1 Strategy

Heart 19%
8 General public (users)
8 Social sustainability
6 Social Life (meeting)
6 Recreation

Service 16%
8 Management
6 Learning
2 Infrastructure
2 Services

2 Wellbeing
1 Activites
1 Food
1 Tourism

with nature-based solutions – an exciting and adaptive process involving many stakeholders and experts in landscape architecture, ecology and construction design.

Campus Albano is unique for its participatory design process and its strong focus on the integration of ecosystem services in physical design, carried out in such features as green walls, green roofs, wetland and freshwater habitats, and organic gardening that involves allotment holders and students.

The campus will also be a central academic hub as it connects Stockholm University with the Royal Institute of Technology (KTH) and the Karolinska Institute (medicine) as well as the Science City and the city center. The Stockholm Resilience Centre plans to move in by 2020–2021.

The campus is located in a national urban park and was created using a social-ecological integrated planning and design approach.

*Stephen Barthel, designer/activist gave his opinion for the Core Theme correlation Survey.

University of Turku
Turku, Finland
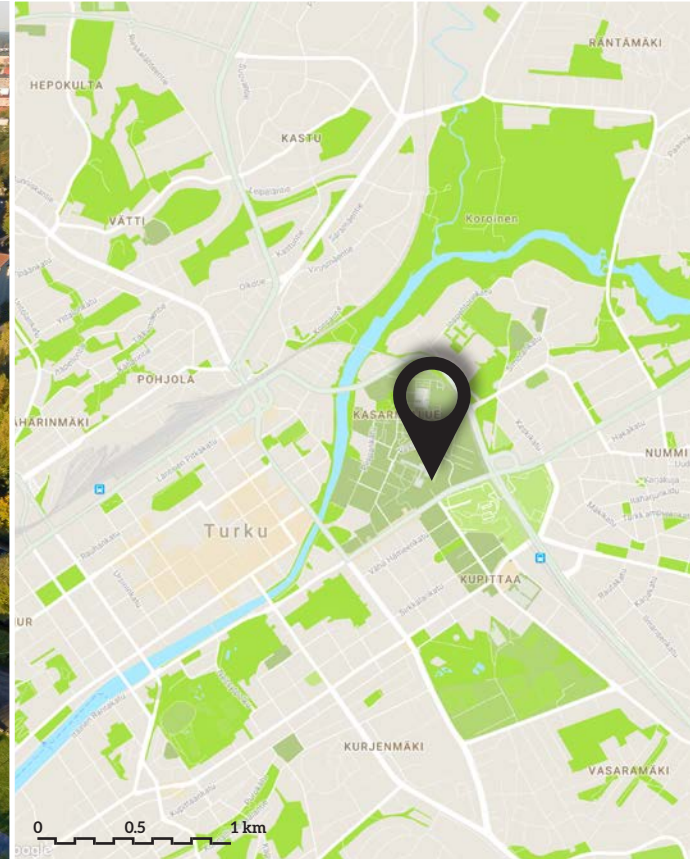
Turku Campus cluster in a nutshell

Status

In state of continuous development

HEIs
Higher education institutions

University of Turku, Åbo Akademi University, Turku University of Applied Sciences, and Novia University of Applied Sciences.

Fields of study

Multidisciplinary, bilingual

Students

est. 28 000 on cluster area

Staff

est. 4 000 on cluster area

Arriving

railway station, motorway, passenger cars, regional and local buses, light traffic lanes

The campuses of the University of Turku, the Åbo Akademi University, the Turku University of Applied Sciences, and the Novia University of Applied Sciences form a geographically continuous and dense cluster within a 1.5-kilometer radius in the city center. There are also other operators besides the HEIs, such as the land and property holders and the City of Turku, which have their own strategies and realizations. This has induced development in parts instead of holistic development on the district level.

The campus cluster's oldest parts are located in the old town and around the University Hill. From the 90s on, the campuses have sprawled into the circle of more spacious, unbuilt and former industrial sites like Kupittaa. Turku

Turku Campus cluster vs. Live Baltic Campus

Turku is distinctly a campus of **Service** with the largest amount of ticks in the sub-theme **Services**.
All the other five Core Themes **City**, **Change**, **Together**, **Bloom** and **Heart** are equally emphasized.

Today vs. Future?

We asked* Turku how they correlate with the core themes today and how they would like to correlate with it them in the future? This was the result.
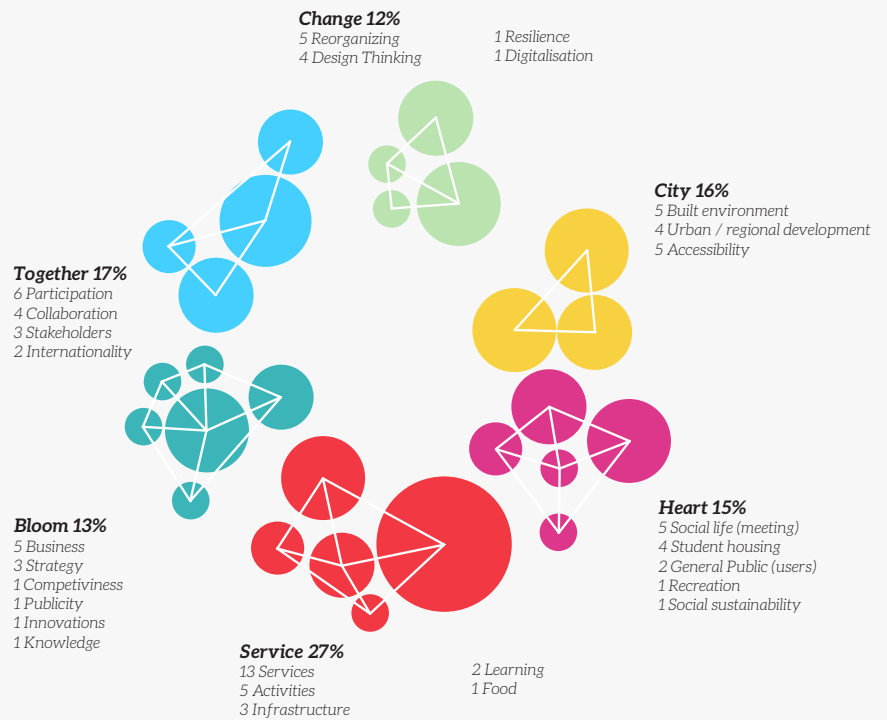
Today		Future
City		**Bloom**
Heart		**Service**
Together	*correlation*	**Change**
Bloom		**City**
Change		**Together**
Service		**Heart**

Change 12%
5 Reorganizing
4 Design Thinking
1 Resilience
1 Digitalisation

City 16%
5 Built environment
4 Urban / regional development
5 Accessibility

Together 17%
6 Participation
4 Collaboration
3 Stakeholders
2 Internationality

Heart 15%
5 Social life (meeting)
4 Student housing
2 General Public (users)
1 Recreation
1 Social sustainability

Bloom 13%
5 Business
3 Strategy
1 Competiviness
1 Publicity
1 Innovations
1 Knowledge

Service 27%
13 Services
5 Activities
*3 Infrastructure*

2 Learning
1 Food

Science Park was located to Kupittaa right from the start. It will evolve into the innovation and business hub of Itäharju-Kupittaa, which is currently a spearhead growth area in Turku.

The focus of the HEIs has recently been on structural change and rationalization of premises and not on developing the campus cluster to be more user-centered. As part of the Live Baltic Campus pilot of Turku, the user needs were examined from the service perspective using participatory methods. In general, the results showed a need for 1) more diverse study, work, recreation and community spaces for students, 2) more diverse restaurants and cafes with service also after lunch time, and 3) better light trafc routes and car parking spaces. A more inten-

sive co-operation between the HEIs has already started and will deepen in the future. It includes interesting opportunities for cooperative development of space, processes and communities. There are already showcases for shared spaces, such ICT-City and D-Medisiina. New dynamics of campus services could bring more shared implementations, including libraries, international student services or IT services and systems. What comes to inclusive and vibrant campus communities, new forms of business co-operation are of interest.

The city-center campus connects old and new Turku.

*Pilvi Lempiäinen, planning officer gave her opinion for the Core Theme correlation Survey.
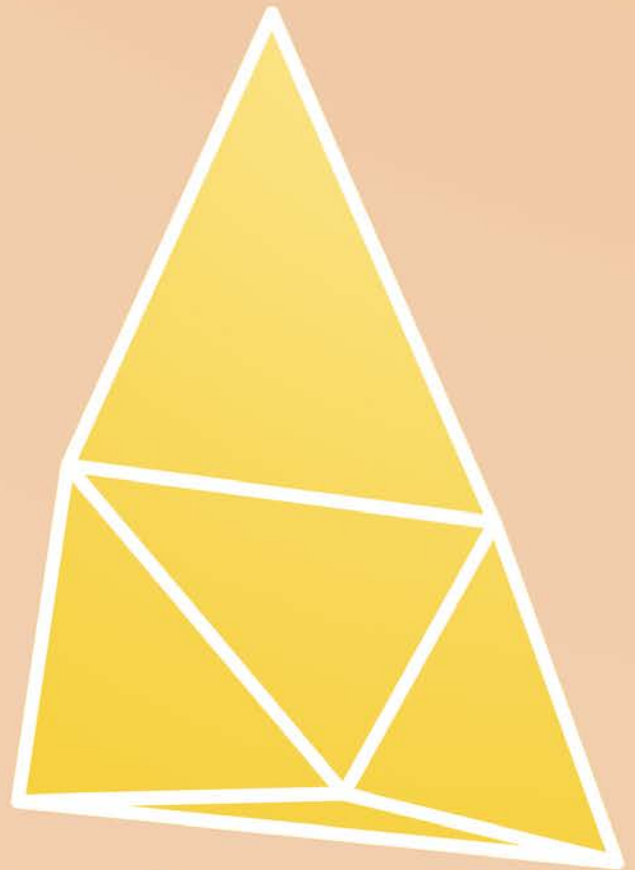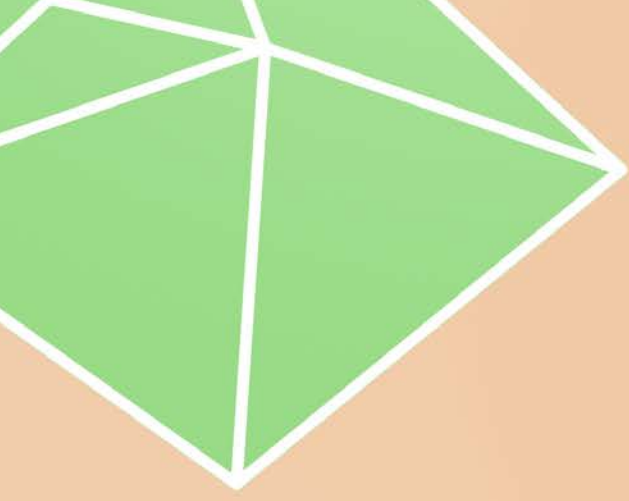
Core Themes

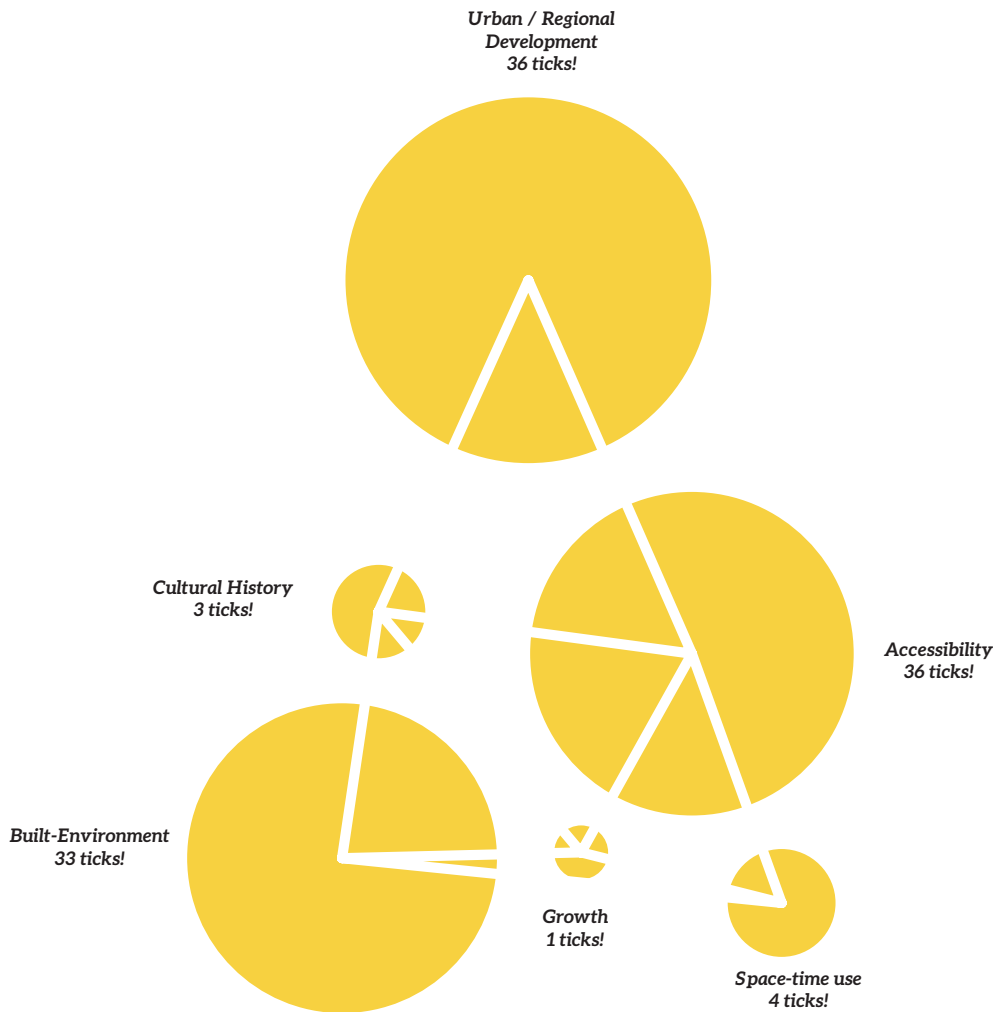Introducing 6 Core Themes for better campus development!

CITY.
Symbiosis.
What can the city provide the campus and what can the campus give to the city!

Urban / Regional
Development
36 ticks!

Cultural History
3 ticks!

Accessibility
36 ticks!

Built-Environment
33 ticks!

Growth
1 ticks!

Space-time use
4 ticks!

"Cities around the Baltic

HELSINKI *"From the City's perspective, the decision to place Metropolia's new campus in Myllypuro was a strategic choice. The City sees the campus as bringing value to the eastern suburbs benefitting the image of the whole district and creating new opportunities."* [2]

RIGA *"Looking from a regional point of view, the new campus would be also part of the effort to boost the decreasing population numbers in Riga and, in fact, the whole country."* [3]

STOCKHOLM *"Taken together, these issues make Albano one of the most important development areas for Stockholm city, Akademiska hus and*

Stockholm University, offering a unique opportunity to build an internationally competitive research environment which at the same time is a leading example of sustainable urban development, both of highest importance for Stockholm's future economic and social development." [4]

TURKU *"The campus cluster area will in the future be in between the two main city centers, and the campus area is also very built-in inside the grid plan, excluding the University Hill and the Lower University Campus."* [5]

UPPSALA *"Thus, the development of the Polacksbacken campus area, alongside the neighboring new townships, encompasses a series of challenging issues related to social, ecological, environmental, cultural as well as economic sustainability."* [6]

TARTU *"Tartu is facing urban sprawl problems and on the city level there are several new hubs of activity emerged that keep people away from the city centre. That is the context where the city level interest want to keep the university premises within the city centre, close to start-ups, innovation companies and activities, various services, mixed users of the city."* [7]

References:
[1] (Unknown), 2016. Riga has hosted an experts' discussion on the role of campuses in urbanisation of knowledge (Online) Available at: http://livebalticcampus.eu/2016/06/02/riga-has-hosted-an-experts-discussion-on-the-role-of-campuses-in-urbanisation-of-knowledge/ (Accessed 8th August 2017)
[2] Helsinki Metropolia University of Applied Sciences, 2016. Local campus report – Helsinki Myllypuro Campus. P.7.
[3] Kazina & Klavs, 2015. Live Baltic Campus: Campus Areas as Labs for Participative Urban Design – University of Latvia Campus Inventory Report P.6.
[4] Akademiska Hus & Patchwork: KTH/SRC/KIT, 2010. Q-Book Albano 4- Sustainability. P.7.
[5] (Unknown), 2016. Service design approach for developing Turku higher education campus (cluster) DESIGN BRIEF FOR LIVE BALTIC CAMPUS PILOT PROJECT OF UNIVERSITY OF TURKU, FI. P.2.
[6] Amcoff, Hertting, Ottosson, Stoddard, unknown. Inventory Report Uppsala University. P.6.
[7] Ahas, Poom & Sõmer, 2016. Local campus inventory report: the development of IT centre of Tartu University. Tartu: Tartu University. P.5.

City
What is it actually about?

From city campus to campus city!

Typically, a campus is part of the city, and the city is part of the campus. But do we need to make a distinction between city and campus or are they ideally the same?

When we think of cities we think of roads, squares, and buildings. When we check the definition of 'city' in the dictionary * we find ''...an area where many people live and work''. Living and working are keywords defining the city, buildings and roads are the result. Cities are a network of physical and immaterial connections e.g. railways, channels, trade, finance. In the points where these connections meet interaction occurs. The more points of interaction, the bigger the potential. The city can benefit the campus as education has two directions, input and output. The input consists of knowledge, data, and challenges from the society. The other direction is the output; a campus educates, shares research, and passes on the knowledge to students and the society. Being physically and mentally close to the city networks helps both with gathering the data and with spreading knowledge and love.

As seen in several of the reports, the local community has a need to interact with the campus. Myllypuro: ''Also the local resident association has interest in using the campus spaces, such as the auditoriums, meeting rooms and lobbies for their meetings and events.'' Riga: ''In practice, by creating accessible places for meet-ups, as well as alternative mobility sol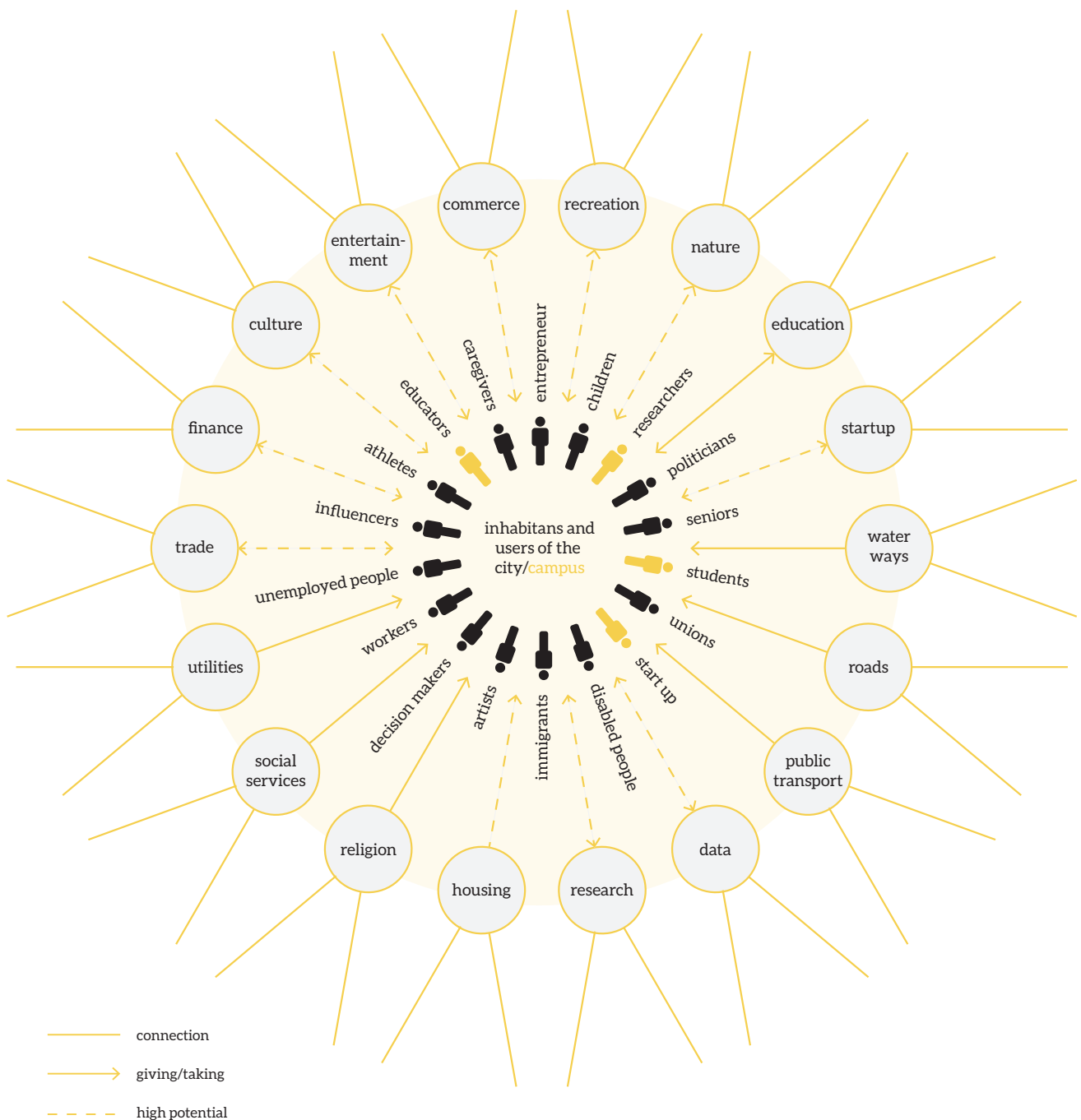utions. To make the campus accessible and attractive to the general public, there should be certain facilities, for example, conference rooms, which could be used for discussions and events for people also outside the academia.'' Stockholm: "...more specific questions of developing internationally competitive knowledge environments and how the research environment may contribute to the development of advanced sustainable construction both of specific buildings and the cityscape as a whole are added to objectives of an integrated and living urban environment with preserved natural and cultural values.'' The first step can be to share the campus facilities with the general public, but sharing of the physical and mental networks shows the real potential. The second step can be that the campus spreads into the city. Research can be conducted in public spaces, university libraries combined with public libraries, lectures presented at the city hall and workshops given at the premises of commercial companies, student housing mixed with senior housing etc.

A campus has the unique opportunity to act as an incubator and testing ground for the rest of the city. The center of the network where most interactions occur. The campus should embrace the city as a place for inspiration and endless possibilities. The campus offers the city a vision of the future and guarantees constant evolution.

The diagram shows the networks that cities and campuses have to offer. Solid lines and colors indicate the status quo, the dashed lines show where there is great potential for a two-way street. A campus benefits greatly from a dynamic, progressive city and a city from an active well-integrated campus. *(See the diagram on the right page.)*

Users, networks and potential!

In order to facilitate an inclusive participation in future development, it is necessary to find out who your users are and how they connect. The examples of stakeholders on the right side are from the LBC partner's material and show a selection of stakeholders who are affected by and can have an impact on campus development.

commerce
recreation
nature
entertain-ment
education
culture
startup
finance
water ways
trade
roads
utilities
public transport
social services
data
religion
research
housing

caregivers
entrepreneur
educators
children
researchers
athletes
politicians
influencers
seniors
unemployed people
students
workers
unions
decision makers
start up
artists
immigrants
disabled people

inhabitans and users of the city/campus

connection
giving/taking
high potential

Networks between cities and campuses

City examples

LBC Forerunner -
Tartu embraces the location.

As the Tartu campus is split between the Old Town and the Maarjamõisa campus, the University has understood that the location of its functions is very important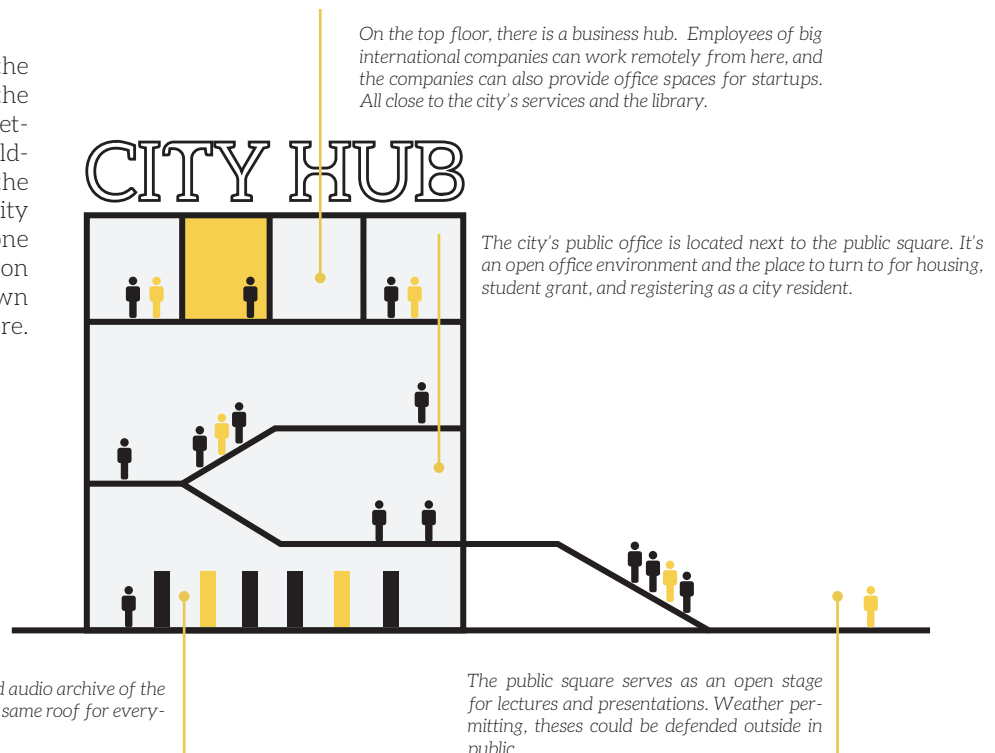. Tartu University is tracking the flow of users to be able to predict the right location of future buildings. This is the opposite to the traditional approach where buildings are placed wherever real estate conditions are right and users have to go to the buildings. By understanding the location of their users, they can bring the real estate closer to the user. This will lead to a better usage of the premises, higher efficiency and ultimately, better education.

