Building Smart Collaborative Spaces
Network & Services onto T3 Area

Energizing Urban Ecosystem program 2012-2015
Workpackage: Regional Innovation Ecosystem
Task 7: T3 Ba and Flow & Task 4: Regional Information Modeling
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Research Focus according the EUE programme plan

- The focus of the research is to define which spatial and operational solutions the entire T3 area requires in order to become the world-leading innovation platform and to create a grounded concept description of how to accomplish this. Task 7 co-operates closely with Tasks 4, 5 and 6, and also with the WP SIC, and utilizes their results.

- The first output of this Task is developing an Energizing Urban Ecosystems Hub with a common workspace – a physical, mental and virtual space – for the entire EUE program. Järvelin Design Oy’s team, coordinated by Lars Miikki, will create an overall model combining theory and practice, (illustrated with case examples) in 2012, integrating the necessary actors required for the research during 2013-2015.

- During 2013-2015 this Task will conduct research focused on real life practice involving co-creation methods and tools, as well as multi-sense based spaces for maintaining the energy level and supporting these activities. This conceptualizes the content and events into a coherent whole that systemically connects to society and will have a strong societal impact recognized through mind-set changes in the T3 area.
Some pre-grounded Thoughts about Spaces Network & Service Concept Development

1. Bear in mind the increasingly blurred distinction between traditionally discrete notions of the “public” and the “private,” coming from multiple directions.

2. Consider the rather novel ability we now have to represent underutilized spatial assets on a shared platform, turning them into networked resources and allowing them to perform somewhat closer to their theoretical optimum efficiency.

3. Couple these prospects to our longstanding interest in structures that support a wider variety of space uses than have traditionally been the case on T3 area and in Finland.

4. Together, these suggest a requirement for some thinking about the minimal intervention necessary to establish occupancy of a place.
Mapping of Otaniemi Spaces: Many potential thematic Hubs for Otaniemi Collaborative Spaces Network – no “Space as Service” development Hub!
Mapping of Outdoor Spaces: Plenty of empty space between the buildings! How to use it? - Cases of HoneyPot and Aitta (ACSI contribution)
The path from Collaborative Knowledge Construction to Regional Entrepreneurial Effects!? (single space)

- Could we consider Innovation Co-creation mainly as a **Collaborative Creative Knowledge Work** process? What are then the roles of Learning, Design and Effectuation as enablers of that work, do other enablers exist? Could Triologic Knowledge Construction thinking be applied on regional level as an Collaborative Innovation work Energizer?

- How can a **Physical Space** support Collaborative Innovation work? Then, how to create and organize e.g. Meaningful Activities, suitable **Boundary Objects**, Distributed Memory, Co-learning and Co-working tools for the space? What are the other important properties of this space? Do the walls of the space carry its meaning for its users or do people that use do it? How is the “self” of the Space created? How do spaces become **Focal Points**?

- What makes a Space smart? Is ICT the only solution? What is the role of People and what of the Technology? How to build inbound and outbound Interfaces for Smart Co-working space’s? What are the Internal Support Services for a Smart Space? And what Enabling Services should be offered Before, During and After e.g. an Collaborative Event? What is a sustainable **Business Model for Smart Space**? Where to connect it, how to do it?
First Conceptual Fix: A Co-working Space (Ba) enabling Knowledge Co-Creation seen as a primary level Boundary Object connecting disciplines

T3 (Otaniemi) Community works around Common Objects which are Collaborative developed using various Mediating Artefacts, Tools and Signs.

Human activity system, Yrjö Engeström, 1987

Three socially enabled support processes required when offering Smart Collaborative Space Services

• **Trialogic Learning (Socially Created)**
  – “Conscious and systematic effort to collaboratively develop socially shared objects in order to exceed the prior learning. Social community works around a common object which features are collaborative developed using various mediating artefacts and tools.” *Yrjö Engeström, Kai Hakkarainen et al.*

• **Co-creative Design (Socially Constructed)**
  – “Design is seen as the approach for the conception of services and products. Contextually derived usage of design, co-design, participatory design and co-creation approaches for developing successful services. Interdisciplinary approach, links e.g. With Architecture and Urban Design, Construction, Service innovation, Marketing and Process Development. Design With, For and By Citizens”. *Aalto EUE/RIE Approach*

• **Effectual Entrepreneurship (Socially Embedded)**
  – “Effectuation processes takes a set of means as given and focus on selecting between possible effects that can be created with that set of means. Four principles of effectuation in Entrepreneurship context: affordable loss, strategic alliances, exploitation of contingencies, control of an unpredictable future.” *Saras D. Sarasvathy*

Conceptual proto 1: A Smart Networked Co-Working Space (Ba) supporting Creative Knowledge Work
The path from Collaborative Knowledge Construction to Regional Entrepreneurial Effects!? (space network)

- If we connect Smart Spaces and build a **Smart Spaces Network**, how should we proceed? Is there a existing development path for that or should we create a new one? What are the interaction **processes and value flows** between Networked Smart Spaces? And what are they between the Smart Space Network and Regional Innovation Ecosystem - or Global Actors? Are those interactions and flows attached to people or to technologies? What are the **Boundary Objects which bridge** different spaces and communities with a meaningful way?

- How could a Smart Space Network **support all Innovation activities of the region**? How should the region support the Network? What services can the Network offer? What services should be offered by other regional actors for the Network? What are properties of all the interfaces between different actors within the Space Network context, how to build and connect those interfaces? Who should be considered as **users or producers of the Network**?