City Hub

Imaginary case example.
"The City Hub" is a building where the public, the campus, companies and the city meet. The City Hub serves as a meeting space for all the different stakeholders, and it encourages synergy and the development of common goals. The City Hub is also a great place for everyone to gather knowledge and to pass it on to others. We're all experts in our own fields and we are all happy to learn more.

On the top floor, there is a business hub. Employees of big international companies can work remotely from here, and the companies can also provide office spaces for startups. All close to the city's services and the library.

The city's public office is located next to the public square. It's an open office environment and the place to turn to for housing, student grant, and registering as a city resident.

The city library, university library and audio archive of the conservatorium are located under the same roof for everyone to explore.

The public square serves as an open stage for lectures and presentations. Weather permitting, theses could be defended outside in public.

Innovation Light Rail Loop

Imaginary case example.
Convenience is often the decisive factor for people in breaking their pattern. The aim of the Knowledge Light Rail Loop is to do just that. We all tend to stay stationary in the places where we feel most comfortable in, be it work, university, home or trade floor. The Knowledge Light Rail Loop connects all these pillars of the city to initiate physical interaction. Under the railway loop lays a glass fibre intranet that ensures that all the stakeholders have a fast data connection. Working remotely, pitching your ideas to a new crowd and having lunch with students has never been this easy.
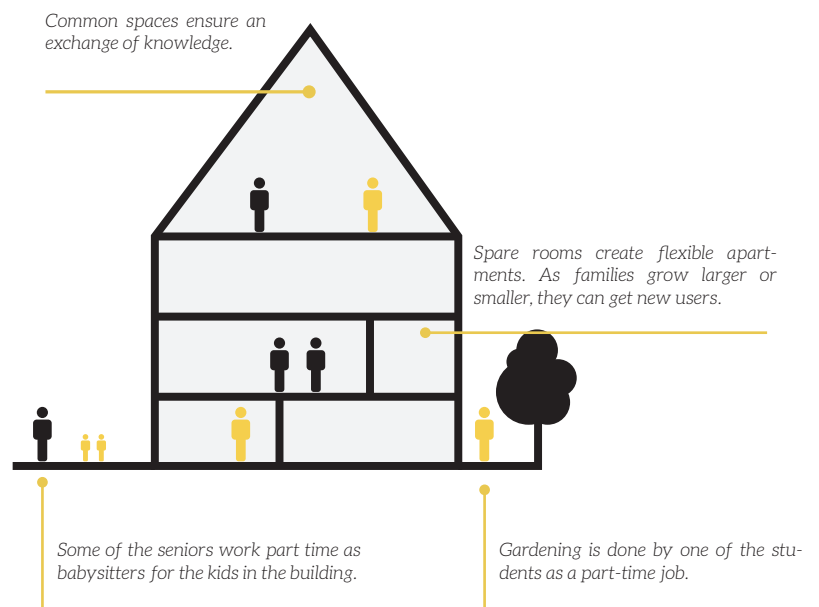
The innovation rail links public functions with commercial ones.

Sports fields are used by both students, university staff and sports club members.

Residential areas are part of the loop.

World Trade Center

The public square as the heart of the city is also connected.

Lab
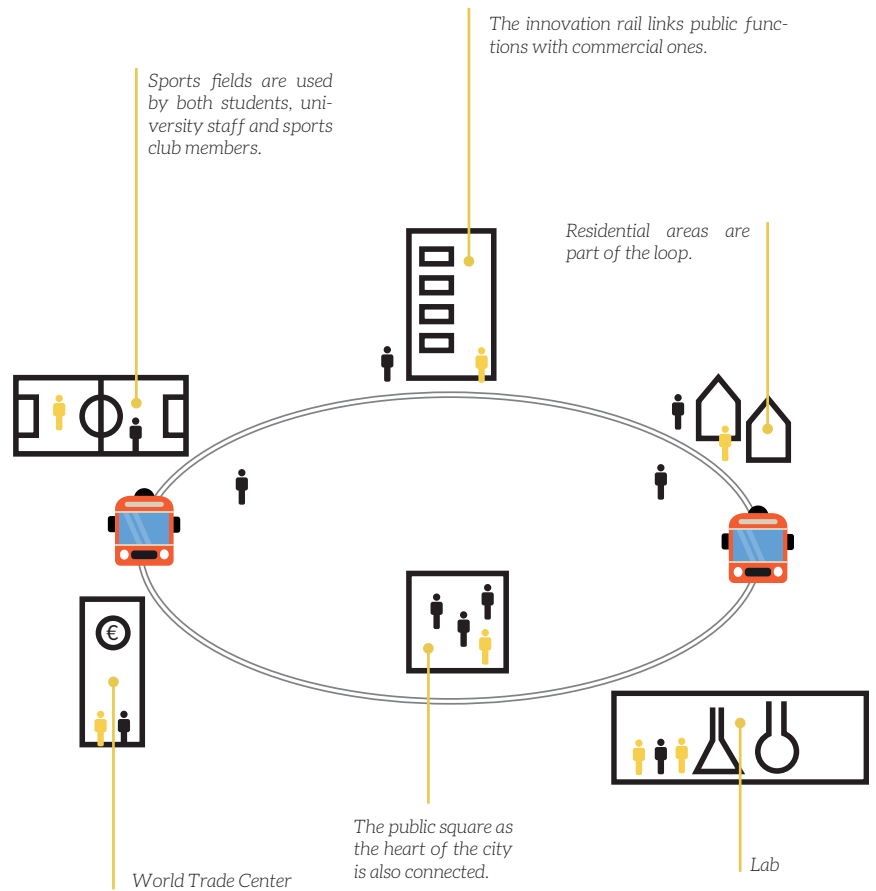
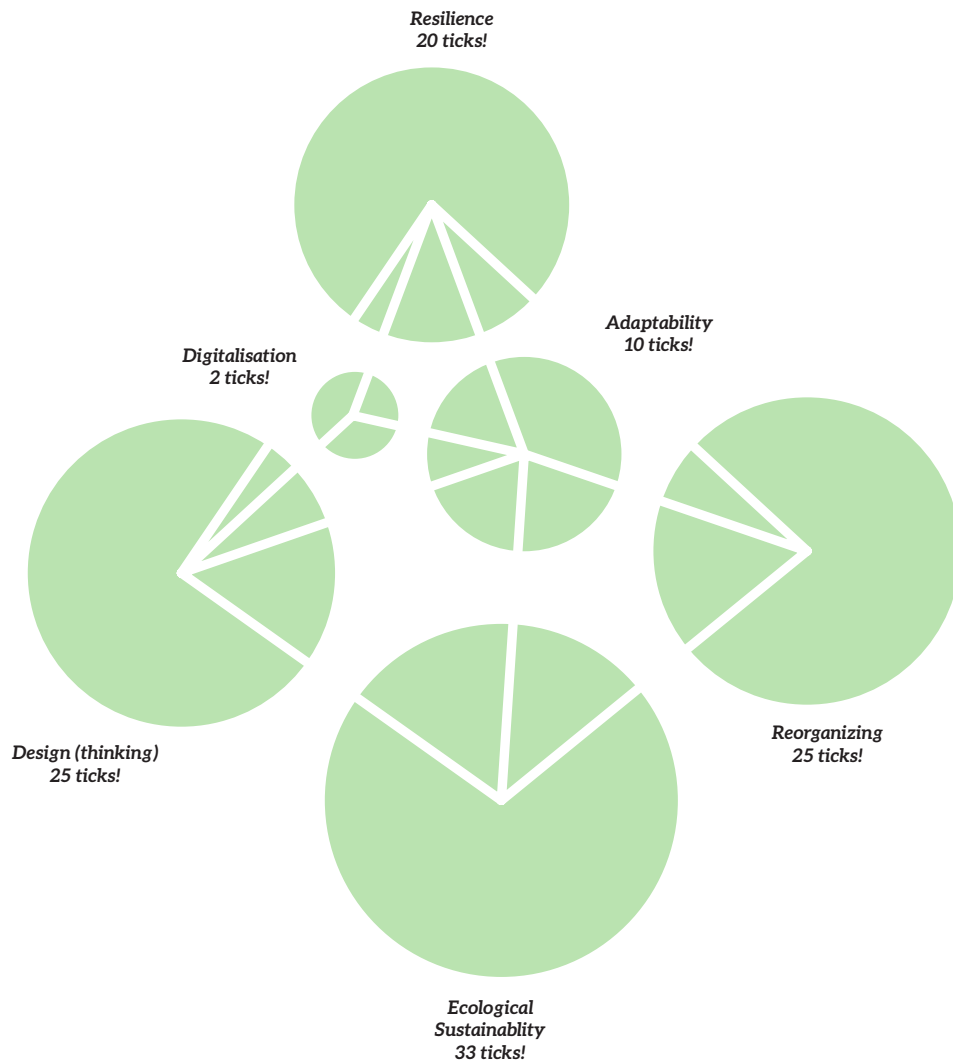# House of Generations

Imaginary case example.
As mentioned in the opening text of 'City', it is ''...an area where many people live and work''. Living is a very important part of city life. As it goes for many aspects of our lives, a good base is crucial. Society tends to focus on the economic aspects of a city. However, for a city, a good base is that it's a pleasant place to live in. The House of Generations' aim is exactly that: a place where different generations live together, a place where different generations learn and benefit from one another. The times are in the past when life was linear and we would study, work and then retire. We study our whole life, we work in different capacities, etc. A campus is the ideal testing ground for the House of Generations as there is university staff, students, international researchers, and children close to each other.

Common spaces ensure an exchange of knowledge.

Spare rooms create flexible apartments. As families grow larger or smaller, they can get new users.

Some of the seniors work part time as babysitters for the kids in the building.

Gardening is done by one of the students as a part-time job.

CHANGE.
Embrace the change, prepare, adapt and find sustainable opportunities in it!

**Resilience
20 ticks!**

**Adaptability
10 ticks!**

**Digitalisation
2 ticks!**

**Reorganizing
25 ticks!**

**Design (thinking)
25 ticks!**

**Ecological
Sustainablity
33 ticks!**

Changing the Baltic

HELSINKI *"There is a set goal that the campus building would be in use at least for 70 years. To achieve this the campus is planned so that the technical systems can updated without major construction works."* [9]

RIGA *"The innovations that aim at urban development are made possible by considering two perspectives: the socio-technological or the socio-ecological. Both systems must be mutually aligned so that they would have greater adaptability to changes – both physically and mentally – which is crucial for them to keep their functionality, when facing challenges."* [10]

STOCKHOLM *"We believe Albano Resilient Campus can highlight and elaborate an approach to urban planning where change is normal and the key to a city's success lies in how well it can adapt to changing conditions and engage a multitude of actors in a continuously ongoing development."* [11]

TARTU *"The changes may have a positive impact on environment and social or economic welfare if spatial planning has foreseen sustainable solutions for land use, including housing, transport, and green and blue infrastructure."* [12]

TURKU *"To keep and renovate an old and often legacy-bearing building, or to move or to build a new one with better possibilities to adapt to new pedagogical and work life needs?"* [13]

UPPSALA *"How can the university renew itself in times of rapid global social and environmental change?* [14]

"Recently, Uppsala University also adopted a new policy document for sustainability, outlining a program and action plan for how the university - through its research, education and collaboration with other regional societal actors - can contribute to a more sustainable world." [15]

References:
[8] Andersson, Barthel, Colding & Schewenius, 2016. Live Baltic Campus on tour in Holland – Some Reflections on Resilience Building (Online) Available at: http://livebalticcampus.eu/2016/05/04/live-baltic-campus-on-tour-in-holland-some-reflections-on-resilience-building/ (Accessed 8th August 2017)
[9] Helsinki Metropolia University of Applied Sciences, 2016. Local campus report – Helsinki Myllypuro Campus. P.13.
[10] Barthel, Rode, 2017. Experts: "Resilience" has new meaning in building academic centres in the World (Online) Available at: http://livebalticcampus.eu/2017/06/06/experts-resilience-has-new-meaning-in-building-academic-centres-in-the-world (Accessed 8th August 2017)
[11] Akademiska Hus & Patchwork: KTH/SRC/KIT, 2010. Q-Book Albano 4- Sustainability. P.6.
[12] Aasa, Ahas, Poom & Silm, 2017. Experimental study for planning Tartu campuses on mobile phone tracking, Tartu: Tartu University. P.1.
[13] (Unknown), 2016. Service design approach for developing Turku higher education campus (cluster) DESIGN BRIEF FOR LIVE BALTIC CAMPUS PILOT PROJECT OF UNIVERSITY OF TURKU, FI. P.4.
[14] Amcoff, Hertting, Ottosson, Stoddard, unknown. Inventory Report Uppsala University. P.18.
[15] Amcoff, Hertting, Ottosson, Stoddard, unknown. Inventory Report Uppsala University. P.1.

Change
What is it actually about?

**In a modern society,
change is fast and constant!**

In a modern society, change is fast and constant when it comes to, for example, digitalization, the climate, economic and social changes. The Live Baltic Campus project also acknowledges the importance of the campus as a trailblazer for sustainable and resilient lifestyle for an entire city or a country. Stockholm Albano Campus is leading the way on socio-ecological campus development in the Live Baltic Campus project, and all the other campuses also have the core theme Change intertwined in their strategy, all with a slightly different local twist and point-of-view.

Due to digitalization, many professions are disappearing while new ones occur. AI and robotics are replacing human labor in many fields. Buildings can be built using robots and 3D-printing, and blood pressure can be monitored from distance without a need to travel to a traditional healthcare center. This enormous change of work, tools and even income will have its impact also on education. Future campuses will act as platforms for knowledge distribution and agile educators dealing with many changing subjects. Learning is now a life-long process rather than a 5-year sprint. What is the role of physical campuses when most of the learning can be done remotely?

New built infrastructure and buildings should be designed to be open and flexible to allow different uses and functions during their lifecycles. New technologies should be easily supplemented with the help of open interfaces. Modularity and prefabrication allows buildings to be easily mounted, enlarged, downsized and moved from place to place.

The world is facing the climate change with its many symptoms. As the climate becomes more unpredictable, the role of preparation and prediction becomes more important. On the road of preparation, the first step is to map the vulnerabilities, the Achilles' heels. The vulnerable parts need to be taken care of, whether it is energy-storing battery systems or rainwater management to avoid urban flooding.

An ecologically sustainable campus relies on diverse sources of renewable energy, efficient energy consumption and carbon neutrality. The lack of natural resources has to be met with circular economy, resource-efficient solutions and collaborative consumption.

Sustainable urban planning cherishes natural environments, ecosystems and biodiversity. Future campuses can be platforms for a wide range of species, greenery and pollinators instead of stealing their living space. Green roofs, walls and well-designed urban parks can be homes to many species while improving air quality and managing rainwater. Green campuses bring nature closer to human beings while enhancing a more natural lifestyle.

Big Changes? Think Big!
Big challenges and constant changes require big actions to create a resilient and change-proof campus. The diagram on the right shows some of the big challenges caused by change whirling around its outer line, key words in the middle and Design Thinking in the core as a problem-solving tool.

(See the diagram on the right page).

EXTINCTION OF SPECIES

Enhancing biodiversity, adding green areas, places for pollinators

LACK OF RESOURCES

Resource efficiency, Recycling, Circular economy, Collaborative consumption, Lifecycle

DIGITALISATION

Including new approaches in a sensible way: Apps, Platforms, Artificial intelligence, Augmented reality, Virtual reality, Internet of Things, Robots, Drones, 3D printing

CULTURAL CHANGES

Adaptability, Multiuse, flexibility, modularity in built structures and systems.

DESIGN THINKING

POLLUTION

Tracking the sources of pollution, Recycling, filtering,

DISASTERS

Disaster proofing, preparedness plans. Local food/ energy production and storage. Vulnerability check, mapping the local weaknesses

CARBONEUTRALITY

Changing from fossil to renewable energy, solar/ wind/other. Using carbon neutral building materials. Planting trees and greenery to compensate.

CLIMATE CHANGE

Preparing for extreme weathers: fresh water supply, water recycling, rainwater maintenance, water absorbing surfaces.

Change - actors and connections
Solving future problems through design thinking

Change examples

LBC Forerunner –
Stockholm builds a sustainable campus.

Campus Albano is a true forerunner in building a sustainable campus and a absolute guiding star in representing the Core Theme Change. The Albano plan is a comprehensive example of socio-ecological urban planning that springs from long-term empirical and scientific studies in both ecology and architecture. Campus Albano represents a scientific environment that can be used as a test bed for solutions that will later be exported to other campuses and cities. Sustainable urban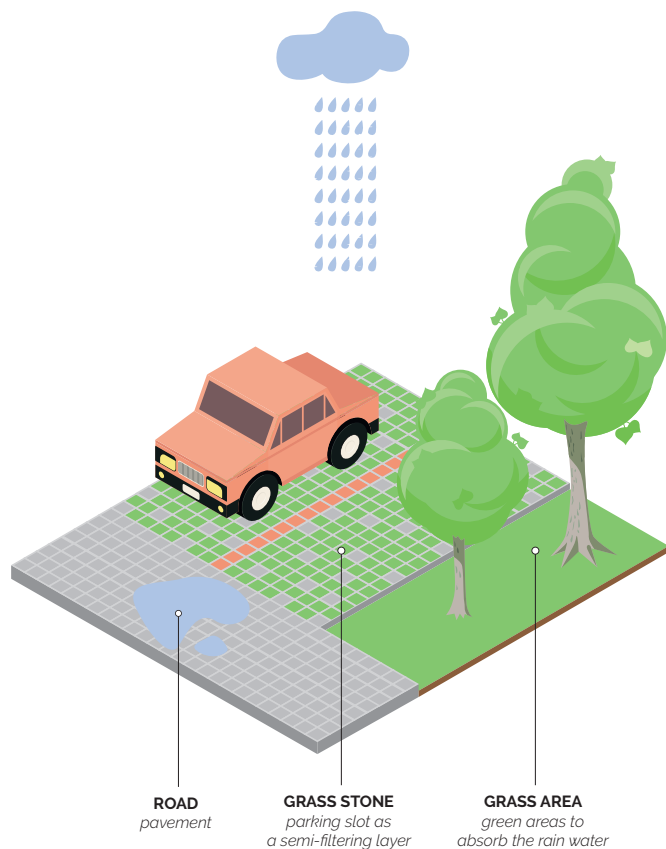 development in case Albano consists of three spatial concepts: Green Arteries, Active Ground and Performative Buildings. Albano Resilient Campus concentrates on change, adaptation and ongoing development.

Urban flooding

Imaginary case example.
The amount of rain is increasing in Northern Europe and urban flooding is becoming a challenge. Preparing for extreme weathers, rain and urban flooding is crucially important. A solution of preparing and adapting is to add water absorbing surfaces to urban structures.

The first step is to map the existing campus pavements, surfaces and roofs and their capacity to handle water masses. Vast areas of asphalt and stone pavement (for example parking areas) can be turned into permeable green stone pavements without compromising their function. Roofs can be turned into green roofs that will absorb water and can be utilized in creating green masses that will also improve air quality and collect CO_2.

ROAD
pavement

GRASS STONE
*parking slot as
a semi-filtering layer*

GRASS AREA
*green areas to
absorb the rain water*

Scarcity of resources

Imaginary case example.
Natural resources are becoming scarce, and awareness of the global limits is rising. Efficient use of spaces and goods is becoming a key aspect also in campuses. Empty spaces are no good for anyone.

First, the utilization rate of the spaces needs to be mapped. Empty slots need filling up! Could laboratories serve also the high school nearby? Could the auditorium be easily turned into a basketball court in the evening? Could the new buildings be designed to be so flexible that they could serve multiple different functions during their lifecycle? For example, a parking garage could be turned into vertical farming with led-lights and efficient use of water and fertilizers. Basil and tomatoes from under your house! Completely locally produced!

Check this as well: Myllypuro campus has invested quite a lot on extensively flexible solutions in the planning design.
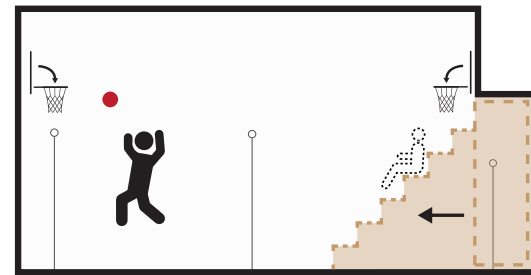
FLEXIBLE EQUIPMENT
Use equipment to enable a multi-purpose space when needed.

"Open the walls" to change the room from an auditorium to a basketball court.

SIMPLE SPACE
Simple geometry suits different purposes.

ADAPTABILITY
Get rid of separate chairs and use adaptable auditorium seating to achieve flexibility.

Tackling food waste

Imaginary case example.
How to tackle food waste? Cafeterias could sell the excess food to locals at the end of the day with a discount. A mobile app would gather all the food offers and all the hungry locals together. With a help of AI, the app would know your eating habits and propose your favorites when you hungry while heading home. Food could be even carried to your doorstep by students working part-time as bike couriers or, in the future, by a drone or a small transport robot. No food waste, better profitability and better service for locals. Win-win-win!

TOGETHER.
Find balance in collaboration. Involve people and communities with diverse back-grounds, needs and interests!

Synergy
1 ticks!

Collaboration
56 ticks!

Municipality
22 ticks!

Internationaly
7 ticks!

Stakeholders
21 ticks!

Participation
27 ticks!
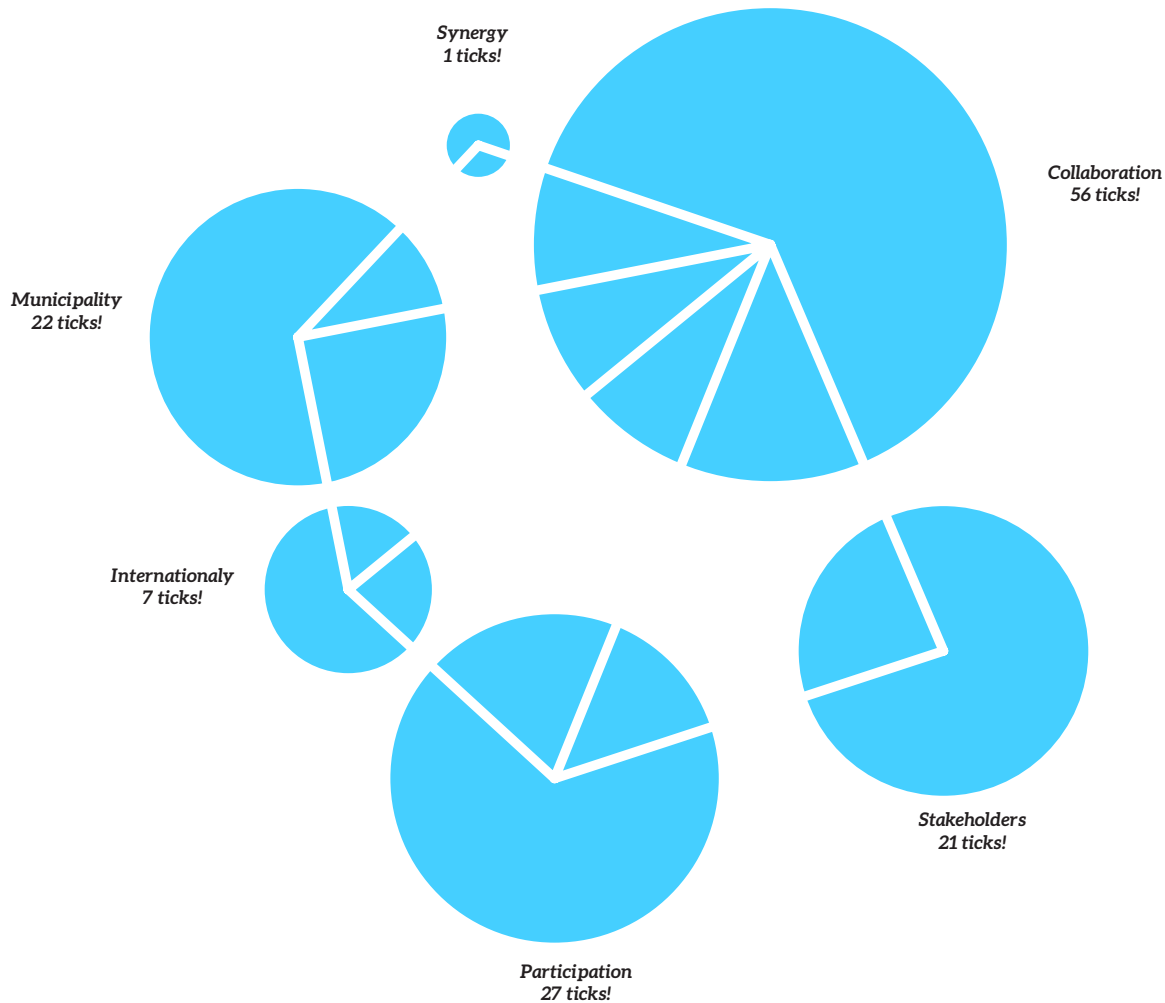
Together Baltic

HELSINKI *"To maximize the benefits of the new campus in Myllypuro, it is important that Metropolia integrates its functions with the surrounding community and business life."* [16]

RIGA *"Live Baltic Campus" partners, resulting in a set of recommendations for successful, sustainable and multilateral cooperation between the academia and its social and industrial partners — the residents of the surrounding neighbourhood, university students and personnel, commercial organizations, as well as municipality and state institutions, various NGOs and trade associations."* [17]

STOCKHOLM *"Strive for collaborative urban planning and design that can integrate knowledgeable stakeholders at various urban scale-levels to support continuous learning, management and stewardship of social and ecological services."* [18]

UPPSALA *"Drawing on an extensive overview of previous research, in the Polacksbacken case we develop a model for stakeholder identification and mapping from the assumption that knowledge about strategic interdependencies is a crucial condition for successful participatory planning*

and design." [19]

TARTU *"That is the context where the city level interests want to keep the university premises within the city centre, close to start-ups, innovation companies and activities, various services, mixed users of the city."* [20]

TURKU *"Our mission is to enable the development of the joint higher education campus cluster area in Turku as a whole and not in parts, because many different institutions are operating on the area as separate units."* [21]

References:
[16] (Unknown), 2017. Integrated Campus Development Plan Myllypuro DRAFT. P.4.
[17] Ozolina, 2016. Riga Planning Region will provide an opinion on development strategies of the leading universities of Latvia. (Online) Available at: http://livebalticcampus.eu/2016/12/29/riga-planning-region-will-provide-an-opinion-on-development-strategies-of-latvia (Accessed 8th August 2017)
[18] Andersson, Barthel, Colding & Schewenius, Unknown. Campus Albano, Stockholm - Creating a social-ecological 'best practices' campus area in the Baltic region for supporting learning, innovation, and sense of community. P.13.
[19] (Unknown), 2017. Campus Polacksbacken: Stakeholder identification in the case of a highly uncertain future development (Online) Available at: http://livebalticcampus.eu/2017/06/30/campus-polacksbacken-stakeholder-identification-in-the-case-of-a-highly-uncertain-future-development (Accessed 8th August 2017)
[20] Age, Ahas & Sõmer, 2016. Local campus inventory report: the development of IT centre of Tartu University. Tartu: Tartu University.. P.5.
[21] (Unknown), 2016. Service design approach for developing Turku higher education campus (cluster) DESIGN BRIEF FOR LIVE BALTIC CAMPUS PILOT PROJECT OF UNIVERSITY OF TURKU, FI. P.1.

Together
What is it actually about?

A campus used to be a defined area for a group of people who were formally accepted to take part in the events that took place there. In a more dynamic and rapidly changing world, we need to think outside the box.

A campus used to be a defined area for a group of people who were formally accepted to take part in the events that took place there. In a more dynamic and rapidly changing world, we need to think outside the box. Does the campus have physical boundaries anymore, and who is included within the scope of daily users? What kind of a mindset do we enter the future campus with? Competition and collaboration go hand in hand in this new setting.

In the LBC background material, there are many mentions of this broader understanding of the campus. Businesses are wanted on campus for the purpose of synergy between universities and commerce. We can already see examples of campuses being strategically located to act as urban generators. Regional and global networks are trending, and at the same time, awareness of local specialties and vulnerable ecosystems is rising. The revolution of artificial intelligence is rolling over us, and in this reality, the future campus could serve as a node for structuring information, evaluating effects and fostering innovation for the benefit of future generations. This is a transdisciplinary task, which does not concern just the academia but also the individual knowledge and lived experience of anyone interested in or affected by what happens on campus.

The future campus must have a strategy to operate on different communal levels, accept that its borders are permeable and be open to a whole new set of stakeholders. So, if the campus is not longer just a defined area where students and staff cluster, we should ask ourselves who are the new stakeholders in the future campus. Can we identify these people and groups of people, investigate how and when they meet, what comes out of it? How can we build networks for knowledge resources so that arbitrary ideas and planned strategies can truly bloom?

As opposed to top-down processes, how can the future campuses facilitate resource networks that have the capacity to form endless connections in different forms to pursue positive synergies with innovative outcomes? The future campus should aim to nurture a culture where this togetherness becomes an everyday practice.

The task is to identify stakeholders and to learn how they communicate. The key factor to success is to facilitate more and better communication, both in the physical and the digital realm. It is also to establish a culture where cooperation and competitiveness exists in parallel. Turn the page to read more about these three examples and be inspired to imagine tailor-made solutions for the specific campus you have in mind.

The task is to identify stakeholders and to learn how they communicate.

Thinking about working together?
In order to facilitate inclusive participation in future development, it is necessary to find out who your users are, and how they connect. The examples of stakeholders on the right are from the LBC partner's material and show a selection of stakeholders who are affected by and can have an impact on campus development.

(See the diagram on the right page.)

Stakeholder chart
Sorted by type and impact level
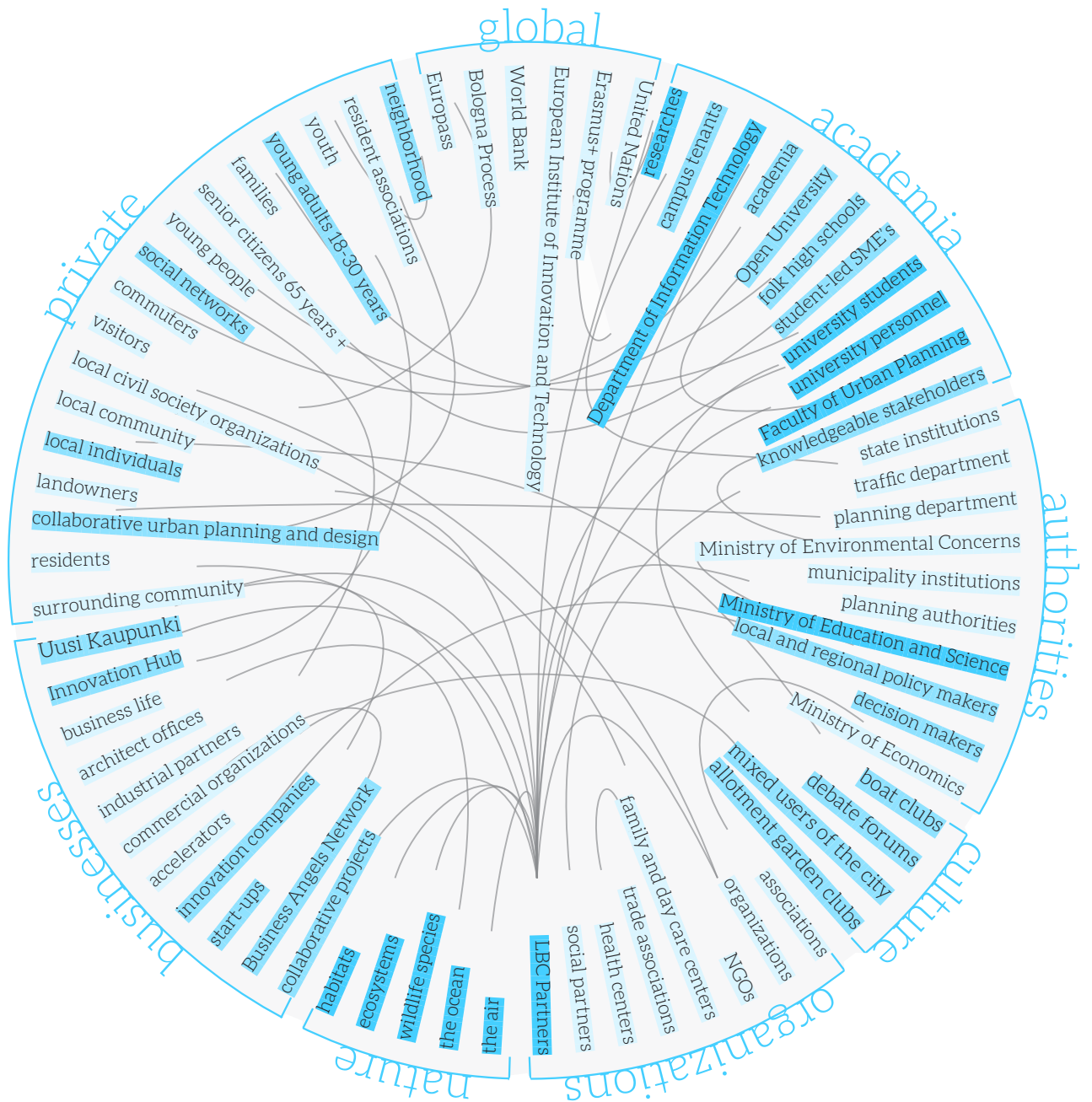
Impact level
- core
- direct
- indirect

global
academia
authorities
culture
organizations
nature
businesses
private

United Nations
Erasmus+ programme
European Institute of Innovation and Technology
World Bank
Bologna Process
Europass
resident associations
neighborhood
youth
young adults 18-30 years
families
senior citizens 65 years +
young people
social networks
commuters
visitors
local civil society organizations
local community
local individuals
landowners
collaborative urban planning and design
residents
surrounding community
Uusi Kaupunki
Innovation Hub
business life
architect offices
industrial partners
commercial organizations
accelerators
innovation companies
start-ups
Business Angels Network
collaborative projects
habitats
ecosystems
wildlife species
the ocean
the air
LBC Partners
social partners
health centers
trade associations
family and day care centers
organizations
NGOs
associations
allotment garden clubs
mixed users of the city
boat clubs
debate forums
decision makers
Ministry of Economics
local and regional policy makers
Ministry of Education and Science
planning authorities
municipality institutions
Ministry of Environmental Concerns
planning department
traffic department
state institutions
knowledgeable stakeholders
Faculty of Urban Planning
university personnel
university students
student-led SME's
folk high schools
Open University
academia
Department of Information Technology
campus tenants
researches

Together examples

LBC Forerunner –
Riga generates a cooperative interplay.

The University of Latvia has started a process to concentrate all its study and research activity in the Tornakalns area. The University counts on this new centralized campus structure to generate an interplay between students and researchers and to create a critical mass effect of human and material resources. The construction of the new campus will breathe new life both into the Tornakalns neighborhood and into Riga as a whole. With the development in Tornakalns, a new cooperation model for urban planning will be introduced. Landowners, entrepreneurs, residents, urban planners and architects will all be involved in the process in order to create a common vision for developing this area in the coming years.

Student housing as an urban generator

Imaginary case example.
A student house can be an engine in a street or in a square. Students come from all over the world and inside a student house, you can find so much variety, it is like a little world. In terms of togetherness, this is a resource that should be opened up to the public. So, locate student housing on a street or a square that needs new life. Open the houses to the public, either by offering a place to hang out, like a café on the first floor, or simply add a place where passers by can rest - a core element of any friendly city. The large stairs in front of the student house are always open. It is a place where new acquaintances can be made and interesting discussions between students can take place. On a sunny day, it offers seating for people enjoying their neighborhood. Why not add a solar collector in the stairs that gives heat to a water pipe in the outdoor stairs to expand the outdoor season with several weeks both in spring and autumn. It is a treat for both the students and the city!

solar collector on the roof

café with outdoor serving

activated urban space

giant stairs with heating

A method for mapping stakeholders

Identify the users – the people who are at the center of your concern. Who are the stakeholders – the ones likely to engage in the development of your program because they have an interest in the outcome? Who are the people that will provide different points of view? Complex challenges require a good overview of the stakeholders involved and of what they want and how they can contribute.

This example suggests a highly personal mapping where stakeholders are sorted by impact level only.

In Uppsala, they've also developed the seven-step approach "Interest-based and deliberative participatory planning"

Phase 1: Stakeholder identification based on stakeholder integrated interdependency analysis

Phase 2: Stake-wise workshops for interest articulation

Phase 3: Survey 1 on collective and individual perspectives on city and campus development

Phase 4: Cross-stake workshops for deliberation

Phase 5: Survey 2 on collective vs individual perspectives on city and campus development

Phase 6: Analysis and mapping: Interests, representatives and interdependencies in city and campus development

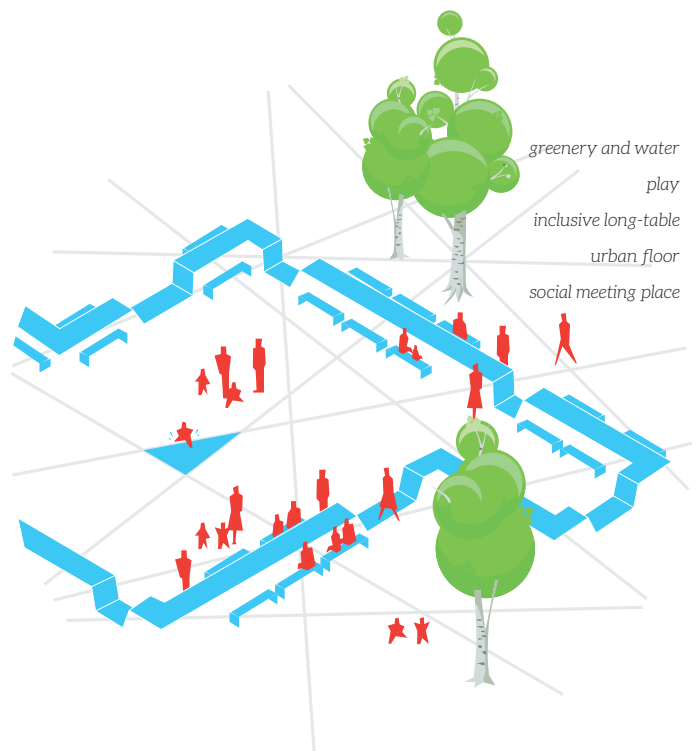Phase 7: Reflexive analysis: "missing stakes" and "representation capacity"

UN human rights council · business angels · indirect · student cafe · personell recruiters · transport department · innovation HUB · direct · planning authorities · local garden club · cultural partners · business life · networks in global academia · the media · LBC partners · core · families · social partners · faculties at campus · different student groups · resident associations · trade assiciations · student radio and TV · students and staff · neighbours in the area · local individuals · chemical brothers · amateur choir · student organizations · start ups · research council · PechaKuca night · TED community · industrial partners · state institutions · commuters · the hairdresser on the corner · youth · visitors · investment funds · google maps · twitter · public study circles · my friends · mentors

Urban forms that are socially inclusive
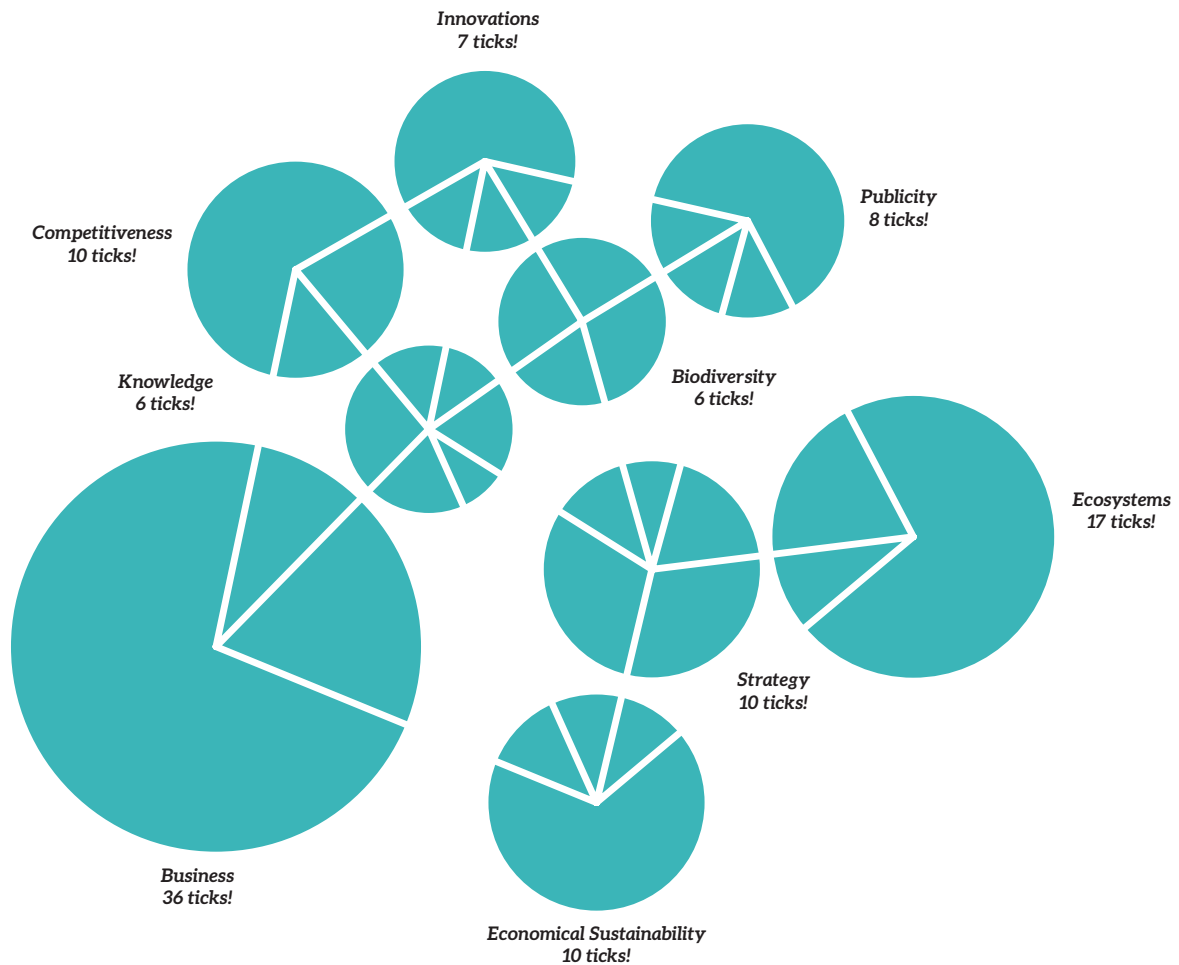
Imaginary case example.
The core theme 'Together' is not only about networking and communication between groups and individuals. In the wider scope, this theme is about our culture. Is there a culture on campus for solving issues together? What about society in general? Are we used to being asked about how common issues should be solved? If not, start practising! Public meeting places and events are good places to start in. Friendly surroundings with greenery and water elements where children can play safely make the adults relax. An urban floor can create a perfect frame around an inclusive long table, and surely the conversation will flow easily. A perfect setup for running workshops on city and community development. Make your audience expect to be involved!

greenery and water
play
inclusive long-table
urban floor
social meeting place

BLOOM.
From ecology to economy. Cultivate, nourish, boost and it will flourish!

Innovations
7 ticks!

Publicity
8 ticks!

Competitiveness
10 ticks!

Knowledge
6 ticks!

Biodiversity
6 ticks!

Ecosystems
17 ticks!

Strategy
10 ticks!

Business
36 ticks!

Economical Sustainability
10 ticks!

Blooming Baltic

HELSINKI *"Fostering the establishment and growth of student-led SME's"* [22]

RIGA *"A new, modern campus would ensure the university an attractive advantage in the Baltic and European study and research opportunity market."* [23]

STOCKHOLM *"The climate adaptation designs include carbon absorbing design elements (nature based solutions) that simultaneously support the generation of local ecosystem services."* [24]

UPPSALA *"The Uppsala region is one of Sweden's most innovative regions and the ongoing regional development with the involvement of the Stockholm/Uppsala Chamber of Commerce will ensure that economic sustainability is addressed in the development."* [25]

TARTU *"In addition, the university aims to tighten the cooperation with IT and technology companies in order to develop interdisciplinary innovative solutions."* [26]

TURKU *"Entrepreneurship and innovation with companies, how campuses could serve them? That is also a very timely question within the cluster area."* [27]

References:
[22] (Unknown), 2017. Integrated Campus Development Plan Myllypuro DRAFT. P.6.
[23] Kazina & Kļaviņš, 2015. Live Baltic Campus: Campus Areas as Labs for Participative Urban Design – University of Latvia Campus Inventory Report P.6.
[24] Andersson, Barthel, Colding & Schewenius, Unknown. Campus Albano, Stockholm - Creating a social-ecological 'best practices' campus area in the Baltic region for supporting learning, innovation, and sense of community. P.12.
[25] Amcoff, Hertting, Ottosson, Stoddard, unknown. Inventory Report Uppsala University. P.8.
[26] Ahas, Poom & Sõmer, 2016. Local campus inventory report: the development of IT centre of Tartu University. Tartu: Tartu University. P.10.
[27] (Unknown), 2016. Service design approach for developing Turku higher education campus (cluster) DESIGN BRIEF FOR LIVE BALTIC CAMPUS PILOT PROJECT OF UNIVERSITY OF TURKU, FI. P.2.

Bloom
What is it actually about?

What if the future campuses were to take a leading role in embedding ecological principles in all of its core activities?

Let's agree that a campus is a knowledge hub. What if staff and students were motivated and equipped to unlock and realize the potential in adjacent resource hubs? What if businesses, neighborhoods, ecosystems and academia were mutually enriched through co-innovation? How could we get there and what would the other side of the coin look like?

RDI projects, design thinking methods and collaboration between universities and the commercial sector is a current trend in the strategic development of the future campus. This happens at a time when mankind is stepping out of the industrial era and opening the door to the ecological age. The revolution within the field of artificial intelligence is evident in society already, and knowledge in the form of big data has already become a massive industry. In this sense, the campus is a gold mine because the power of high-end academic thinking combined with technical structuring of mass data results in striking power.

So, as future campuses seek to attract businesses to locate close to the campus, are they also prepared to operate in a market that relies on connectivity and exchange? Furthermore, as corporations traditionally have been competing to establish monopolies, how should future campuses take part in working for a more equal access to

know-how? This opens up a role for the campus as a mediator of power. New policies affect business life and academia worldwide. What if the future campuses were to take a leading role in embedding ecological principles in all of its core activities? Is it possible that this in itself could be a strategic tool to attract more businesses close to campus?

Nature brings an abundance of interesting concepts to the table. What can we learn from them? Can we nurture self-organizing creative systems, which are decentralized in terms of power, randomly structured, and amplified by positive feedback? Is it possible to boost open innovation by feeding the knowledge network with information about ecosystem services?

Nonetheless, if we, as drivers in future campuses, wish to be inspired by openness and randomness, we must acknowledge that our physical environments structure both individuals and networks. Buildings, neighborhoods and public spaces both enable and constrain development of creative and social capital. How can the future campuses structure their environments in order to foster innovation and create ripple effects throughout their disciplines?

How can the future campuses structure their environments in order to foster innovation and create ripple effects throughout their disciplines.

Want to Bloom?

In co-creative environments, there are multiple processes going on at the same time. Look at the diagram on the right and be inspired. The processes and events mentioned are found in the LBC partners' background material. Your fellow partners in the program probably have experience with these concepts or desires to learn more about it.

STUDENT ENTREPRENEURSHIP

MULTIDISCIPLINARY LEARNING AND CO-WORKING

FOSTERING STUDENT-LED SME'S

URBAN DEVELOPMENT

JOINT DEVELOPMENT PLAN

ATTRACT BUSINESSES

PARTNERSHIP

CAMPUS AS A COMMUNITY

ORGANIZATIONAL CULTURE THAT ENCOURAGES TO OPENNESS AND COLLABORATION

POTENTIAL

BUSINESS DEVELOPMENT

CLIMATE AND EBERGY ADAPTATION

INNOVATION

LEARN FROM SELF-ORGANIZING SYSTEMS

URBAN FORMS THAT ARE SOSIALLY INCLUCIVE

knowledge hub for developing new businesses

DESIGN THINKING

smart buildings and landscapes

CITIES SERVE AS A TESTBED

PROMOTE FUSION

CONNECT BUSINESS AN-

COMPETITIVENESS

FACILITATE INTEROPER-

DIVERSIFICATION

TREND PILOT

LOCAL SOLUTIONS FOR ENERGY SERVICES

commercialization of scientific research

makerspace

LOCAL ECOSYSTEM SERVICES

BUILD NETWORKS

IMPROVE OPERATING CULTURE –AN-

FUNDING

DESIGN THINKING METHODS

UNIVERSITY-DRIVEN INITIATIVES

SHARING KNOWLEDGE

MULTILATERAL COOPERATION

UNIVERSITY-BUSINESS COOPERATION

RDI PROJECTS

TESTING NEW INNOVATIONS AND SERVICE IDEAS

INVITING MORE BUSINESSES CLOSER TO CAMPUS

OPEN INNOVATION

POP-UP EVENTS

Want to bloom?
Throw a seed into water and see the effects

Bloom examples

LBC Forerunner –
Helsinki wants to be a testbed.

In the Helsinki area, there is an ongoing process of restructuring from 20 to 4 campus locations. Placing a new campus in Myllypuro in eastern Helsinki is a conscious political decision by the City of Helsinki. Helsinki wants to be a testbed for new innovations, and the city sees the campus as a vitalizing boost for the local area and the city. The expectations for the campus' impact on economic development are high, and the City of Helsinki and Metropolia UAS have collaborated in creating a plan to enhance the positive effects of the future Myllypuro campus for its surroundings, especially concerning the aspects of economical and social sustainability.

Humans of LBC

Imaginary case example.
An extensive catalogue over the LBC Campuses' students, staff and their projects.

To provide a plant with the best conditions to bloom is to give it appropriate sunlight and temperature, just enough water, and the optimized amount of fertilizer. Making people bloom also requires fine tuning of conditions. Finding the right people at the right time can be a booster for creative processes. Humans of LBC could be an online editorial column published in already existing social media, such as Twitter, Instagram and Facebook. In an entertaining way, students and staff across the LBC campuses can get an overview of the science, tech, and creative life of the fellow campuses.

Humans of LBC

"People and their ideas"

Mikko from Helsinki

Karlis from Riga

Emma from Stockholm

Erik from Tartu

Amanda from Turku

Elin from Uppsala

Collaboration

Disciplines   Impact area   Budget and funding   The bright idea

Makerspace

Create, invent and learn! A makerspace is a creative DIY space. An abundance of tools is available. Imagine having 3D printers, software, electronics, craft and hardware supplies and tools available for combined tech and craftsmanship. Mixed user groups from campus and the surrounding community can co-create and reach new levels of interdisciplinary competence in the makerspace. Location? Why not locate this blooming facility in the center of campus while attracting businesses in the region with rent-out time slots on the fabulous CNC router and the cutting edge robot assistant?