- What new services could the Region offer to **global or local actors** through Spaces network? What are the interfaces of the region and how to organize them? What is the role of the region in its chosen global context? **Could the Region be seen as a Service itself**? Could that service be Entrepreneurial Effectuation - making it easy for people to learn, develop and exploit their ideas and innovations in business, public or community contexts?
Conceptual proto 2: ICT enabled Spaces Network Service (Flows) embedded to Social Networks and the Physical Innovation Environment
Smart Spaces Network Service: Virtual Spaces bridging Mental and Physical Spaces

• Human Activity Systems (upper picture levels) and Built Environments (lower picture levels) are interconnected through two information flows. Metadata flow (left) and Data flow (right) should be open for all physical space users provided as a digital platform service of the built infrastructure (see e.g. http://data.aalto.fi). Different spaces use their own thematic ontologies.

• Open Information and Contact flows are offered for the users of the physical spaces before, during and after peoples attendance there including e.g. open data of courses, publications, research projects and outputs, places and equipment, researchers, staff, visitors, organizational structures, news and events. These flows can be exploited using digital services or applications (see e.g. http://www.twheel.com)

• Different Spaces in a Space Network are interlinked through Co-learning, Co-Design and Co-Effectuation Flows. These inter-space flows can be carried either by people or digital means. Interfaces between different spaces should include services and tools which enable creation and enhancement of these inter-space flows.

• Micro-Context linking: How can users background contexts be presented in the space and how can info created in the space brought to its user’s micro-contexts? Macro-Context linking: How can macro-context data be presented in the space and how can new data created during events, by users, brought to the macro-level data sources?
Conceptual proto 3: Operational architecture interlinking social architecture with digital information architecture

E.g. Linked Open Aalto Data Service: “University data should be open for reuse and transparency (when possible), interlinked with each other for enriching it, and available as datasets and operational web services for easy application development.”

Kari Mikkelä, Järvelin Design Oy, 2012
Conceptual proto 4: A Beta-Blueprint of a Smart Networked Co-working Spaces (Ba&Flow)

Aalto Venture Garage

700 m² coworking space - this is where the magic happens

Brief description
Aalto Venture Garage is a coworking space focused around entrepreneurship. Startups, developers and entrepreneurial-minded people - you will find em all here!

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The Garage doors are open: 7:45-4:15 Mon-Fri

Lorem ipsum dolor sit amet, consectetur
Aliquam tempor nisl in auctor vulputate, etat felis
pellentesque augue nunc, pellentesque lectus justo
nec erat. Aliquam at mi.

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Mauris sed libero. Suspendisse facilisis nulla in
lacis ac nunc, lobortis velit vel mattis
libero nisi et sem.

Space Benchmark
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Adipiscing elit. Sed posuere interdum sem.
Quisque pulvinar ullamcorper pellentesque, facilisis
et massa. Proin volutpat ligula, sodales placerat
mauris, venenatis mattis metus.

24/7 for keycard holders

Energizing Urban Ecosystems Research Program 2012-2015
First EUE programme year’s physical proto: Operational concept for the Urban Innovation Lab!?
Urban Lab’s planned opening at 1.1.2013
Multiple space solutions and working modes in Urban Lab

03. COWORKING KOKEMUS URBAAI DNA
Salt josca akustonia elementtejä ja työskentelytiloja, urbaani DNA näkyvissä ja koettavissa

04. TYÖSATELITY KOKEMUS URBAN DNA
Jokaisella Urban Labissa oleva tutkimusyksikkö on tilaanhuono, sillä jossa projekti voi olla esilta, kehitettyä ja keskittymä. Täällä valmistaa ja akustotti niin että se itse työskentelyä on helposti. Lähteessä tapahtumakonsolelle:

05. KESKITYMYSEN KOKEMUS URBAN SAUNA
Työpaikalta akustuttaa

01. SISÄNTULOKOKEMUS URBAN CAFE
Lähetyksissä kokemus, kuluttava, kertova, intuitivinen

02. KOKEMUS TEKEMISESTÄ URBAN LIBRARY
Saanatu kokemus näkymä sisätiloista

Aalto University
Multi-disciplinary and multi-talented cooperative innovation work in a Urban Lab (2013: vol. 3 M€)
Urban Lab’s role in the global/regional Innovation Ecosystem

• Urban Lab helps cities and regions to become more **easy to perceive and grasp**, more **open to access and enter into**, more desirable and enjoyable to visit, work and live in, more **responsive and trusty** to the desires of its guests, workers and inhabitants, and more **out-giving** of their creative and innovative effects.

• Urban Lab brings a **human-centred perspective** to the research and design of artefacts, activities, products, services, platforms and spatial interventions **wherever human activities, built environment and ubiquitous information technology intersects the urban spaces**, for the benefit of everybody who lives, works, strains, and fantasizes in the world’s cities.

• Urban Lab works **with citizens, municipals, public-sector and private organizations in long-term collaboration processes**, on one-off projects or ventures, and as well as developing its own services and solutions.

• Urban Lab offers **multi-disciplinary and multi-skilled expertise** e.g. in urban studies, ethnography, social interaction and interface design, physical and digital service design, collaborative knowledge work, built environments, city planning, land use and surveying, and creative urban ecosystems.
Urban Lab ”Space as Service” concept

- Urban Lab Service connects contents, communities, services and physical spaces as a **holistic offering**.
- Urban Lab is EUE’s **SpaaS platform pilot** which all consortia members can use for e.g. Co-working and testing purposes.
- Urban Lab Service **combines 5 business models**:  
  - Thematic **Inter-disciplinary and –skills Collaboration model**  
  - Open Innovation **Co-working Platform** for Companies  
  - **Spatial Knowledge Triangle concept** for the University  
  - **Triple+ Helix environment** for the Cities  
  - **Co-working Space as Service** for AYK/Aalto/Espoo and other property owners and developers