See also: Metropolia's Arabia Campus or Aalto University's FabLab / Aalto Studio.
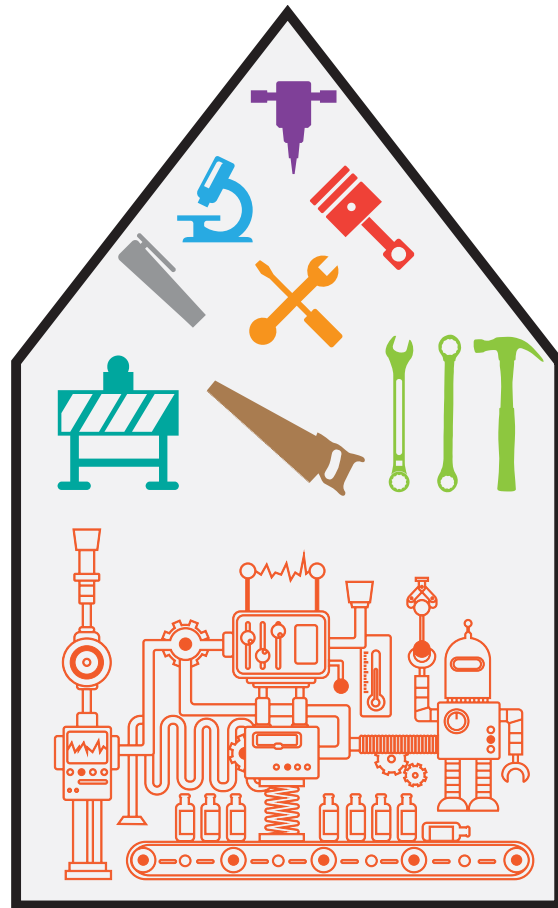
High tech indoor forest

Imagine a high tech indoor forest combining the best features from nature and technology. The human mind has much greater capacity when exposed to natural environments, and to study under these conditions should indeed increase productivity. Not to mention how many visitors this would attract from near and far. In this specific high-tech indoor forest, there could be plants that produce food and clean the air and tech trees that collect energy and rain water and store it in tanks and batteries. Look closely at the diagram and check out the cutting edge induction charger on the tech trees' bottom branches. The high tech indoor forest is a bold scheme to promote innovation and attract investors to collectively build the future campus.

daylight

solar heater and pv panels

supply tree with electricity and water

rainwater harvesting

robotic tree breathing air pillow

water and energy storage

vertical gardening with food production and air cleaning
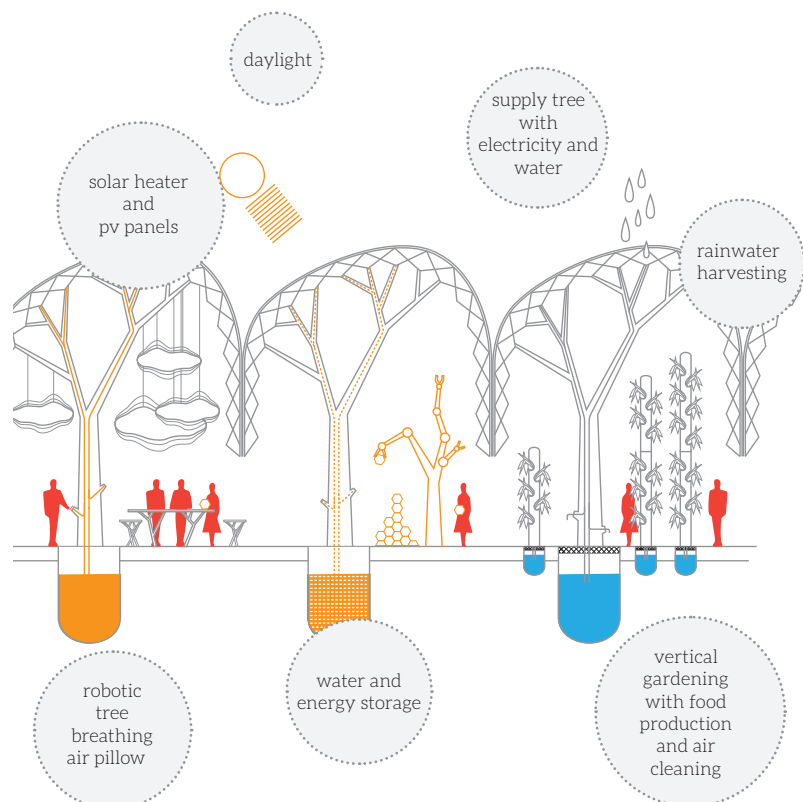
SERVICE.
From product to a service-driven campus, better quality, more involvement with fewer resources!

Services
32 ticks!

Sports
4 ticks!

Activities
6 ticks!

Infrastructure
16 ticks!

Wellbeing
13 ticks!

Tourism
2 ticks!

Management
11 ticks!

Food
3 ticks!

Smart
1 ticks!

Technology / ICT
2 ticks!

Learning
17 ticks!
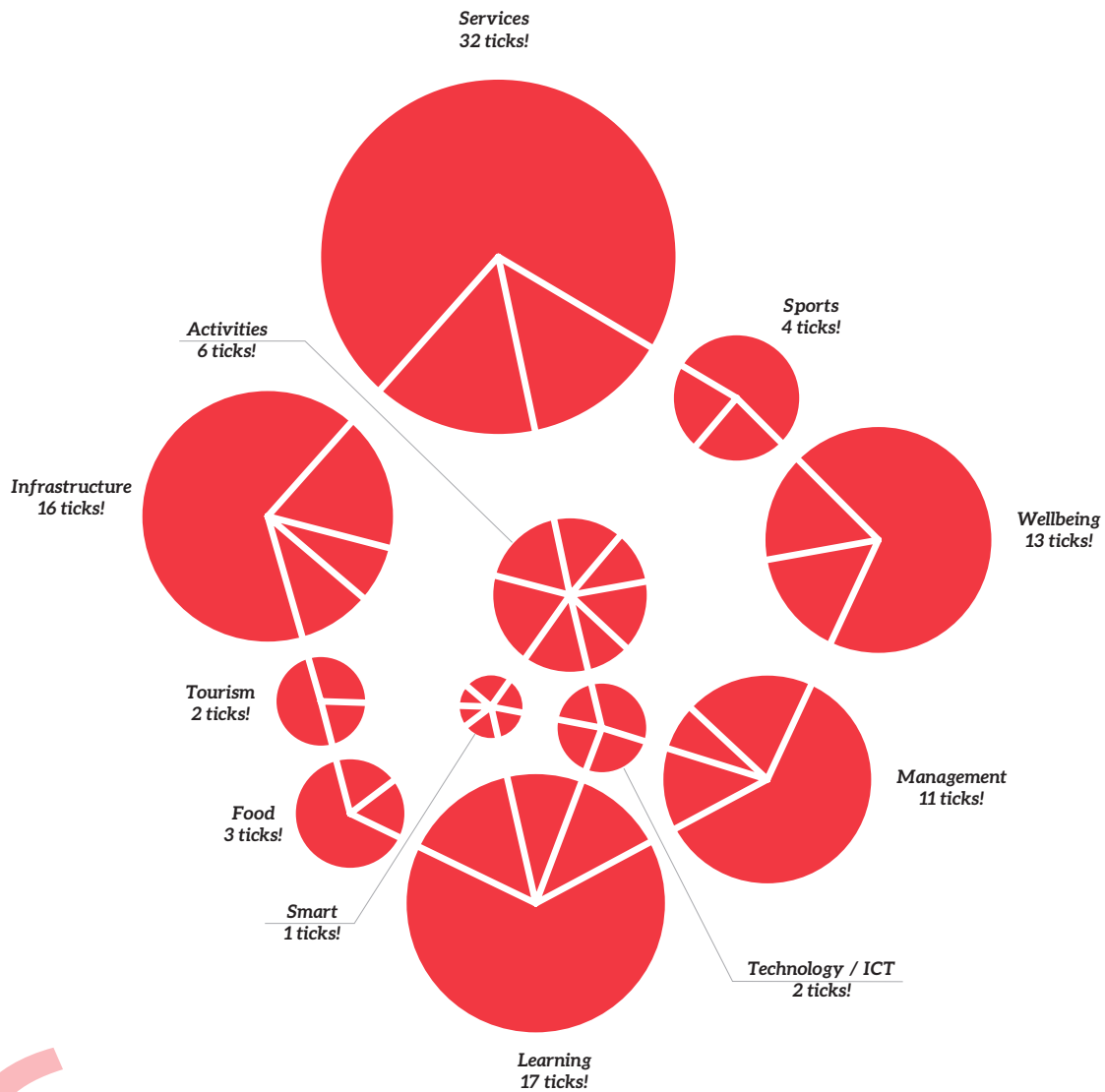
Service from Baltic

HELSINKI *"An open Helsinki speeds up the development of digital services, improves the usability of services, facilitates their interoperability, and creates new innovations and speeds up the business activities."* [28]

RIGA *"One of take-away messages corresponds well to the situation in Latvia: "When starting the reorganisation of university premises, Tartu took into account the fact that students of natural sciences need a modern infrastructure – labs, specimens, equipment for tests."* [29]

STOCKHOLM *"Actors interested in recreational services are of course especially important. Services could be commercial, like gyms or renting out bicycles or canoes, or non-profit like dissemination of knowledge to the public through a visitor centre with activities that for example could include tours in the Park."* [30]

TARTU *"These space-time choices of a big number of people in the context of Tartu influence transport load, the provision of services and livability in the whole city."* [31]

TURKU *"Customers are not looking for products or services as such, but they are looking for solutions that serve their own value creation processes, and that is deeply related to their every-day life. What people do on the campus cluster area, and how they benefit from what they are doing there?"* [32]

UPPSALA *"What activities could be involved in the old barracks after the Department of Information Technology has moved to their new premises? In particular, how can the university be an active partner in the future urban context?"* [33]

References:
[28] Helsinki Metropolia University of Applied Sciences, 2016. Local campus report – Helsinki Myllypuro Campus. P.7.
[29] Unknown, 2017. Ideas and discussions – valuable takeaways from the Livable City Forum in Tartu (Online) Available at: http://livebalticcampus.eu/2017/03/28/ideas-and-discussions-valuable-takeaways-from-the-livable-city-forum-in-tartu (Accessed 8th August 2017)
[30] Andersson, Barthel, Colding & Schewenius, Unknown. Campus Albano, Stockholm - Creating a social-ecological 'best practices' campus area in the Baltic region for supporting learning, innovation, and sense of community. P.9.
[31] Mobility Lab, Department of Geography, Tartu University, Estonia, 2016. Pilot Implementation Plan. P.1.
[32] (Unknown), 2016. Service design approach for developing Turku higher education campus (cluster) DESIGN BRIEF FOR LIVE BALTIC CAMPUS PILOT PROJECT OF UNIVERSITY OF TURKU, FI. P.5.
[33] Amcoff, Hertting, Ottosson, Stoddard, unknown. Inventory Report Uppsala University. P.5.

Service
What is it actually about?

From Product to a service-driven campus!

To stop society from producing waste and to help us find balance with the ecosystem we are part of, we have to move away from thinking about products and focus on services instead. The major difference between the two is that a product has a lifespan, a due date, whereas a service is ongoing. But how far can we take this? For example, what if education didn't give you a diploma but instead was an ongoing service that makes you an expert in the field?

Our world has limited resources and with the current speed, we will deplete them. Our way of life is no longer sustainable. After the industrial revolution, the focus was on products and ownership. Owning a car meant, and often still means, more than just owning a form of transportation. Change is needed. We need to move towards a more efficient and sustainable model. The trend is that the world moves more and more towards a service society. The current definition of service in a dictionary "the action of helping or doing work for someone" needs updating. Service can and should be so much more than assisting.
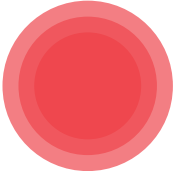
Studies from the different campuses show that the current focus is on additional services. For example, "Albano could become a node with a rich supply of recreational environments dedicated to social exchange, nature and culture experiences interlinked with learning, and exercise and health related activities." In Turku, "all over the campus area, the cafés and student and staff restaurants were very clearly wished to be open longer than to 2 or 3 p.m. On the other hand, already existing restaurants are not fully working". The studies also show that there is a desire to move campus' services to new areas. For example, "Helsinki is a testbed and a living lab for academia and businesses. The City enables the implementation of new services and business activities. An open Helsinki speeds up the development of digital services, improves the usability of services, facilitates their interoperability, and creates new innovations and speeds up the business activities."

A proven model for a service-based society is the circular economy. It focuses on regeneration rather than development, use, and disposal. Campuses are an ideal testbed for the circular economy. It's a miniature society with a strong will to innovate and evolve. Every product can be turned in to a service, so campuses lead the way to a sustainable circular society!

Every product can be turned into a service

Products are bought, they get old and they need to be replaced. This is why we need to think how this cycle could be broken and move away from the linear approach. The diagram shows some example products that one can typically find on campus and how they can be turned into a service. The goal is not only to replace the product but to make a sustainable service that is better than the original product.

(See the diagram on the right page.)

	PRODUCT	PRODUCT + SUPPORT	PRODUCT + DIFFERENTIATING	PRODUCT AS A SERVICE
🚗	car	car + carpooling	car + the right car for the right task	perfect transportation
📄	diploma	diploma + revision course	diploma + re-education	live-long learning
🖥	computer	computer on a lease contract	computer + cloud service	connectivity
⌂	apartment	rental apartment	rental + shared gym	accomodation everywhere you go
🏋	gym	gym + personal trainer	gym + personal trainer nutrition advice	healthy lifestyle
🖨	3d printer	3d printer + modeling service	3d printing + modelling and testing	high-quality prototyping
📖	book	book + e-book	book + publishing	library and publishing services

From product to a service-driven campus.

Service examples

LBC Forerunner –
Turku understands the user.

The University of Turku occupies both old and new buildings. As education is constantly developing, there has always been the question whether premises should change accordingly. By looking at the campus as a service, 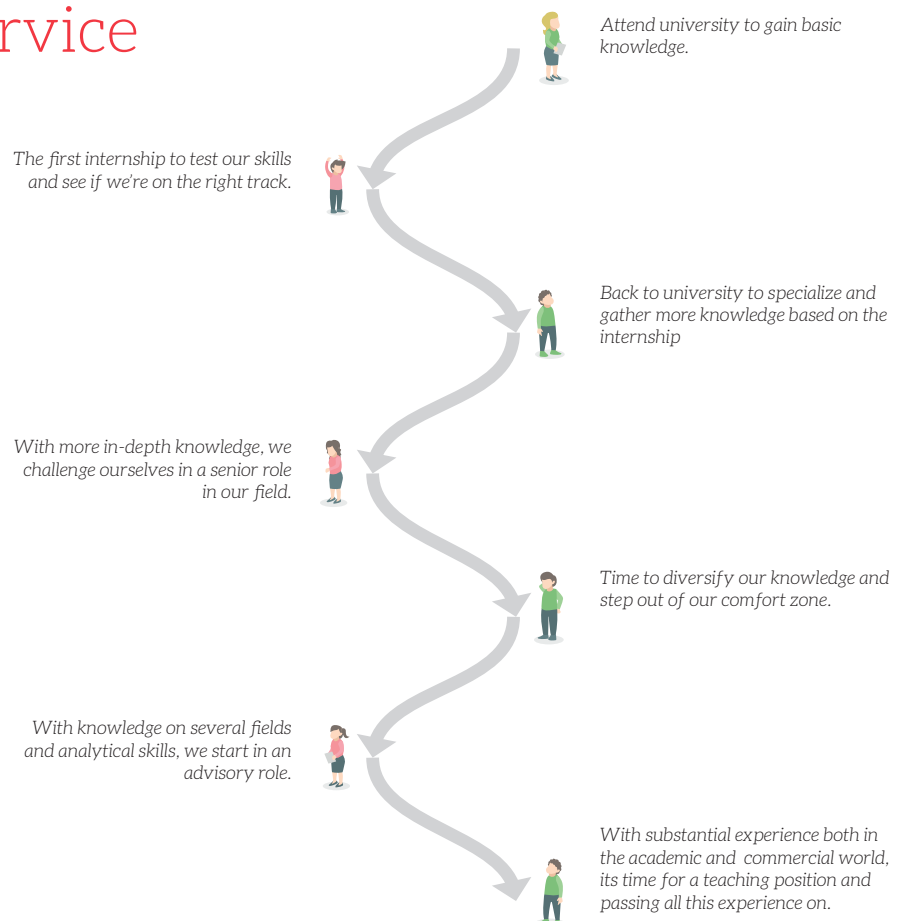the University of Turku has found a new approach where the campus is able to change from within. The crux was understanding the user of the service and aspects that add value for the user. Continuous feedback and letting the user shape the service has led to a higher efficiency between supply and demand. Hybrid spaces and time planning between different services created a more efficient use of the premises and a vibrant student life.

Education as a service

Imaginary case example.
In the digital era when the amount of data quadruples every year, it is hard to predict what work will even exist in the near future. Education as a service moves away from the model where we study full-time, graduate and work for 40 years. Education as a service is a symbiosis between work and constant learning. We constantly adapt and change our skills according to personal interest and scarcity in the market. The goal: a society where everybody enjoys what they do and unemployment rates are low.
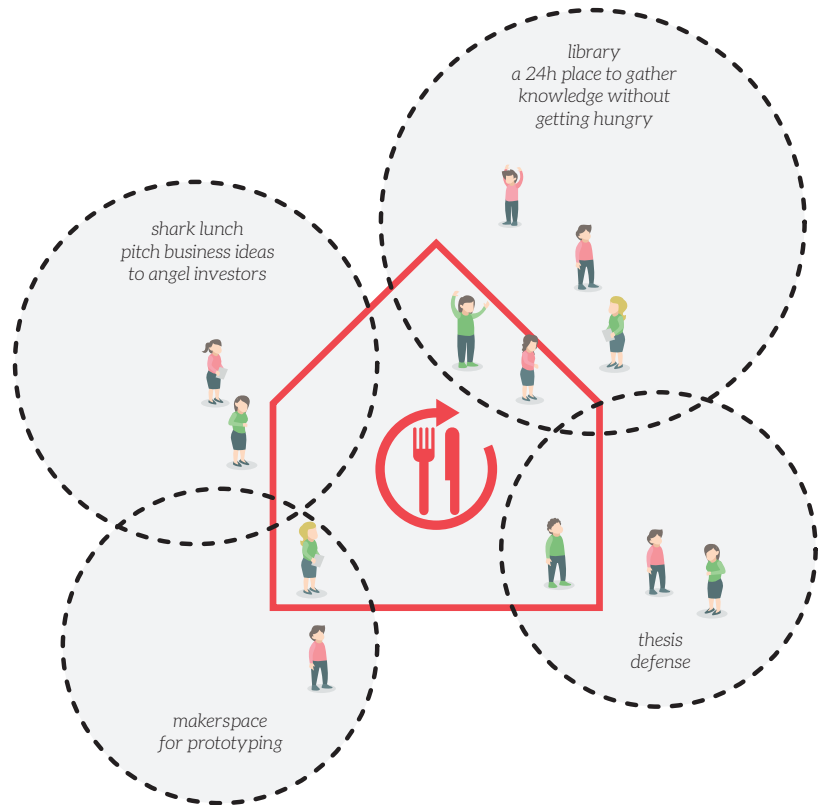
Attend university to gain basic knowledge.

The first internship to test our skills and see if we're on the right track.

Back to university to specialize and gather more knowledge based on the internship

With more in-depth knowledge, we challenge ourselves in a senior role in our field.

Time to diversify our knowledge and step out of our comfort zone.

With knowledge on several fields and analytical skills, we start in an advisory role.

With substantial experience both in the academic and commercial world, its time for a teaching position and passing all this experience on.

24h canteen

Imaginary case example.
The 24h canteen is based on a workshop organized by one of the canteen operators of the Myllypuro campus: ''In the latter of these workshop a concept of restaurant as service hub was created. The idea is to provide multiple services at the campus restaurant areas based on the need for developing services created by the lifestyle of 2017's, new ways of working and culture.''
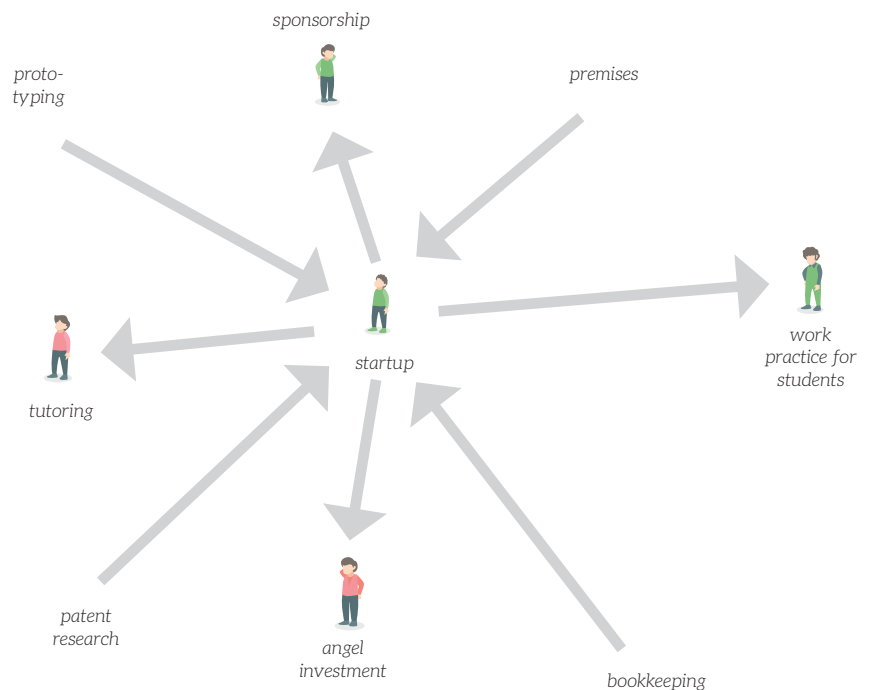
In the 24h canteen students can meet, socialize, present, produce and study. The canteen works as the dining room of the campus as food connects us all. This is good for the development of the students, efficient use of the buildings and a working business model for the canteen operator.

*library
a 24h place to gather knowledge without getting hungry*

*shark lunch
pitch business ideas to angel investors*

*thesis
defense*

*makerspace
for prototyping*

Startup service

Imaginary case example.
Students are full of good ideas but often lack the business experience. Campuses have a unique position in helping kickstart new businesses. Possible services include patent research, premises, bookkeeping, angel investment and prototyping. But how do these services flow back once these startups have proven themselves? They should provide the same services back to the campuses: offer patent research, premises, bookkeeping, angel investment and prototyping. The whole campus will flourish and become a center for innovation and research.
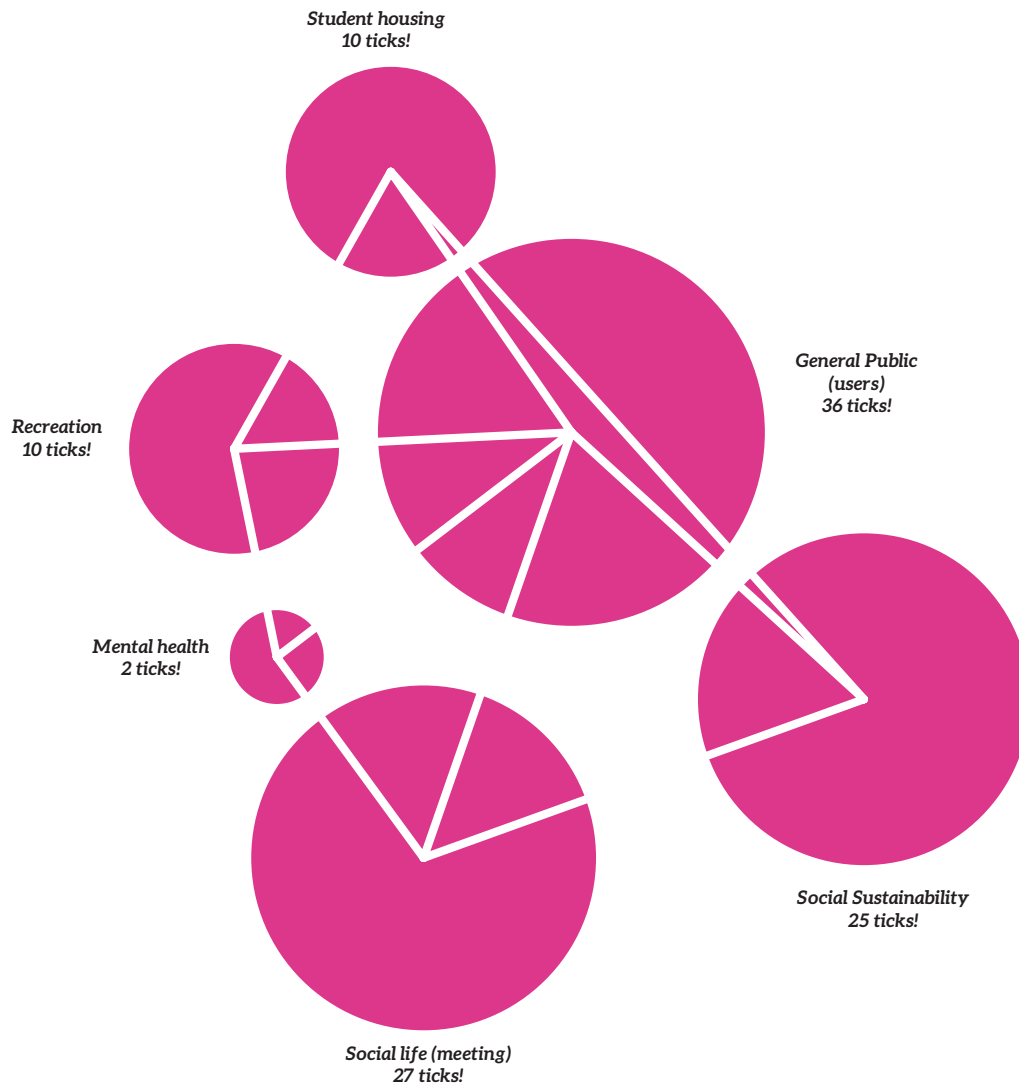

sponsorship

premises

*proto-
typing*

*work
practice for
students*

tutoring

startup

*patent
research*

*angel
investment*

bookkeeping

HEART.
Recreation, meeting, sharing and caring are the key to a socially sustainable campus.

Student housing
10 ticks!

General Public
(users)
36 ticks!

Recreation
10 ticks!

Mental health
2 ticks!

Social Sustainability
25 ticks!

Social life (meeting)
27 ticks!

Heartfelt Baltic

HELSINKI *"The idea is to have a central and high-class public space with quality architecture inviting both the students and the residents of Myllypuro to spend time and meet each other."* [34]

RIGA *"Universities must carry out projects of social infrastructure, because, if one thinks and acts for oneself only, we cannot get any further"* [35]

STOCKHOLM *"Central is to make sure the area does not develop into a academically dominated monoculture but truly become a public space where also people outside academia can feel at home*

and contribute to a more diverse social environment" [36]

TARTU *"Hence, the government prefers new university-related constructions to be developed within central city as they bring relatively constant user flows to the central part of the city. That in turn is an economic and social promoter of further activities and developments on commercial, social, and organizational cooperation level."* [37]

TURKU *"Social segregation – making sure everyone feels welcome and lessening the importance of fees and*

working hours: activities for children, activities in early mornings/evenings/ weekends, some premises open 24/7, opportunities for volunteer or pro- bono work, environmental accessibility, possibility to bring friends and family to events or classes." [38]

UPPSALA *"At Kollaboratoriet Uppsala the goal is to open up a new space for possibility. A different approach to use of time and space, and a creative, empowering, accessible environment are key conditions for developing these kinds of new meetings, relationships, innovative and challenging ideas."* [39]

References:
[34] (Unknown), 2017. Integrated Campus Development Plan Myllypuro DRAFT. P.10.
[35] Muižnieks, 2016. Latvian National Radio hosted a discussion on campus Available at: http://livebalticcampus.eu/2016/09/30/latvian-national-radio-hosted-a-discussion-on-campus (Accessed 8th August 2017)
[36] Akademiska Hus & Patchwork: KTH/SRC/KIT, 2010. Q-Book Albano 4- Sustainability. P.20.
[37] Ahas, Poom & Sõmer, 2016. Local campus inventory report: the development of IT centre of Tartu University. Tartu: Tartu University. P.10.
[38] Aaltonen, 2016. REPORT ON TURKU CAMPUS CHALLENGE ON 8 JUNE 2016 (LIVE BALTIC CAMPUS). P.8.
[39] Anderson & Gunnarsson CEMUS, Uppsala University, 2017. [DRAFT COPY, 8 May, 2017] Possible Title: 'Kollaboratoriet Uppsala: An experimental space for collaboration'. P.1.

Heart

What is it actually about?

Communality is not something to be forced but something that can bloom when encouraged.

Many of the campuses involved in the Live Baltic Campus project are longing for a built heart on the campus area. The heart would be a meeting point and a social platform for the campus community. Myllypuro is calling it Pavilion and A Place to Be, Turku is talking about the Student House. The heart can be a central indoor space or a public square outdoors. The clear message is that there is a profound need to get people together to build an active community that will boost better distribution of knowledge, collaboration and wellbeing of all the people involved.

People are the center of each community. But how can we create a built environment that collects people together and enhances the development of a strong, resilient and healthy community that also improves safety, builds life-long relationships and is resilient in social and cultural changes?

Shaping buildings, arranging spaces and designing paths carefully is the key to controlling human flows. On the other hand, moving around campus should be easy but there should also be plenty of places where one can stop, sit down, wonder and meet others.

Taking all the different user groups into consideration makes the campus open for everyone. The campus should be designed as safe and accessible for a small kid as well as an old lady in a wheelchair. If the space is safe for a kid to explore, it is safe for everyone!

The future campus is equal. It mixes people with different ethnic backgrounds, religions, income levels, ages and professions. Housing is essential in bringing life and action to campus areas also in the evenings and weekends. Should student housing be separated from or integrated with different housing types? Could there be positive communal synergies in placing different groups of people in the same building or around the same yard?

The campus should be a platform for both spontaneous and arranged meetings. Arranged meetings are easy to organize in well-equipped, inspiring, multi-use meeting rooms and facilities. Meeting rooms, placed centrally with an easy access from a lobby or other central space, invite also visitors, local residents and entrepreneurs to pop in for a meeting. Spontaneous meetings are more difficult to arrange. Such meetings can be encouraged by placing attractions, seating and activities next to principal human flows on the campus, both inside and outside buildings. Campus culture can also affect communality greatly by allowing events, get-togethers and performances.
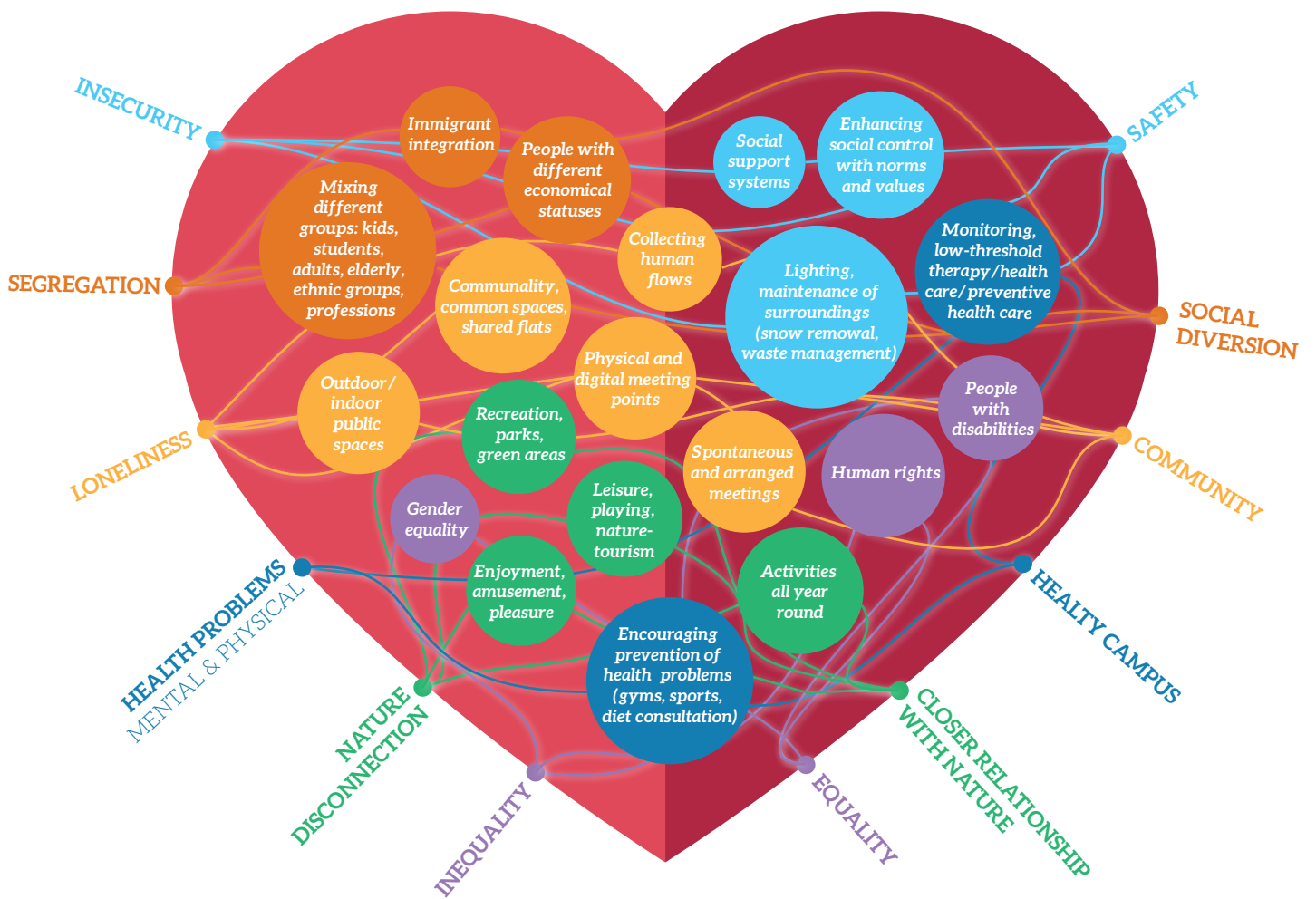
An important factor in building a community is hierarchy in space formation. Some spaces are public, some semi-public and some private. You can choose the space depending on the size of the group, type of the meeting and your current feeling. Communality is not something to be forced but something that can bloom when encouraged.

Campus Community

In order to build a healthy campus community, social challenges need to be mapped, recognized, analyzed and solved. In order to solve social problems empathically while taking everyone into account, a humane approach is needed. The diagram on the right shows some major challenges on the left, a caring heart in the middle and the outcomes on the right.

(See the diagram on the right page).

Humane approach
Tackling social challenges with Heart

Labels around the heart:
INSECURITY
SEGREGATION
LONELINESS
HEALTH PROBLEMS
MENTAL & PHYSICAL
NATURE DISCONNECTION
INEQUALITY
EQUALITY
CLOSER RELATIONSHIP WITH NATURE
HEALTY CAMPUS
COMMUNITY
SOCIAL DIVERSION
SAFETY

Bubbles inside the heart:
Immigrant integration
People with different economical statuses
Mixing different groups: kids, students, adults, elderly, ethnic groups, professions
Communality, common spaces, shared flats
Collecting human flows
Outdoor/indoor public spaces
Physical and digital meeting points
Recreation, parks, green areas
Gender equality
Leisure, playing, nature-tourism
Enjoyment, amusement, pleasure
Encouraging prevention of health problems (gyms, sports, diet consultation)
Social support systems
Enhancing social control with norms and values
Lighting, maintenance of surroundings (snow removal, waste management)
Monitoring, low-threshold therapy/health care/preventive health care
Spontaneous and arranged meetings
People with disabilities
Human rights
Activities all year round

Heart examples

LBC Forerunner –
Uppsala introduces Kollaboratoriet.

Kollaboratoriet Uppsala is a low-threshold meeting place for the academia and civil society, art and science, innovation and action. The physical space is located in the central city of Uppsala and is designed as a flexible multi-use space. The space is a platform for coming together, enhancing possibilities, and generating transdisciplinary conversation on different topics. Kollaboratoriet has hosted for example a public conversation on climate change, theater performances and innovation days. Kollaboratoriet is an inviting venue bringing people together around the same table to meet, discuss and work together for a better world.

How to add a sense of safety to built environments?

Imaginary case example.
How to add a sense of safety to built environments? Is it nice to walk through the campus late in the evening?

The first step is to map the campus area with its dark corners where people feel unsafe or reluctant to go to. The areas should be analyzed and the scary elements removed. The tools can be, for example, improving lighting conditions, maintaining paths in the winter to avoid slipping and adding social control to desolate corners. Motion detectors can be used in lighting to avoid light pollution when there is no one around.

In the winter, robots can remove snow and ice late at night so that roads aren't slippery when people leave their homes in the morning. Social control can be achieved, for example, by adding housing to the campus area. Different functions add life to campus areas and the resident community takes care of it's surroundings.
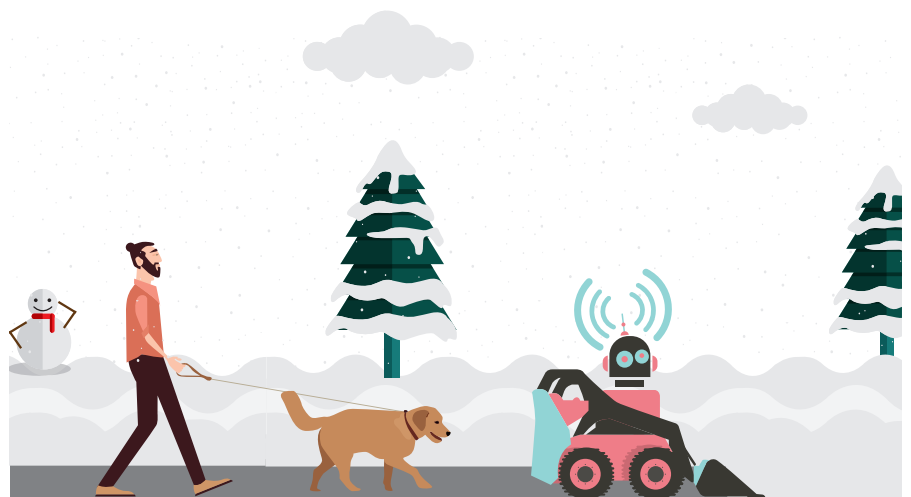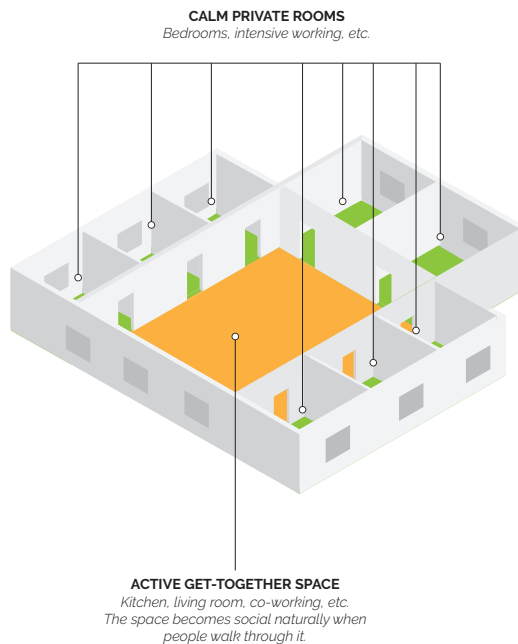
How to fight loneliness and its unwanted friends with student housing design?

Imaginary case example.
How to fight loneliness and its unwanted friends with student housing design?

The key is to create a community that encourages activity and getting together and builds life-long relationships. To succeed, housing solutions should involve calm private spaces (sleeping, resting, bathing), semi-private spaces (shared kitchens and living rooms for 6-10 people) and public areas open for everyone (party space, outdoor barbeque area and laundry room). Depending on how you're feeling, you can choose the suitable level of social interaction, but there is always company available!

CALM PRIVATE ROOMS
Bedrooms, intensive working, etc.

ACTIVE GET-TOGETHER SPACE
Kitchen, living room, co-working, etc.
The space becomes social naturally when people walk through it.

The campus should be a platform for both spontaneous and arranged meetings.

Imaginary case example.
The campus should be a platform for both spontaneous and arranged meetings. Arranged meetings are easy to organize with good, inspiring, multiuse meeting rooms and facilities. But how to urge people to meet and start conversations spontaneously and this way end-up learning from each other?

Mapping human flows in the campus area is an important measure in collecting data and developing the area. Human flow needs to be fluent, but some attractions could spur people to stop, sit down and start a conversation. How would you like a beautiful indoor waterfall where you can fill your water bottle?

Or why not add to the cafeteria a big, red and round table with a welcoming note: "I'm here by myself and ready to meet new people!"? It gives everyone a clear message that spontaneous conversations are encouraged and eating alone can be turned **into an adventure.**

Riga Livable City Forum

Elaborating on the core themes together with the LBC partners.

Uusi Kaupunki Kollektiivi, in English the New Urban Collective, facilitated two workshops in the Live Baltic Campus partners' meeting which took place 3.-4.10.2017 in Riga, Latvia.

The first workshop started with a presentation of the chosen Core Themes. After a small introduction, partners were divided into Core Theme groups to start discussions. A mind map was used to guide the conversation around each theme. For example, the City theme had urbanization as an icebreaker challenge. Different actors and stakeholders were collected to the mind map together with positive and negative effects.

After the mind map phase, groups were mixed and given the Utopiae Campus Insulae Figura, a map of an utopistic campus island located next to main land. Groups discussed the connections between the academia and the city, science and business, scholars and citizens. Should they connect the campus to the city with a bridge, grow them together seamlessly or have a drawbridge? Should there be a common ground for entrepreneurial research and transdisciplinary co-creation or should scientific results of an independent campus be exported to the mainland after testing and releasing? Are the students and scholars living inside the campus gates, right outside in

the campus suburb or in the city? The Master Class workshop was a stakeholder role-play which presented participatory urban planning through different lenses. Participants were given roles from different stakeholder groups, for example academia, business, private sphere, organizations. The roles varied from the president of World Bank to worried citizens. The task was to take part in urban planning from one's given point of view.

The workshops stirred up the imagination and lifted people up from everyday campus development challenges to see the problems and possibilities from a more general, wider perspective.
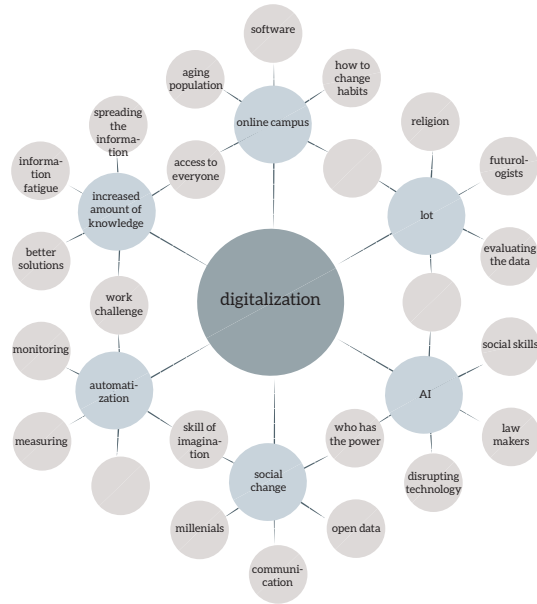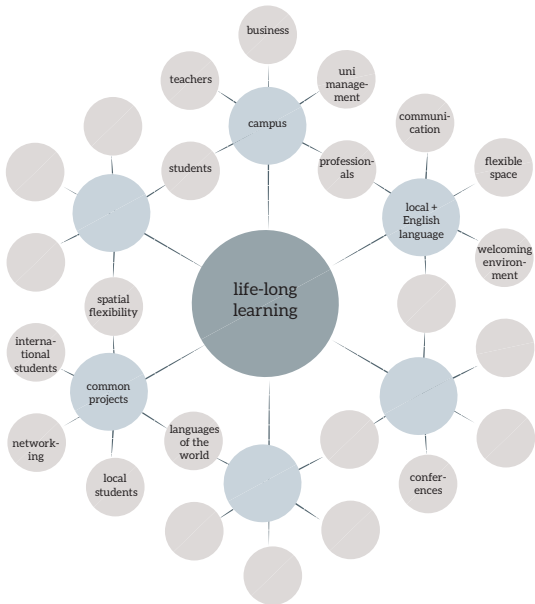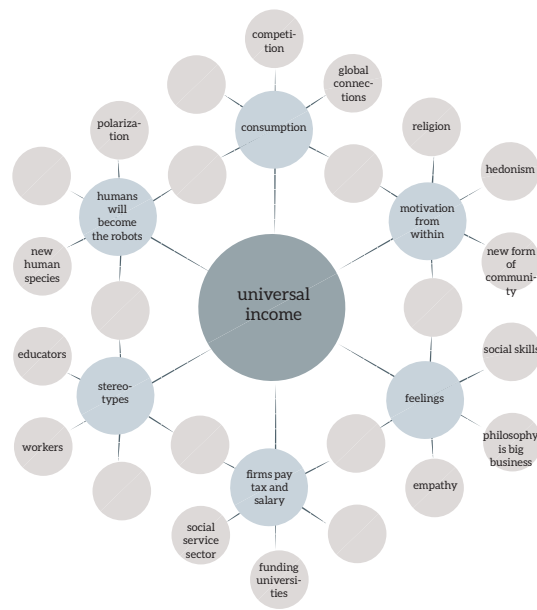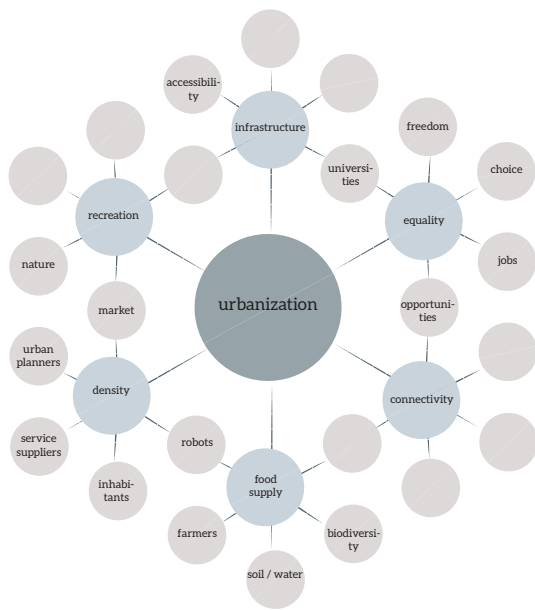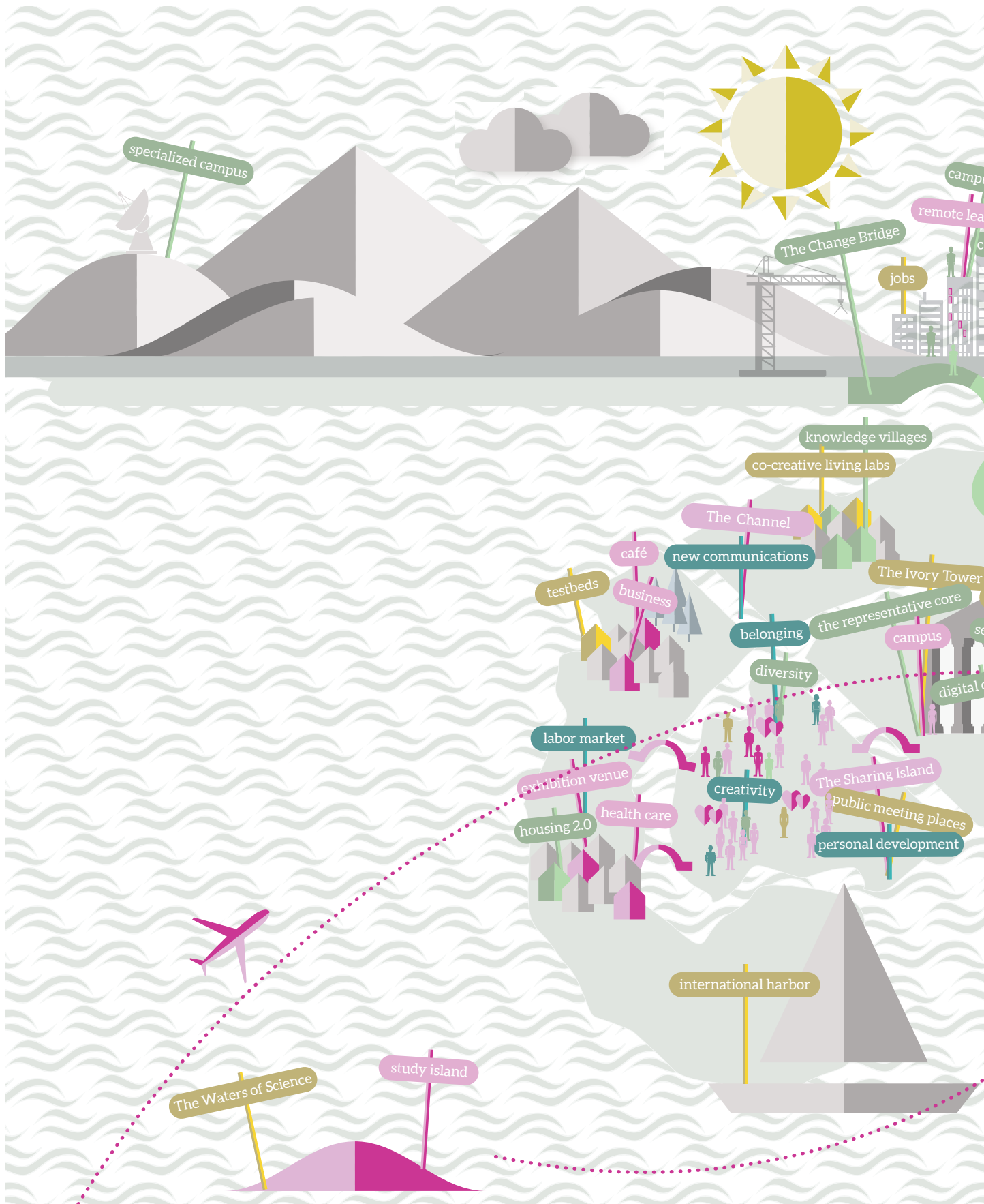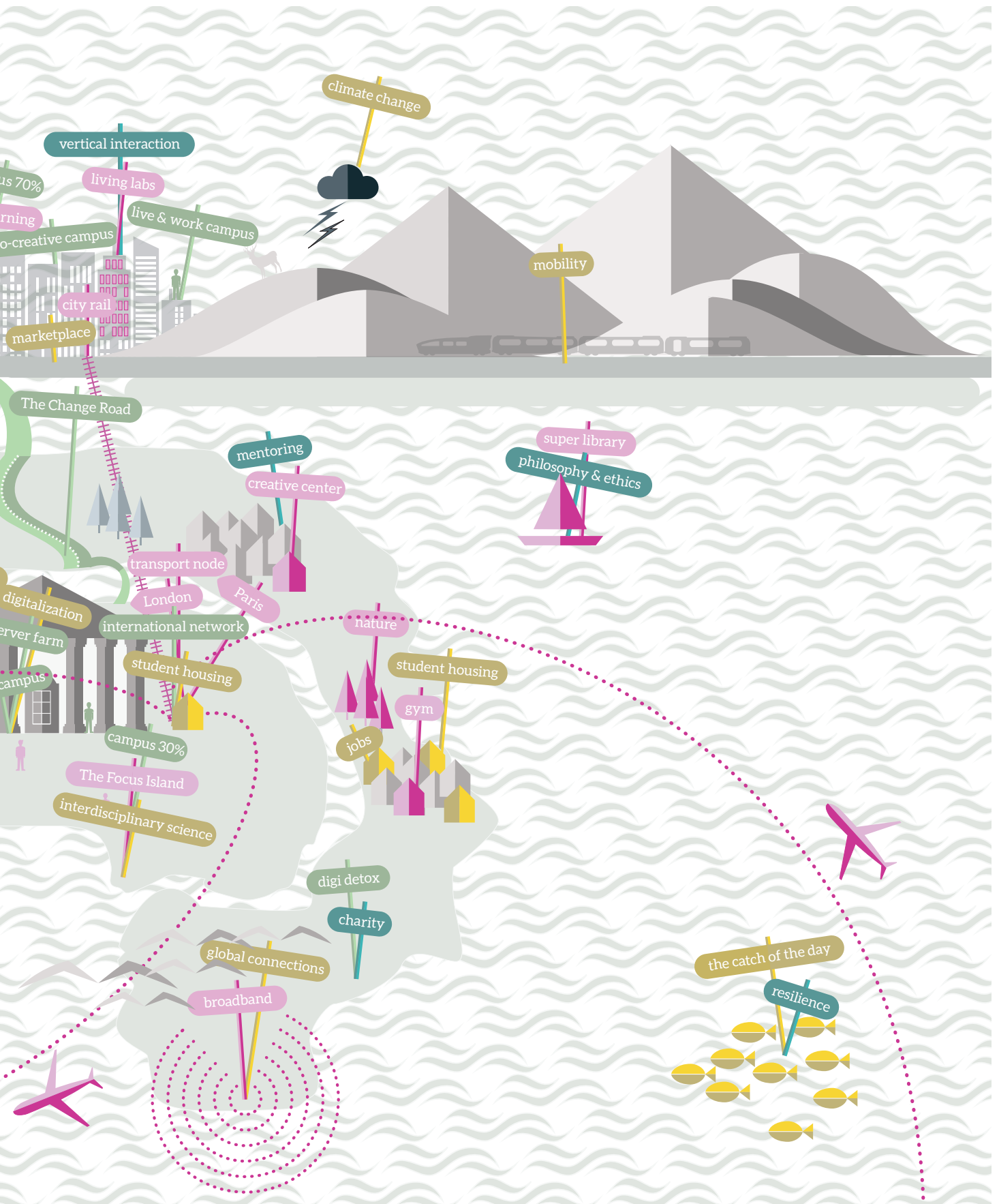
Stakeholder actors and connections
Guiding the conversation around the Core Theme discussion

Utopiae Campus Insulae Figura

A map of an utopistic campus island next to main land

specialized campus

camp

remote lea

The Change Bridge

jobs

knowledge villages

co-creative living labs

The Channel

café

new communications

testbeds

business

The Ivory Tower

belonging

the representative core

campus

se

diversity

digital

labor market

exhibition venue

creativity

The Sharing Island

public meeting places

housing 2.0

health care

personal development

international harbor

study island

The Waters of Science

climate change

vertical interaction

us 70%

living labs

rning

live & work campus

o-creative campus

mobility

city rail

marketplace

The Change Road

mentoring

creative center

super library

philosophy & ethics

transport node

digitalization

London

Paris

erver farm

international network

nature

student housing

student housing

campus

gym

jobs

campus 30%

The Focus Island

interdisciplinary science

digi detox

charity

global connections

broadband

the catch of the day

resilience

Hypothetical timeline
Core Themes from past to future

05, October, 2017
Live Baltic Conference, Riga

1760
The industrial revolution
Kick-starts the consumption society

1863
First metro line is opened
Mass transport within the city is born in London, UK.

1956
Shockley (later Fairchild)
Opens up shop in silicon valley. A new era of startup is born. Some of these companies have turned into unicorns.

1999
Social media emerges
Yahoo! and MSN messenger are launched.

2000s
Digitalization
The breakthrough of social media, smartphones and a vast range of applications.

2001
Open Source Encyclopedia
The Wikipedia online encyclopedia is founded by Larry Sanger and Jimmy Wales.

2002
Home Robots
iRobot Corporation releases the first version of its Roomba® vacuum cleaning robot.

2004
The new supermaterial
Andre Geim and Konstantin Novoselov discover graphene. The lightest, strongest, thinnest, best heat and electricity-conducting material ever discovered. It promises to revolutionize everything from computing to car tires and solar cells to smoke detectors.

2004
Facebook is launched
Facebook is launched as a Harvard-only social network. The originators were fellow students.

2006
Twitter is launched
Twitters origin was a daylong brainstorming event, and the person behind the idea was an undergraduate student.

2008
AirBnB is launched
A home sharing service that kick-starts the sharing business model

2013
Transport revolution
Elon Musk announces "hyperloop", a giant, pneumatic tube transport system.

2015
100-year-old
Starts with her PhD in neuroscience

2016
Nanotechnology
Three nanotechnologists win the Nobel Prize in Chemistry for building miniature machines out of molecules.

2016
Paris Agreement
Global aims to fight climate change are set to keep this century's global temperature rise less than 2 degrees Celsius above pre-industrial levels. All the countries involved in LBC have ratified the Paris Agreement.

2018
Digital Social
Remote learning and web courses are becoming increasingly common. Some degrees are available 100% online. Social applications to improve remote teamwork and communication are being developed.

2020
The first student...
Starts the life-long study program

2025
Private cars
Officially banned from all city centers

2025
Living
Campus is becoming a part of the city where living, working and studying merge into one concept, LIFE.

2025
Voice control
interactions on what was once called social media will largely be voice-controlled.

Together

Heart

Change

City

Bloom

Service

05, October, 2030
Live Baltic Conference, Riga

2030
Water treatment
A new generation of wastewater treatment plants that use advanced technologies will be needed to deal with the challenge of micropollutants from medicines, cosmetics, etc.

2030
Riga officially renamed
Riga is officially renamed as campus city: a city where research, citizens and businesses flourish

2030
Increased personalization
Increased personalization and human-like algorithms, more individual-to-individual communication

2030
Health monitoring
Preventive health care concentrates on real-time monitoring of body functions, stress levels, sleep and nutrition. The cafeteria will recommend you a lunch containing the vitamins you lack and an app in your smartglasses advises you to walk instead of taking a tram to achieve your daily exercise.

2035
There are over 50 megacities
With a population of more than 10 million each in the world.

2035
Circular economy is a fact.
The last disposable product manufacturer has closed its doors

2040
Change of work
A significant amount of jobs and professions will come to an end or change radically due to robotics and AI. New professions occur especially in computer sciences. People have more free time, which means that hobbies, social life and voluntary work have a significant role in people's lives.

2045
Cybernetic technology
Human life is radically lengthened by means of cybernetic technology

2045
Construction
Construction sites will be human-free. Robots and drones will do the job.

2050
Solar-energy breakthrough
Battery technology for storing solar energy will reach a breakthrough, enabling a global change from fossil to renewable energy sources. Campuses can be self-sufficient on energy production.

2050
Shopping in Virtual Reality
People can do shopping in an e-commerce store with a friend, virtually trying things on your avatar.

2050
The power of experience
Global population growth will achieve its peak. Average age will rise as people live longer and birth rates become moderate. This is already happening in the Western countries, including Baltic area. At the same time, learning becomes a life-long journey. How can campuses benefit from the experience of elders and how can they serve continuos learning processes?

2050
IOT goes all the way Humans
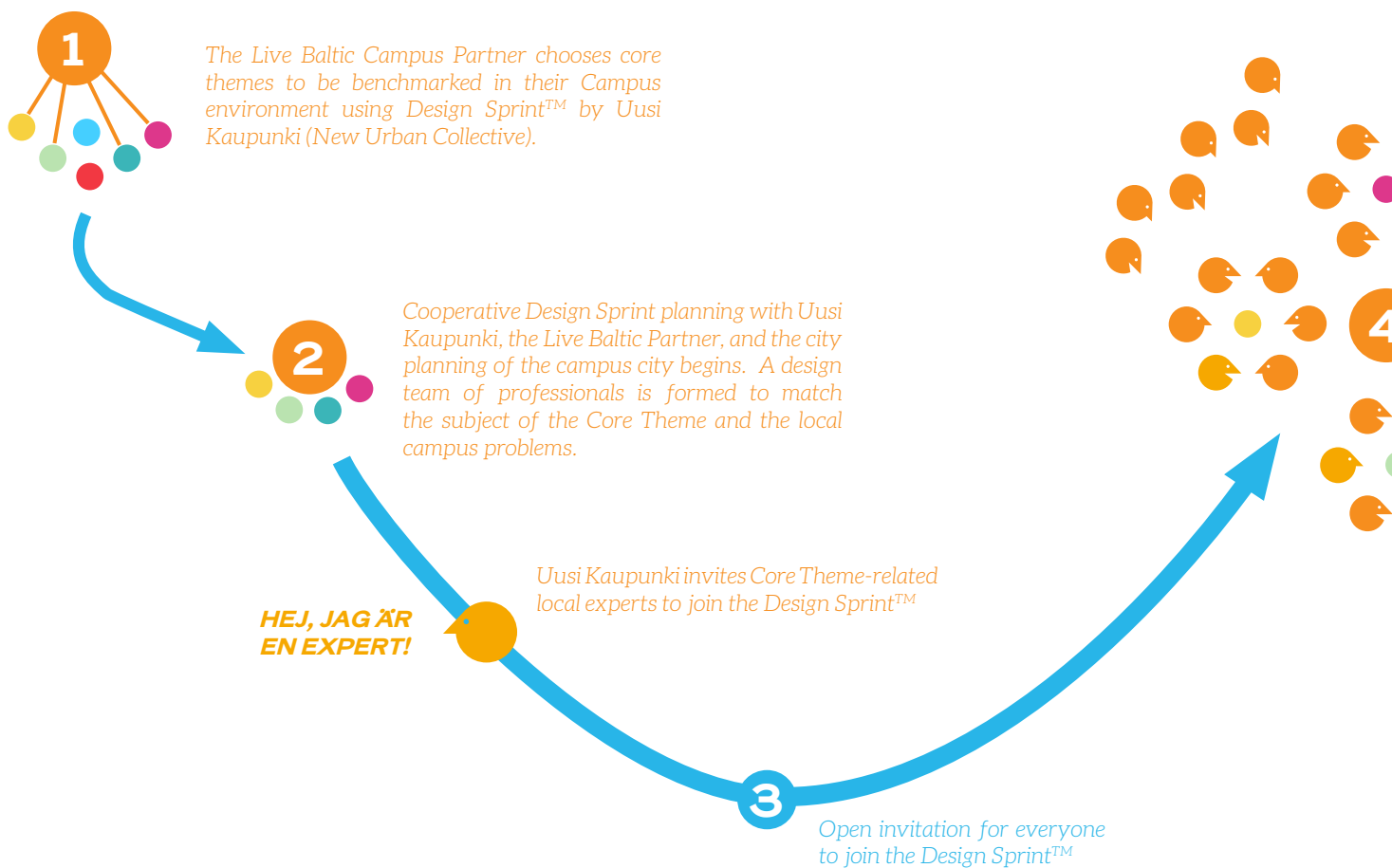have an implanted device in their bodies which connects to everything around them.

Live Baltic Benchmark

Design Sprint™ Meets
the LBC Partner Campuses

Benchmarking the Core Themes
How can the core themes be implemented and elaborated into real campus environments?

1 *The Live Baltic Campus Partner chooses core themes to be benchmarked in their Campus environment using Design Sprint™ by Uusi Kaupunki (New Urban Collective).*

2 *Cooperative Design Sprint planning with Uusi Kaupunki, the Live Baltic Partner, and the city planning of the campus city begins. A design team of professionals is formed to match the subject of the Core Theme and the local campus problems.*

Uusi Kaupunki invites Core Theme-related local experts to join the Design Sprint™

HEJ, JAG ÄR EN EXPERT!

3 *Open invitation for everyone to join the Design Sprint™*

4

Uusi Kaupunki

Uusi Kaupunki, "New Urban Collective", is a collective of user-centered design offices specializing in participatory urbanism. Our core service is to work with municipalities, communities and companies, using architecture and planning as a tool for problem solving in urban contexts. In order to improve our urban environments, we are dependent on multidisciplinary collaboration as well as extensive dialogue. We include the voice of the citizens in our work through an award-winning workshop method, the Design Sprint**™**, and aim at involving all parties in the early stage of planning.
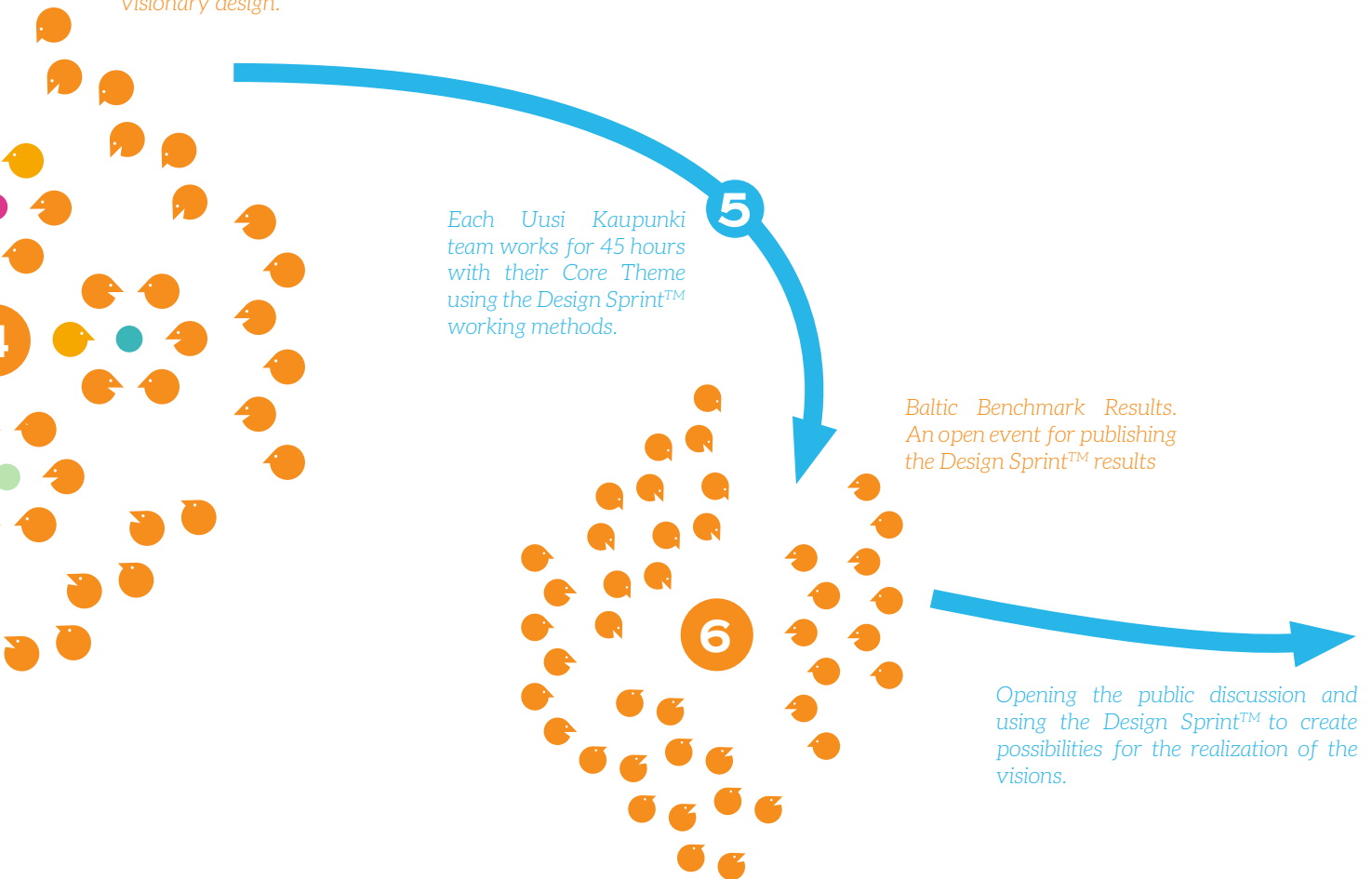
Design Sprint™

Design Sprint™ is a award-winning urban development design process developed by Uusi Kaupunki. During the Design Sprint, Uusi Kaupunki works in small teams with selected topics and hand-picked professionals, providing our clients with several comparable solutions. To come in contact with the public, we typically locate our temporary collective design office in a busy public space during the Design Sprint. At the end of the Sprint, each team presents a solution for current issues in the city. Visualized designs are an effective way to generate discussion and debate.

Myllypuro Benchmark

was the first LBC campus where the elaborated Core Themes of the project were put in to test using Uusi Kaupunki's DesignSprint**™** method. The Benchmark was organized in cooperation with the Live Baltic Campus project, Metropolia, Uusi Kaupunki and the City of Helsinki. The Benchmark events were held in two parts. On October 12, 2017, the first event of DesignSprint was organized for various stakeholders of Myllypuro in Mylläri Community House. After the event, pre-selected Uusi Kaupunki urban designer teams started a 45-hour-long vision work, and the

1-day DesignSprint™ open and participatory campus workshop is organized in the campus area. Designer teams collect ideas and deep dive into the local mentality and try to understand the conditions well enough to come up with a visionary design.

5

Each Uusi Kaupunki team works for 45 hours with their Core Theme using the Design Sprint™ working methods.

Baltic Benchmark Results. An open event for publishing the Design Sprint™ results

6

Opening the public discussion and using the Design Sprint™ to create possibilities for the realization of the visions.

results were presented on November 2, 2017 at an open event at Mylläri.

For the Benchmark, Metropolia and the City of Helsinki selected four Core Themes to be tested. The vision for Core Theme "City" reflects on how the supplementary construction of the Myllypuro campus building could support the development of regional vitality and an active urban environment. The Core Theme "Change" explores how Myllypuro will change, flex and develop, for example, in 2020, 2030, 2040, and how the "change" can be seen in the lives of residents and working people. "Bloom"

explores what kind of synergy benefits Metropolia, Myllypuro and other future actors (e.g. Stadi Vocational College) could and would like to get from each other? How can the operators who are not in Myllypuro benefit from Myllypuro?
"Heart" reflects on how to secure the potential of mental and physical well-being and how to develop them with the help of new actors.

As a base for the vision work, Uusi Kaupunki and the City Planning Department of Helsinki went through potential/problematic development areas/buildings/plots within the Myllypuro area.
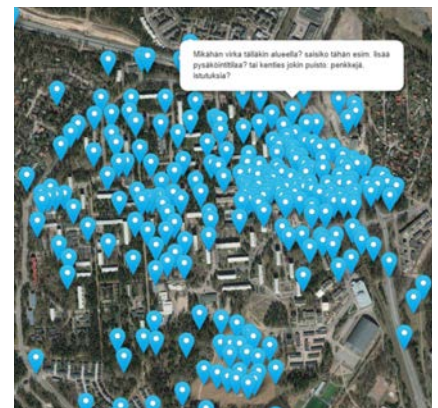
Ideas from the locals were gathered to the Uusi Kaupunki website (www.uusi-kaupunki.fi)

City in Myllypuro

· ·

3 steps for Living Green

1. To maintain the presence of green in the area, specific green areas will be developed into more defined spaces that individually serve different purposes tailored to the community.

2. Densification that accommodates the incoming campus population will be strategically concentrated around a main axis, establishing a recognizable heart to the neighborhood and preserving greenery.

3. Ground floors will be repurposed to facilitate services provided by the HEI while parasitic structures such as flex spaces and green roofs create more immersive living experiences. The community will feel a deeper connection to the campus and the overall quality of life in the area will improve in return.

· ·

STUDIO PUISTO

"Living Green" concept is made by
Uusi Kaupunki team Studio Puisto Architects Ltd.

'Living Green'
## Densification the green way

PROBLEM

With the introduction of a new campus and more student housing, Myllypuro continues to grow. How can we foster this inevitable growth in a way that makes Myllypuro an even better place to live?

PARTICIPATION

Throughout the workshop, Myllypuro residents voiced not only their current views on the neighborhood but also how they would ideally see their community develop in the future. While the answers were diverse, most participants saw the new campus area as a place for possibility and its development as a catalyst for positive change in Myllypuro. The participants also unanimously agreed that the green spaces were without a doubt the most valuable and rewarding parts of the area. Consequently, many naturally expressed deep concerns that the planned densification of Myllypuro would affect these green spaces and diminish their presence. When it came to services, participants found those already offered to be more than sufficient, yet remained interested in the possible synergies between the incoming campus students and the current community. The expertise of these students could become available for everyone in the form of new services relevant to their studies.
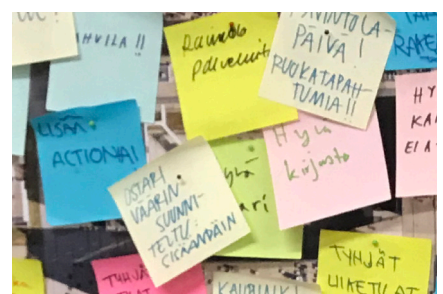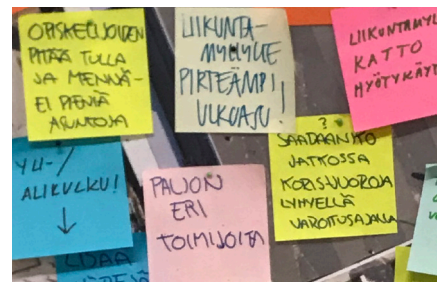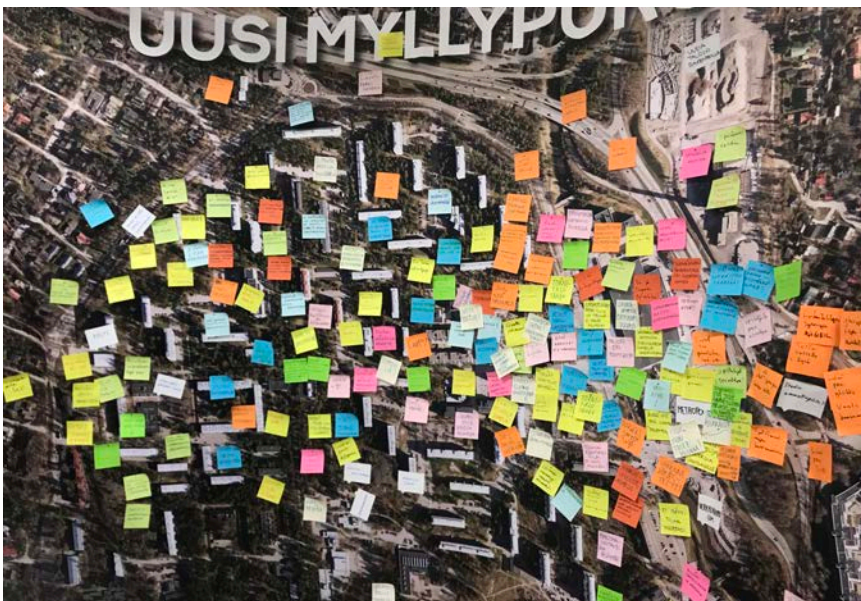
ANALYSIS BEHIND THE IDEA

The analysis was concentrated on two main objectives: 1. develop the green areas in Myllypuro into more distinctive spaces that are all individually beneficial to the community and 2. create a plan for strategic densification in the form of parasitic additions tailored to what has already been planned and proposed by the city.

The workshop with residents made it evident that Myllypuro's strength as a neighborhood is its greenery. To both enhance and bring this integral piece of Myllypuro's character to the forefront, it was imperative to consider these green spaces as their own areas for development within the design process. The main green spaces will thus be given clearer, more engaging personalities that will in turn cater to the varied and diverse needs of the inhabitants even better than they do now.

With the green spaces in mind, Myllypuro's inevitable densification is carefully designed in a way that does not compete or challenge the greenery. Instead, the densification is to be seen as a positive change for the area that will bring forth a more enriching community experience for its residents. They will be provided with more relevant services that both correspond and synergize with the coming campus in the near future.

The densification is ultimately planned as a well-balanced hybrid of built additions both in the form of entirely new structures as well as new structures that do not necessarily have a footprint, such as small-scale "parasites" that sit on, lean against and cling onto existing buildings. These parasites will serve the needs of the community first and foremost as flex spaces for needed programs.

Similarly, additional floors will be added onto existing buildings that are strategically located along the main axes to free up the ground floors. These ground floors can then be repurposed to suit the needs of the community more specifically in the form of services that are brought in by the HEI. Through these services, the campus can integrate harmoniously into the community not only physically but mentally as well. Myllypuro residents will consequently be deeper connected to what happens on the campus as the teaching and studies of the staff and students make their way into the community.
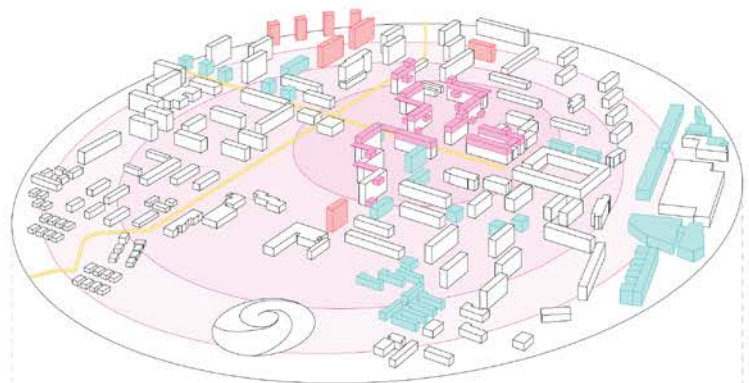
Densification
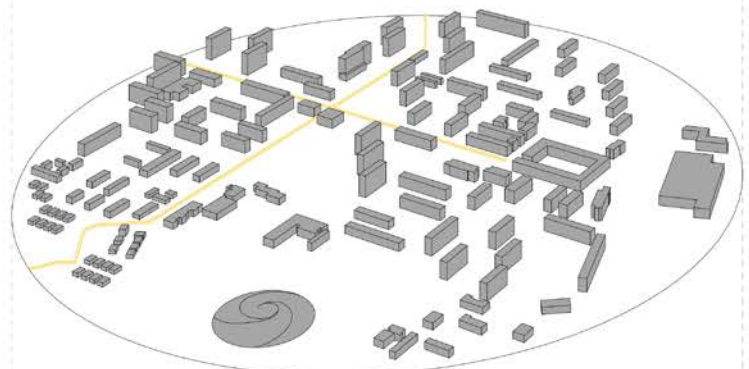
idea 2: strategic densification through parasitic additions (pink) that take into consideration the planned (blue) and proposed (red) city developments.
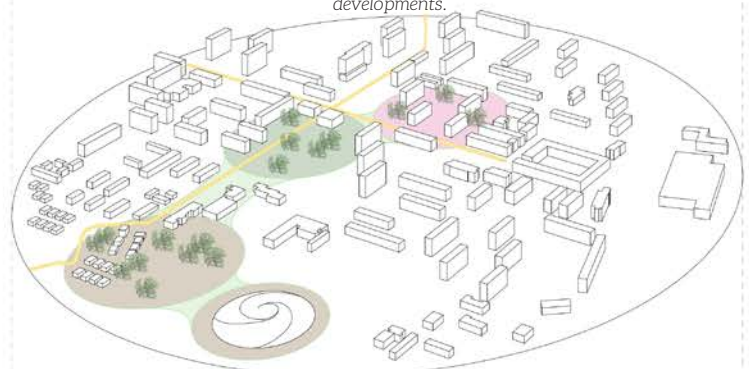
Greenery

idea 1: develop high-quality green areas that each embody an individual character and spirit

Existing Buildings

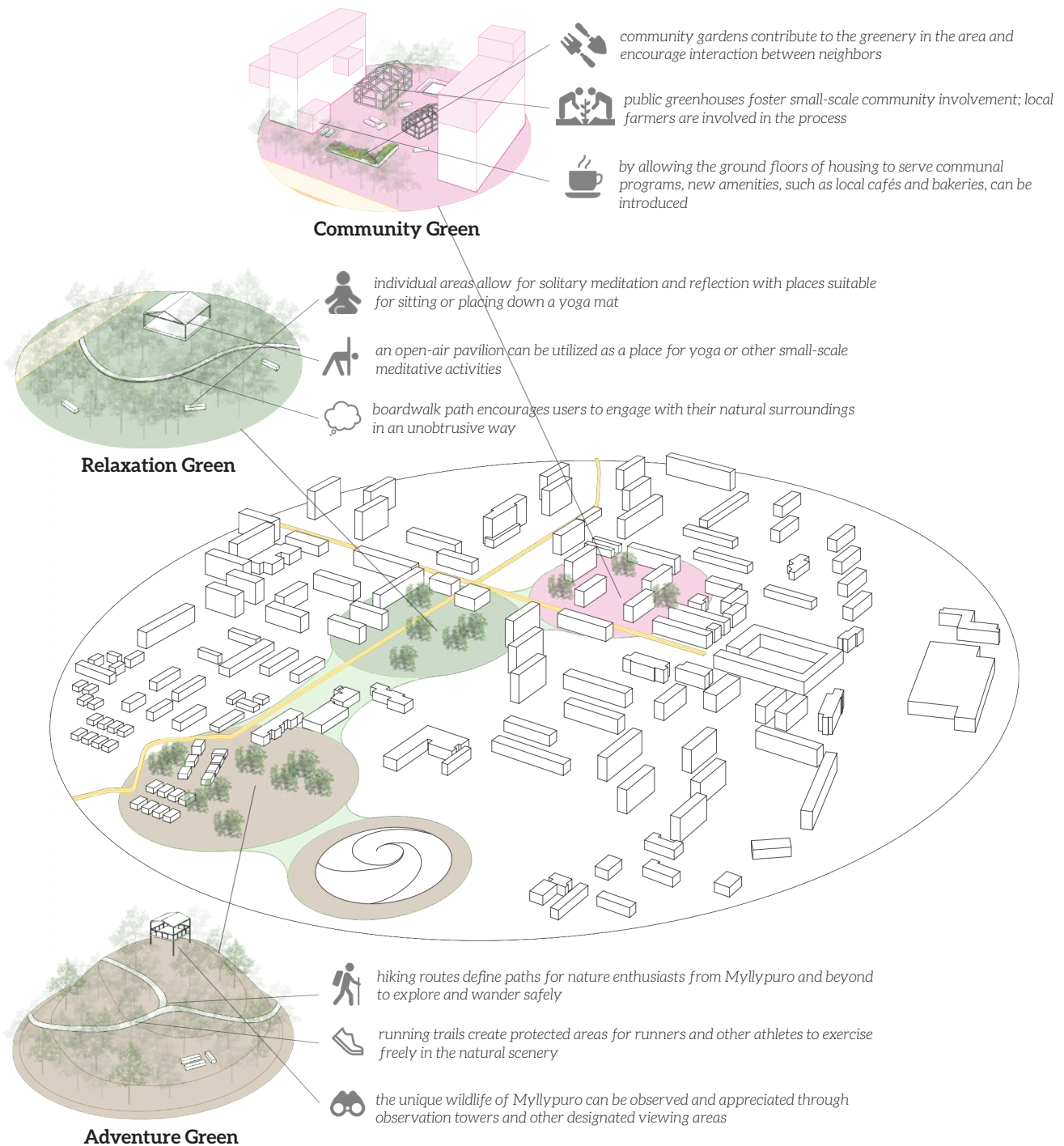*current footprint of Myllypuro omitting planned and proposed city development*

Myllypuro

GREENERY

By developing higher quality green spaces in Myllypuro, three individual areas come forth naturally: community green, relaxation green, and adventure green. The distinctive qualities of each space are amplified and defined in order to generate more dynamic experiences. Community green focuses on bringing neighbors together in ways that benefit both the users and Myllypuro as a whole. On the other hand, relaxation green achieves the opposite as it creates places for solitary reflection and meditation. Lastly, adventure green appeals to the sports-driven communities in Myllypuro as it combines hiking paths, running trails, and structures for wildlife observation.

community gardens contribute to the greenery in the area and encourage interaction between neighbors

public greenhouses foster small-scale community involvement; local farmers are involved in the process

by allowing the ground floors of housing to serve communal programs, new amenities, such as local cafés and bakeries, can be introduced

Community Green

individual areas allow for solitary meditation and reflection with places suitable for sitting or placing down a yoga mat

an open-air pavilion can be utilized as a place for yoga or other small-scale meditative activities

boardwalk path encourages users to engage with their natural surroundings in an unobtrusive way

Relaxation Green

hiking routes define paths for nature enthusiasts from Myllypuro and beyond to explore and wander safely

running trails create protected areas for runners and other athletes to exercise freely in the natural scenery

the unique wildlife of Myllypuro can be observed and appreciated through observation towers and other designated viewing areas
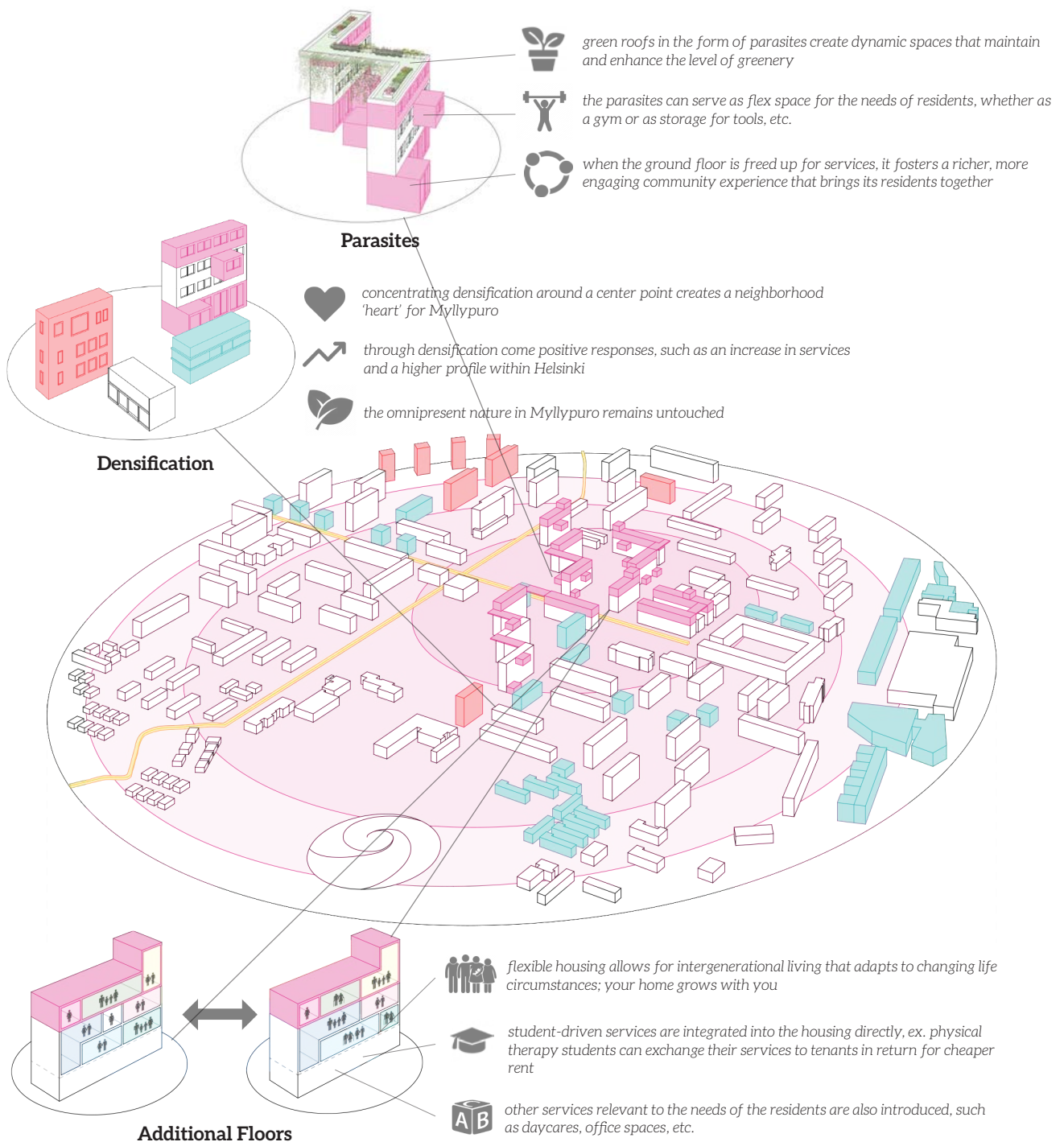
Adventure Green

DENSIFICATION

Through sensible densification, Myllypuro can grow in an innovative way that will benefit its residents for generations to come. Three different strategies are employed: considering what is both planned and proposed by the city, adding floors, and adding parasitic structures. By staying mindful of what is already planned and proposed for Myllypuro, we can avoid issues of over-densification and instead sensitively concentrate the development in a way that fosters the true 'heart' for the area.

Similarly, adding floors and parasites to structures in this 'heart' frees up the ground floors to be repurposed for other services while diversifying the housing plans and building footprints.

green roofs in the form of parasites create dynamic spaces that maintain and enhance the level of greenery

the parasites can serve as flex space for the needs of residents, whether as a gym or as storage for tools, etc.

when the ground floor is freed up for services, it fosters a richer, more engaging community experience that brings its residents together

Parasites

concentrating densification around a center point creates a neighborhood 'heart' for Myllypuro

through densification come positive responses, such as an increase in services and a higher profile within Helsinki

the omnipresent nature in Myllypuro remains untouched

Densification

flexible housing allows for intergenerational living that adapts to changing life circumstances; your home grows with you

student-driven services are integrated into the housing directly, ex. physical therapy students can exchange their services to tenants in return for cheaper rent

other services relevant to the needs of the residents are also introduced, such as daycares, office spaces, etc.

Additional Floors

Together, higher-quality green spaces alongside strategic parasitic densification will harmoniously foster Myllypuro's growth in a way that does not interfere with what truly embodies the spirit and character of Myllypuro: its greenery.

Densification tends to have a negative connotation when it comes to urban development. And naturally, when the new incoming campus concept was introduced, fears regarding the state of Myllypuro's omnipresent green spaces were immediately brought into question. Fortunately, these concerns can be mitigated by focusing on the greenery just as much as focusing the densification itself. The green spaces should be factored as their own individual units that are subsequently considered and developed in the overall equation during the design process.

As a result, three primary green spaces along the main corridors are not only protected but also enhanced to better cater to the varied communities in Myllypuro. Running groups can take advantage of safe running routes in the adventure green while neighbors can come together in the community green to cultivate different crops that can then be enjoyed after a fruitful harvest.

To accommodate the growing population more efficiently, parasitic densification methods can create new windows for opportunity in Myllypuro without increasing the overall building footprint.

For example, the ground floor of an apartment building can be repurposed to serve as a local sports store that rents out mountain bikes for residents to use in the adventure green. In another case, incoming students can donate their time and expertise to operate a physical therapy clinic on the ground floor of another apartment building to directly benefit those who already live there. Across the board in every potential situation, densification strategies are used as tools that facilitate a stronger, more rewarding community presence.

The parasitic roof additions on apartment buildings can continue this trend by compensating for the greenery lost by the building footprint on the roof above it. This in turn creates a stronger, more dynamic green environment that visually reaches far both horizontally and vertically.

Overall, densification aims at bringing about positive outcomes for the community – truly redefining what it means to 'live green' in our growing society today.

Change in Myllypuro

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3 steps for 'Myllypuro City Campus'

1. The densification of the forest suburb will make Myllypuro a part of Helsinki's growing inner city area, a new campus.

2. The street level must be densified and redeveloped in order to create a connecting series of public spaces throughout the City Campus. At the same time, the greenery between buildings and the wide views from the housing blocks should be protected.

3. Myllypuro will function as an urban laboratory for the City Campus. New norms, local pilot programs and patterns will be tested.

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Jada

*"Myllypuro City Campus" concept is made by
Uusi Kaupunki team Jada.*

'Myllypuro City Campus'
A pilot of Change

PROCESS

The densification of the forest suburb will make Myllypuro a part of Helsinki's growing inner city area. How will this process shape the identity of Myllypuro and the future City Campus?

PARTICIPATION

The purpose of the participatory workshop is to invite inhabitants and local experts to share their opinions on how to form a strong identity for the new Metropolia Campus in Myllypuro. The workshop participants were asked to define the future campus values and functions by using pictures associated with learning and working environments, leisure and free time, interaction and cityscape. Local potential and positive features were mapped in the workshop and online.

ANALYSIS BEHIND THE IDEA

Interaction Hubs
Restaurants and event spaces are platforms for informal interactions. They are drivers in the process of forming a new campus community.
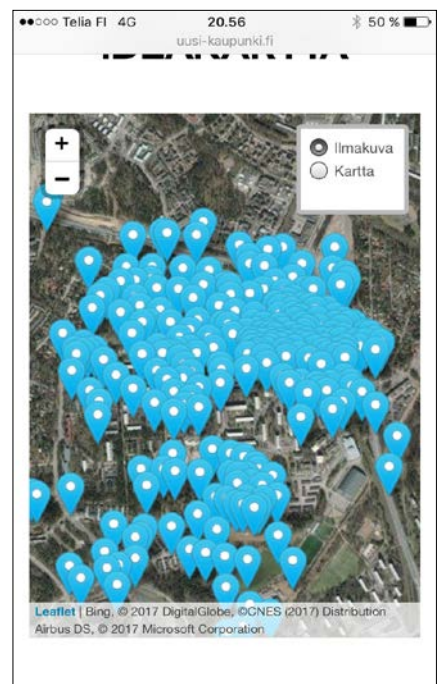
The Campus City
Myllypuro will be transformed into a vibrant city campus. Local inhabitants shared their view on "megatrends" in the urban landscape.

(Co-)working Spaces
Work is no longer defined by office spaces and school environments. Portable devices and new technology enable people to mix work and living in more flexible ways.

Informal Learning Environments
The learning process is ongoing all around the campus. Professional training gives students the opportunity to interact with local residents.

Free Time
Free time gives counterbalance for hectic everyday routines. The Myllypuro identity as a forest city should be cherished. Parks and urban gardening can be used to reinforce the local green scape.
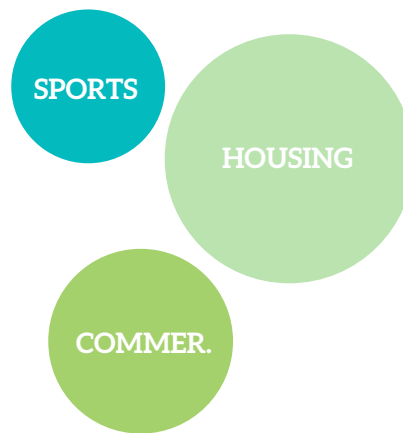
IDEA

Metropolia campus development and other ongoing projects in the neighborhood will nearly double the number of people livin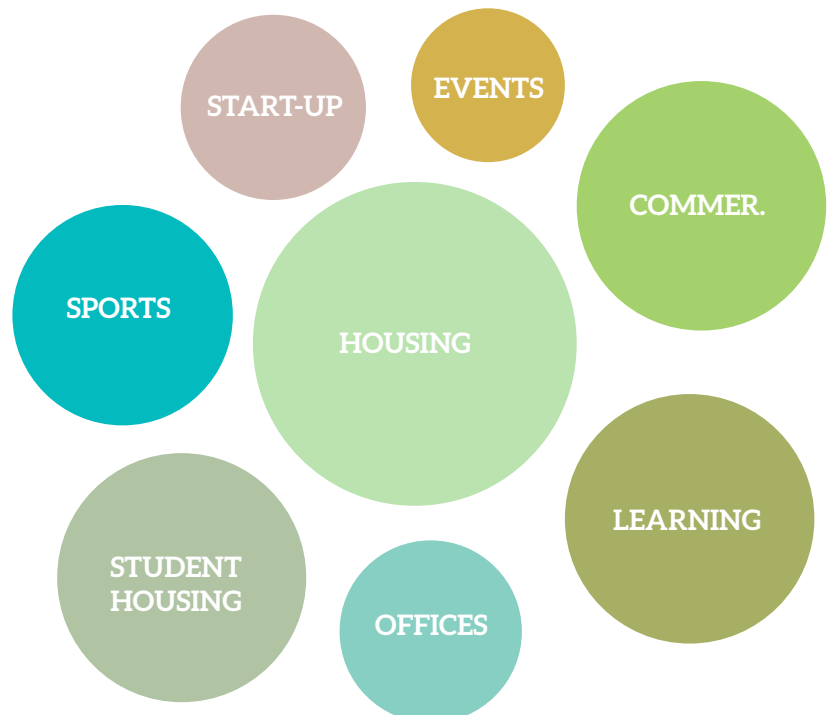g and working in Myllypuro. The identity of Myllypuro will be shaped by a new mix of functions and hidden potential of the larger community should be revealed in order to create a place for everyone. A multifunctional and vibrant urban community will also attract people from all over the metropolian region.

**MYLLYPURO
2017**

SPORTS

HOUSING

COMMER.

**MYLLYPURO
CAMPUS
2027**

START-UP

EVENTS

COMMER.

SPORTS

HOUSING

LEARNING

STUDENT
HOUSING

OFFICES

IDEA

Myllypuro can be identified as a typical forest suburb. However, these premises are not enough to satisfy the needs of the new Campus City; the current building scape of Myllypuro can't shelter the new diverse mix of functions. On the other hand, new learning environments shouldn't be developed apart from old Myllypuro. The street level must be densified and redeveloped in order to create a connecting series of public spaces throughout the City Campus. At the same time, the greenery between and the wide views from the housing blocks should be protected.

Forest suburb

+

Learning environment

=

City Campus

New norms and technology-aided parking solutions enable densification and liberation of the street level. The new public domain should adapt a distinct and joyful formal language. Community driven initiatives and pop-up services should be financially supported and used as drivers in order to create city scape worthy of Myllypuro.

[2]

✗

✓

✓

The foremost challenge in the breakwater between new and old is how to define the identity of the growing community. The best result can be achieved by a locally anchored and experience-based process in the framework of the local strategy plan.

Innovative means should be used to speed up internal growth; e.g. experiments with local time, bank, local currency and service tickets. Resources and financial support should be used as much as possible in projects that are developed in collaboration with the local community (as Helsinki Youth Centre already does).

The use of public and rental spaces should not be guided solely by profit expectations. Content and other forms of surplus values should also be considered. If successful, growth boosted by the local initiatives will catch the attention of the surrounding communities and hence initiate further growth. Also commercial actors should be partners in the process and benefit from positive results.

The transformation from a forest suburb to an urban city campus will certainly bring on many challenges. The starting point for change should be the preservation of local qualities such as wide views and living in the midst of the pine trees. The new street scape will replace views of inefficient parking and service areas. The new developments should be low-scape or minimum-footprint. Colors and innovative solutions are used to create a contrast to the existing streamlined whitish building scape. Through careful planning, development and change will be seen as a positive and empowering process.

The city will have a significant role as a major land owner and infrastructure facilitator. New strategies and agreement forms should be used regarding land use, i.e. building permits can be granted on special terms for a shorter time. In some cases, a local pilot could generate better rules than general norms and regulations. Successful experiments will be used as benchmarks, and Myllypuro should function as an urban laboratory for the city campus.

Bloom in Myllypuro

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3 steps for 'Space Mill'

1. Bring together people who are interested in the knowledge and skills that are situated in Myllypuro

2. With shared resources and flexible leases, form a platform for expertise

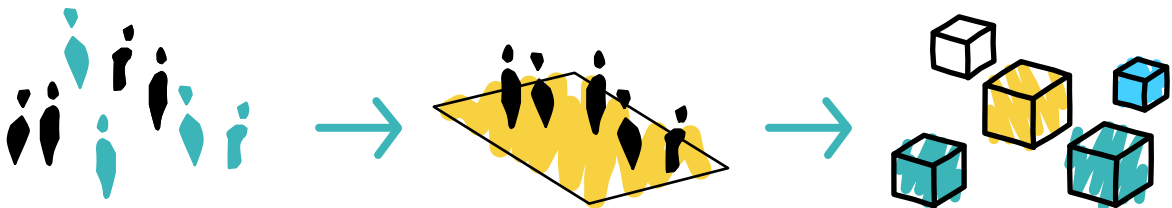3. Let Space Mill evolve into a scalable and changing ecosystem

· ·

ARCHITECTS RUDANKO + KANKKUNEN

"Space Mill" concept is made by
Uusi Kaupunki team Architects Rudanko + Kankkunen Ltd.

'Space Mill'

A bridge between a modern working environment, a school building and a public space.

PROBLEM

Influx of knowledge

The newcomers, 6000 students and 500 teachers bring a lot of new knowledge and know-how to Myllypuro. The new campus will attract interest in the area.

Platform of expertise

Talent is drawn to places with knowledge and like-minded people. Projects are then run by multidisciplinary teams that combine their efforts to create something new and innovative.

Where do local residents, people from neighboring areas, companies and students meet, share and benefit from the knowledge that will be located in Myllypuro?

PARTICIPATION

The workshop produced ideas on how the locals, companies and the campus could work together in forming a new blooming Myllypuro. Local residents saw the potential in services that the Metropolia students could offer them. They also hoped that student activities would be centered around Myllypuro center, so that the campus would not spread to the residential areas. Furthermore, a representative for local businesses said that there is a need for smaller office spaces with shared resources and storage space. The city officials saw Myllypuro as a testing ground for synergies between locals, companies and students.

"Entrepreneurs need possibilities to rent **small** commercial spaces, for smaller companies and projects."

"The **Metro** is an great advantage for Myllypuro! **Cars** need to be taken into account."

"Concentrating construction industry to Myllypuro encourages experimental product development and **start-up companies.**"

"More homogenous **flexible** space that can be utilized by anyone."

"Entrepreneurs and private citizens could carry out joint and commissioned projects with Metropolia. This type of setting would allow for **pop-up companies** to emerge."

ANALYSIS

Myllypuro metro station
15 000 daily users

Liikuntamylly
Recreation Center
500 000+ yearly visitors

**Community
Health center**

Metropolia
Students of health care
and engineering

KONTULA

ITÄKESKUS →

The center is well connected to the surrounding areas by the metro and the highway. With the new Metropolia University of Applied Sciences, Myllypuro has even more to offer in the future. Interest for the area will grow when 6000 students come to the area. This gives Myllypuro the great possibility to brand itself as a place for learning, innovation and entrepreneurship.

Students are encouraged to do internships during their studies and therefore, concentrating students to one campus area will attract companies to the area. Naturally, some of the students will become workforce for com-panies and some of them are going to want to start their own companies. This is a great way for people to get into the job market, and it should be encouraged. Therefore, companies and start-ups need commercial space in Myllypuro. Also, some of the students might become permanent residents of Myllypuro and naturally form ties with locals.

In addition, there is a possibility for great synergy in Myllypuro between locals, students and businesses. For instance, students of healthcare at Metropolia could do their internship in the already existing Myllypuro health-care center. Moreover, the students could provide physiotherapy for athletes at Liikuntamylly and for elderly in the area. This would form a structure for a "wellness city". Beside wellbeing and healthcare, students of technology could provide help with construction and information on new greener construction methods for local residents.

The analysis, combined with the comments from local residents and local experts, bolstered the idea of a building that would unite the center and provide a unique learning environment and gathering point for the local community.

SPACE MILL
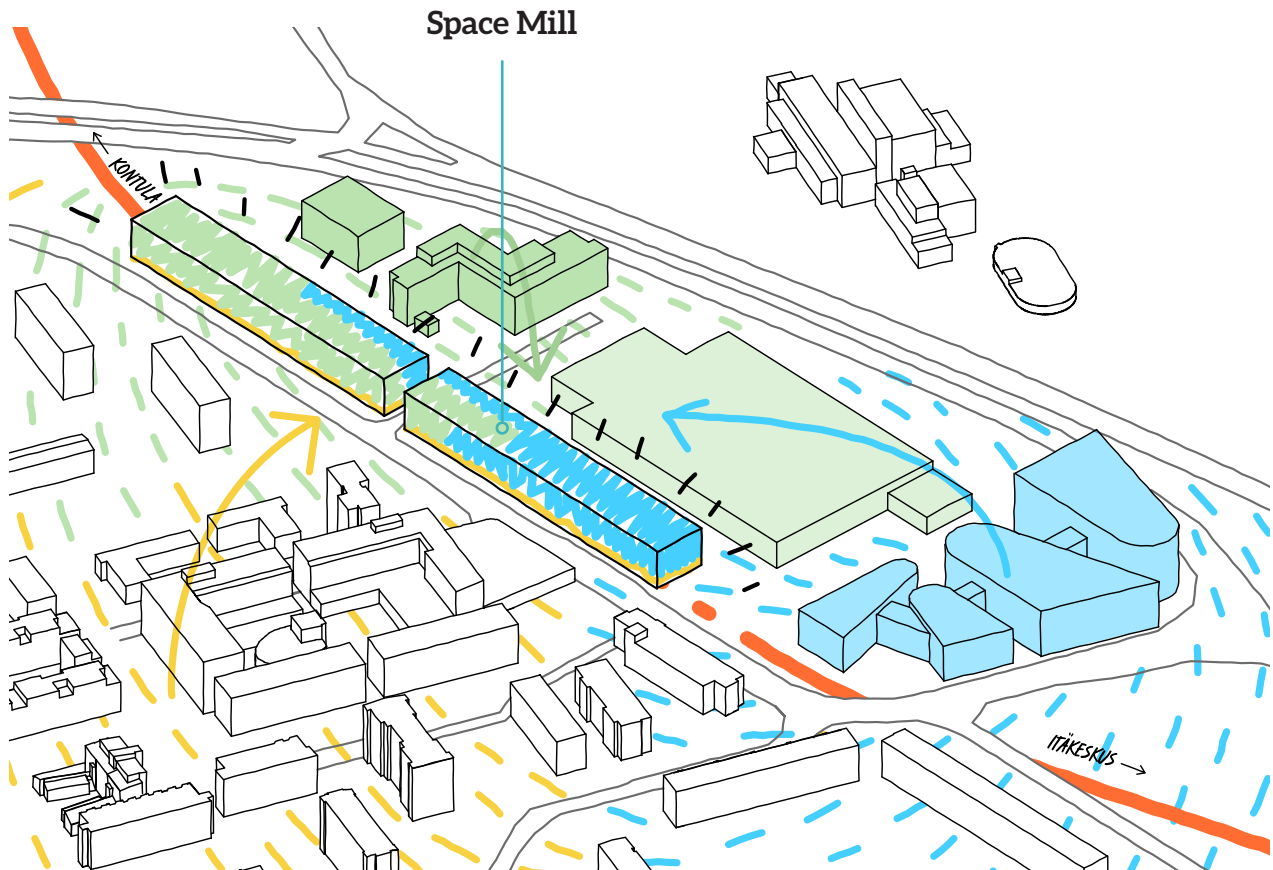
The makers; locals, students and entrepreneurs together form the
stream that powers the **Space Mill**

At the moment, the metro line forms a gap in the urban fabric of the Myllypuro center. A building on top of the metro line on Myllypurontie would offer a coherent urban space that would connect the Myllypuro center area both in the north–south and west–east directions. Building on top of the metro line is already presented in the city plan.

The recreation center Liikuntamylly was a real inspiration behind this idea. The center brings people together from all around Helsinki, Finland and abroad to exercise and play sports. We wanted to recreate that movement for other functions as well. The idea is

to create a building that is multi-purpose, easy to access and attracts local residents, people from neighboring areas, entrepreneurs and businesses to realize their projects in Myllypuro. Furthermore, bringing already established companies close to students will help springboard students' careers, co-innovate products and share company resources with others. As a result, Space Mill is born, fueled by people and their motives and goals.

Space Mill would function as an inspiration to keep learning new skills and sharing knowledge throughout life. The idea is to have students pursue

knowledge in areas that interest them and for more experienced people to share their intellectual achievements to a new generation. This mentor–mentee concept will not only enrich the lives of young and old alike but help them acquire new skills as well.

RAW SPACE

The raw space is a hull for ideas, technologies and projects. The space is open and homogenous but paced with wider, more open winter gardens. The idea is that larger companies have office cores that can be expanded during the day, when students, for example, come in and work. Between these cores, there is room for smaller companies, pop-ups and start-ups to work in.

There are three core principles for the raw space:

Balance between long-term and short-term tenants

Short-term tenants bring changes and variety to the people in the building and long-term tenants bring stability.

Layered functions

Spaces and functions are mixed so that everyone finds something for themselves under one roof and community.

Shared resources

Shared resources help smaller companies and private people to access tools and knowledge that they otherwise would not have the possibility to have.
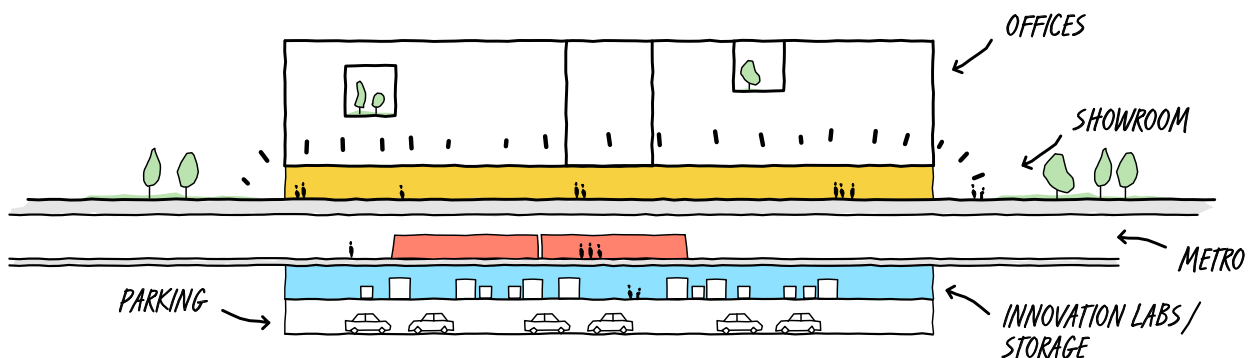
A big bang happens when motivated people get **together** …

RAW COMMERCIAL SPACE

LOCALS

INSPIRED PEOPLE

SHARED RESOURCES

FRUITFUL ENCOUNTERS
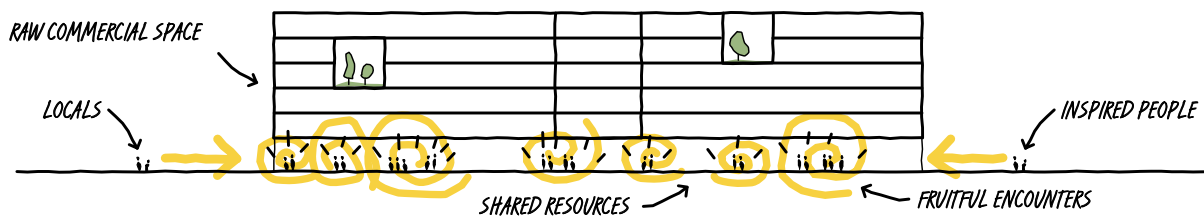
… and they form a **flourishing ecosystem** …

SPACE FOR STUDENTS START-UP COMPANIES

OFFICE CORE

POSSIBILITY TO EXPAND COMPANY OPERATION
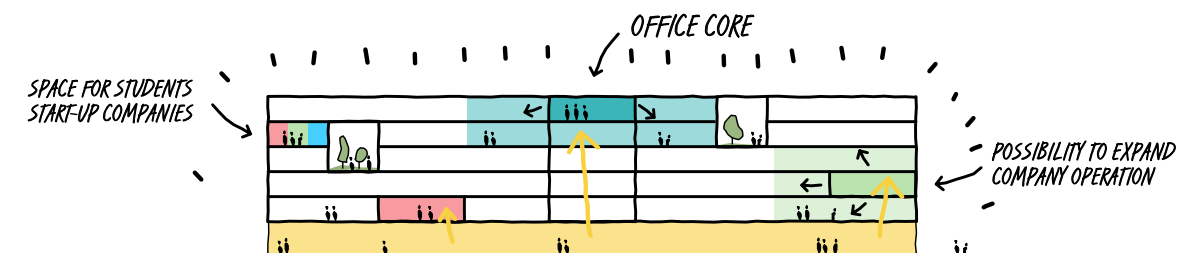
… that **enriches** Myllypuro!

OFFICES

SHOWROOM

METRO

PARKING

INNOVATION LABS / STORAGE

The vision is that Space Mill will offer space for all kinds of purposes and form a center of expertise in Myllypuro. The idea is to not limit the functions of the building and different spaces so that the users can move between various types of space according to their needs. This is to encourage people and businesses to express themselves in one coherent and qualitative place. The focus is on getting stuff done and meeting interesting people, all in one place. The building is a unifying concept that bridges the divide between a modern working environment, a school building and a public space in the form a diverse learning environment.

The first floor, or Showroom, is the most public of the floors and the place for meaningful encounters between people as well as their first contact with Space Mill. The metro station will be a part of the building so people will be flowing through there all around the clock. This is a natural place for companies, students and start-ups to showcase their products and ideas. The first floor will house shared resources like digital tools, meeting rooms, a gym, regular events and spaces for hot desking and social interaction.

In the other floors, the space will be used for daily activities. Companies can expand their operation in the building during the day, private people can come and execute smaller projects and start-ups can have a place to grow. Shared storage and product testing spaces will be offered underground with easy access by transport vehicles.

Space Mill offers solutions for a space where people can meet, share and benefit from the knowledge that will be located in Myllypuro. More importantly, Space Mill offers a community.

Heart in Myllypuro

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3 steps for 'Myllypuro Loop'

1. Collect stakeholders under a new wellbeing area brand and build an open-source platform service.

2. Utilize the 4 characteristic areas of Myllypuro and link them together with the "Loop"

3. Develop different components along the Loop to correspond with the character of the area.

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MUUAN

"Myllypuro Loop" concept is made by
Uusi Kaupunki team MUUAN Ltd.

Myllypuro Loop

A communal pathway to enhance mental and physical wellbeing in Myllypuro.

PROBLEM

Identity

Myllypuro was named after a mill and a stream and was also known for its pure fountains. Last remains of these characters were lost during the 1960s building boom, when the Myllypuro suburban area was built together with Kehä 1 ring road.
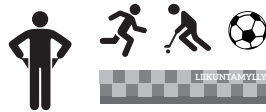
Image

Although Myllypuro's public image suffers from problems caused by its socioeconomic structure, it is also known for its excellent and versatile sports facilities – especially Liikuntamylly, which is an indoor sports center with spaces of over a hectare.

Change

Metropolia will bring 6000 students and 500 staff members to Myllypuro. At the same time, Helsinki is expected to grow with 200 000 new citizens by 2040. **How can Myllypuro offer new services and functions for the growing population and at the same time protect its wellbeing, verdancy and child-friendly attitude?**

PARTICIPATION

The Myllypuro Loop vision rises from local residents' worries concerning future of Myllypuro which were brought up in a participative workshop. People of Myllypuro were concerned about the coziness and safety of the area. Is the heavy building of new houses destroying the natural landscapes that are now used as a huge, natural playground by the youth of Myllypuro? Are the forests, green areas and rocks becoming private property? Kids and teenagers also wished for new activities alongside the existing ones.

Discussions with Liikuntamylly (sports center next to the metro station) representatives revealed that at the moment, the current spaces do not meet the growing needs. Sports facilities are used by people from a wide region, even form Porvoo and Lohja. The Metropolia campus will probably increase the number of users even further. Liikuntamylly would need more multipurpose spaces, that would be easily adjustable for different needs. Local residents were hoping for a more cheerful look for the building and for the vast rooftop to be used for a better purpose.

Arena Center is one of the biggest floorball centers in Scandinavia. In addition to floorball, it provides high-class exercise environments also for other sport activities. Arena Center is an active agent in the international field of floorball. Swedish national floorball team was using the courts a week before the workshop was held. Arena Center also organizes tournaments and has its own sports travel agency. Both Liikuntamylly and Arena Center believe in collaboration with the current actors as well as with new ones. Broad collaboration in sports and wellbeing would be beneficial for the whole Myllypuro.

More colours - buildings are too grey

Picnic areas back!

Sun-bathing places and benches on the rocky areas

Take advantage of the roof of Liikuntamylly

A cafe where to get various beverages close to the parks of Täyttömäki hill/Alakivenpuisto park

Bring the jogging trails back! Running tracks have been destroyed.

Children's cyclo-cross bike trail was left under the new development projects

More facilities for sports!

The historical bunkers should be in use. Clubrooms?

Stop blasting the bare bedrock

Flea markets?

Room for functions that support the identity of sports area

Nature trail

A new cheery look for the boring Liikunta-mylly

Paths into the wilderness

Lot of new things for the kids

More "action"!

Artistry could be seen?

ANALYSIS BEHIND THE IDEA

	ACTIVE	MENTAL/ MINDFULNESS	CARE	KIDS	COMMUNAL	NATURE
Liikuntamylly Sports Center	●			●		
Health care center			●			
Arena Center	●					
Pallomylly (Ball hall)	●					
Myllyhalli (Football hall)	●					
Ice rink	●					
Ylätalo Primary School				●		
Bunkkeri (Battery 65)		●				●
Shopping center					●	
Market Square					●	
Myllypuro artificial turf pitch	●					
Church		●				
Formula Center	●					
Elderly center			●		●	
Assisted service center			●		●	
Neulanen kindergarten				●		
Media library				●	●	
Diakonia flea market					●	
Myllypuro dog park					●	●
Hallainvuori hill		●				●
Korkeakallio rock		●				●
Kalliokumpare summit		●				●
Urban farming at Orpaanporras					●	
Leipuri kindergarten			●	●		
Myllynsiipi communal park				●	●	
Täyttömäki hill (artificial)	●					
Sports Park	●				●	
Metro station						
Myllylääninpolku forest		●				●

To get to the bottom of the mental and physical status quo of Myllypuro, activities were collected into a matrix. Activities were divided into 6 categories; Active (sports functions), Mental/Mindfulness (places for nurturing the mind), Care (wellbeing services), Kids (places for play), Communal functions and significant Nature spots. Future functions in the area will be the Metropolia HEI and upcoming complementary development projects.

There have been discussions on Verkkokauppa.com (one of the largest retailers selling IT, entertainment electronics, toys, games, pet and childcare products) opening a megastore next to Metropolia.

Kotikaupunkipolku by Myllypuro-seura
Myllypuro-seura has considered a city route which connects functions in the whole of Myllypuro center. It has many locations but the concept is not very clear and the route is not visible in the city - it just exists somewhere. Interesting!


4 types of interesting areas
In total, there are four (4) different types of characteristic built-environment and nature landscape areas in Myllypuro.

Problematic Liikuntamylly
Originally an old production hall for the printing company Paragon was renovated as a sports center in late 1990s by the city of Helsinki. Closed facades and the large footprint of the building create a secluded feeling and dark interiors.

MYLLYPURO LOOP

Mindfulness
Mental wellbeing

Community + Kids
Living Lab

Activity
Sport

Nature
Adventure
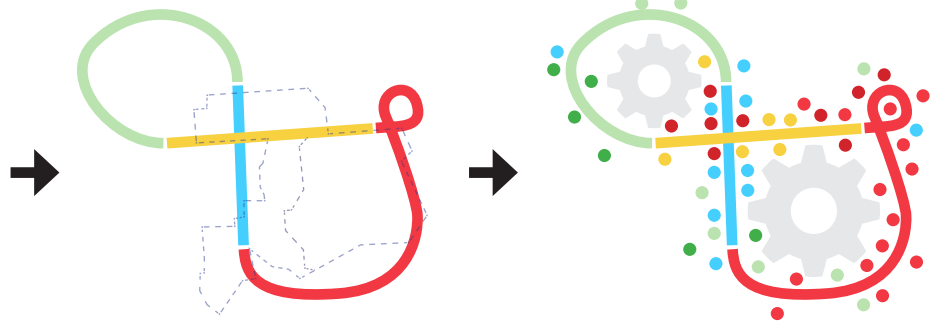
4 types of Activities

Let's use the identity and existing functions of Myllypuro to create branded activities in the area.
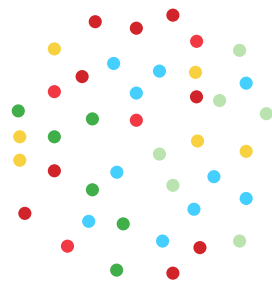
Connecting them as loop

Existing connections – streets, paths, routes – are used to form a continuous loop. The Kotikaupunkipolku route also fits in.
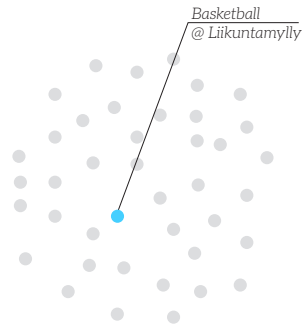
"Loop" boosts the wellbeing

The Loop invites locals and visitors to improve their mental and physical wellbeing. A different level of socialness can be chosen along the Loop.

MYLLYPURO LOOP AS A SERVICE

Fragmented Actors

A fragmented catalogue of different mental, physical and social wellbeing stakeholders.

Basketball
@ Liikuntamylly

Living/Visiting Today

Commercial services work the traditional way: You book time for each activity from the corresponding activity provider website. Many prospective visitors don't even know what Myllypuro could offer along the Loop.

A branded area service

All stakeholders are invited to form a branded area service – Wellbeing Myllypuro. Besides a platform and a mobile app, it is a way of acting together. In future, the only thing you need to know is Myllypuro = Mental and physical wellbeing. The Wellbeing Myllypuro service is operated by Metropolia and its students, and it works as a constantly developing platform for studying wellbeing in real built-environments.
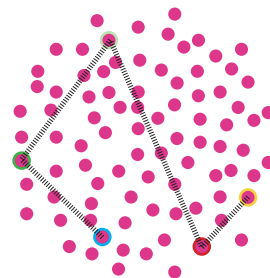
New wellbeing services are born

Different stakeholders work together to form wellbeing packages and experiences for locals and visitors. Wellbeing Myllypuro enables low-threshold services where every participant can give and gain.

Example package "Forest Jaunt";
1h Guided bird walk (by local resident)
1h Flow park (by commercial actor)
*1hr Forest sauna and a wellbeing lecture (by Metropolia student union)*
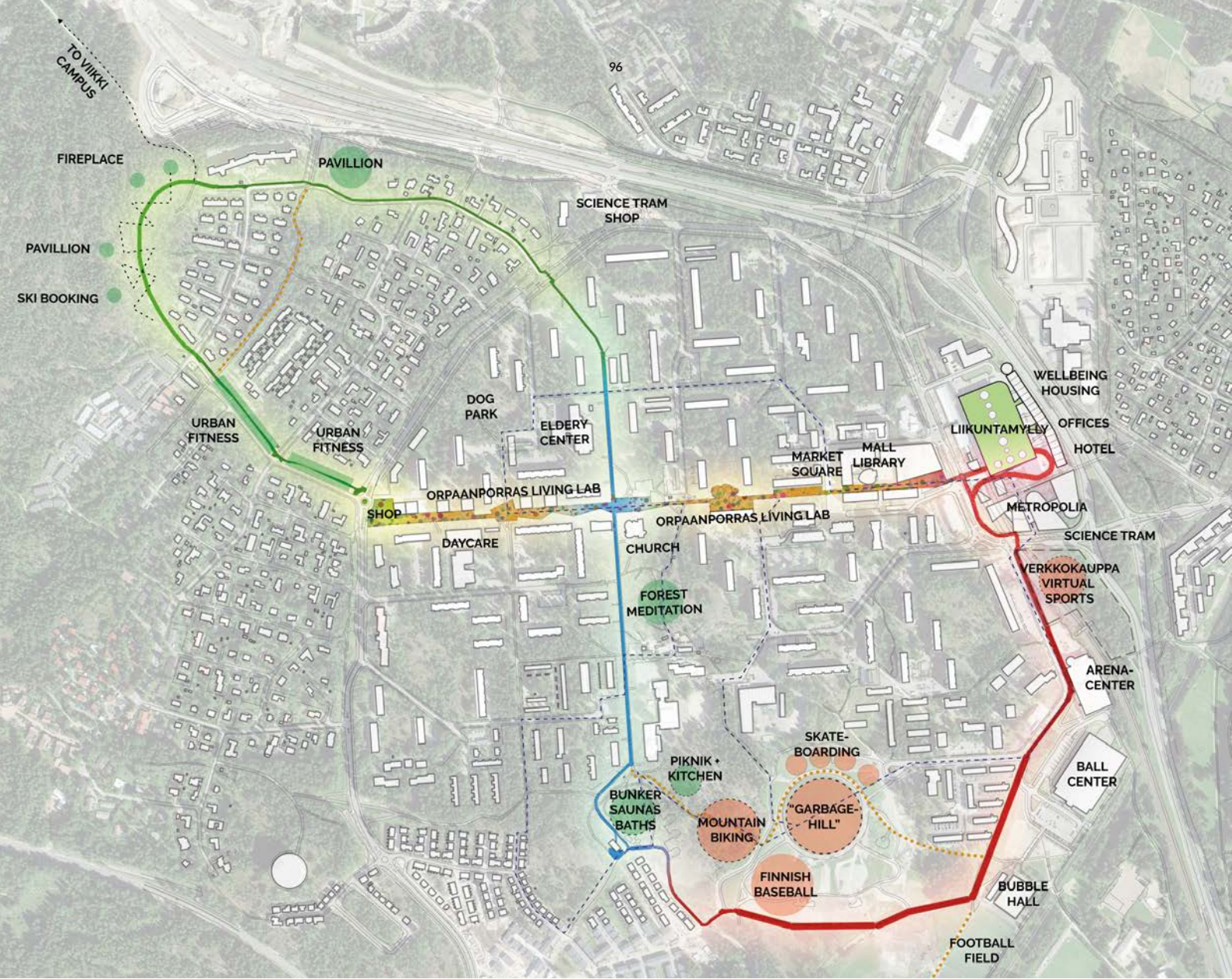
Mental Wellbeing & Mindfulness
North-South Axis

Loop
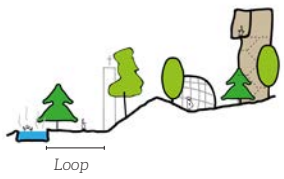
Elderly center
– Project space for Metropolia Social & Health Students

Assisted Service Center
– Project space for Metropolia Social & Health Students

Myllypuro Church

Kalliokumpare summit
– Forest yoga pavilion Metropolia Construction Students Annual Project

Korkeakallio summit
– Observation tower

Mylläripolku Forest
– To the Ski trails

Bunkkeri (Battery 65)
– Communal club rooms, baths, Summer kitchens for building management companies (smart lock)

Adventure
NorthWest Curve

Loop
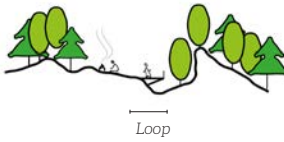
Urban Fitness
– Outdoor gym

Nature trail start point

Flow Park
– Commercial actor

Ski Booking
– Book with mobile

Fireplace
– Buy firewood with mobile

Active & Guided
SouthEast Curve
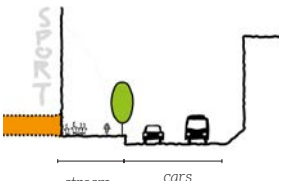
Liikuntamylly Sports Center
– Extension with new facilities

Sport Hotel
– Climbing wall

Metropolia
– Living Well Space

Verkkokauppa.com
– Virtual Sports Showroom

Arena Center

Pallomylly Bubble hall

Bubble hall

Football field

"Garbage Hill"
– Fitness stairs

Sports Park (Liikuntapuisto)
– Pesäpallo (Finnish Baseball)
– Skateboarding

Korkeakallio summit
– Downhill biking

stream-liner / *cars*

Social wellbeing
Orpaanporras
East-West Axis

common spaces / *Loop* / *common spaces*
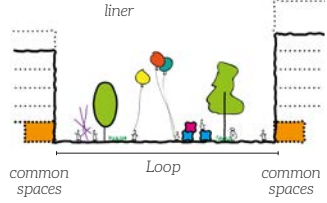
Myllymatkantie 6 & Myllypurontie 22
– Grocery store

Smart Spaces
– Rentable common spaces on ground floor

Neulanen kindergarten
– Metropolian project space

Playgrounds & Urban art
– Toy rack designs Metropolia Arabia

Urban living room
– Low-threshold meeting points

Korkeakallio summit
– Observation tower

Myllypuro mall
– Common spaces

Media library

Liikuntamylly
– Services/project spaces

LIIKUNTAMYLLY CONCEPTUAL VISION
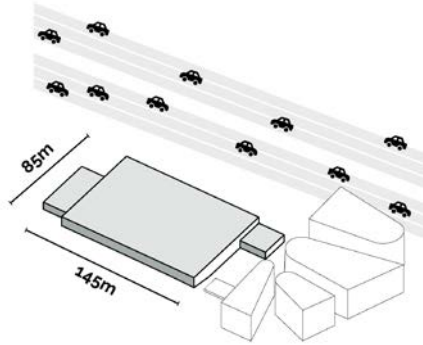
Liikuntamylly

Former printing factory has a huge footprint and therefore lot of artificial light is needed inside. The highway behind the building generates noise and pollution to the area.
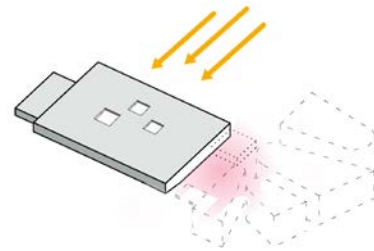

Piazza + Daylight

The office block opposite Metropolia campus is removed to create a new piazza between the buildings. Openings are made into the roof to invite the natural daylight inside the building.
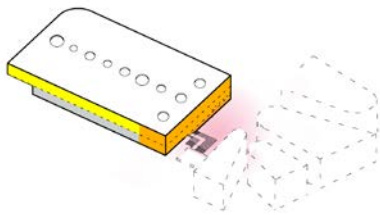

Extension + Public Spaces

A new floor with multipurpose wellbeing facilities is placed on top of the existing Liikuntamylly building. A vertical lobby with wellbeing services is created into the existing void next to the new piazza.
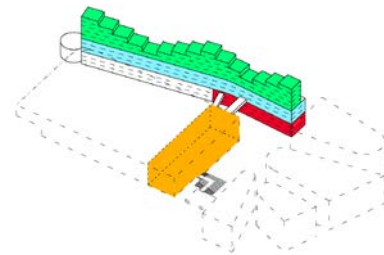
Housing, Hotel, Offices, Parking & Services

New functions are added to the Liikuntamylly site. "Preventing care urban housing" is monitored by Metropolia, Sports Hotel responds to the international demand of future Myllypuro visitors, Office spaces and Services turn the area into the wellbeing center of Myllypuro. More parking spaces are built a bit further from the square.
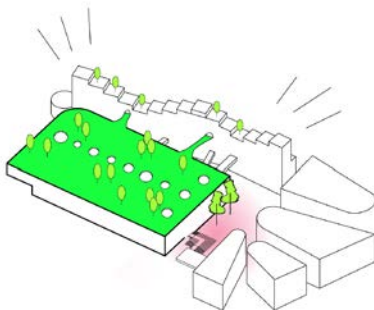
Landmark and rooftop yard

The long building mass protects the city from pollution and noise coming from the highway. The space for the housing building is placed on top of Liikuntamylly. The wavy stream-like construction creates a new landmark for Myllypuro which can be seen from the highway.
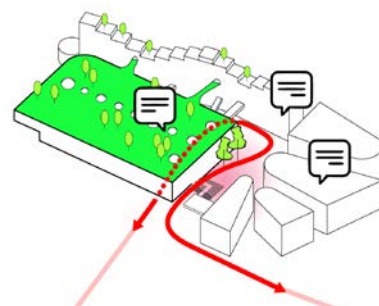
Loop & Discussion

The Myllypuro Loop goes through the new Liikuntamylly vertical lobby and its services and the piazza and invites all the buildings for a public and open discussion around the piazza.

Orpaanporras is changed to a Living Lab with an inviting look and inclusive functions. Orpaanporras will still work as a direct shortcut but also as a place for meeting, hanging out, recreation and play activities for everyone. A more active use of the path increases also the use of spaces next to it. Empty commercial spaces and the common spaces in the residential buildings will find new, more open usages. In the case of densification, residential buildings are expanded to the roof to avoid cutting down more trees and to protect the existing forest view. The ground floors of extended buildings are turned into common spaces to activate social living for the whole Myllypuro. Orpaanporras is a safe, inspiring and activating platform for the Myllypuro way of living.

Liikuntamylly is a key actor in the Myllypuro area with all sorts of low-threshold sports activities and wellbeing services for everyone. The existing Liikuntamylly is a big and bland, anonymous-looking building with a small grey door as the main entrance. The vision is to update Liikuntamylly to meet the value it could have in the suburb and in the sports brand on a bigger scale. Liikuntamylly is doubled in size, opened up to the surroundings and finished with a hybrid wellbeing center. The main entrance is made between Metropolia campus and the existing Liikuntamylly to create an outdoor landmark and a culmination point for Orpaanporras Living Lab.

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5-8, 12-13, 26-28, 34, 40, 46 52, 56-58, 68-71, 74, 80, 86, 92	Scale people illustrations	Designed by Freepik
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14	Metropolia Campus visualization	Architects Lahdelma & Mahlamäki, Architects, and Lehto Peltonen Valkama
14. 16, 18, 20, 22, 244	Campus city Maps	https://snazzymaps.com/
16	Tornakalns Campus visualization	University of Latvia
18	Polacksbacken Campus visualization	Tema Architects
20	Aerial photo of the campus	University of Tartu
22	Albano Campus visualization	Christensen & Co, BSK Arkitekter, Nivå Landskapsarkitektur
24	Aerial photo of the campus	University of Turku/Communications
38	Car, trees,	Designed by Freepik
39	Drone, paper bag, hand, smartphone	Designed by Freepik
49	Nut	Designed by Freepik
50	Smartphone	Designed by Freepik
62	All the individual elements	Designed by Freepik
63	People sitting at the table	Designed by Freepik
81	Campus photo from Yale	http://www.campusconsult.com/wp-content/uploads/2015/07/EOS_Yale_FirstSession015.jpg
84	Robot Park	https://s1.cdn.autoevolution.com/images/news/how-automated-parking-systems-work-19523_6.jpg
94	Kotikaupunkipolku Map	Myllypuro-seura, Pauli Saloranta

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