

Integrative Urban Development Concept - INURDECO

Examples of cooperating with private sector in the development of Hiukkavaara area

*Baltic Urban Lab Workshop
Tallinn 2.3.2017*



Contents of presentation

Background

What is INURDECO?

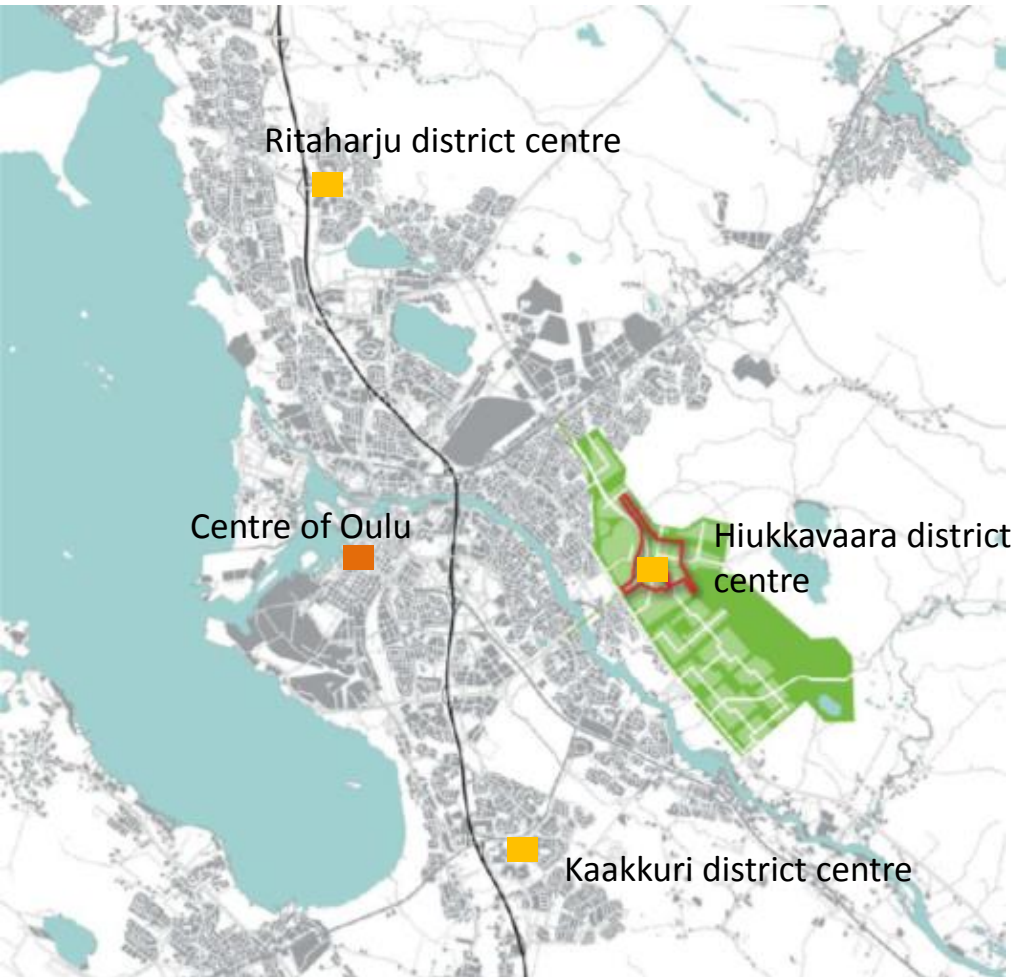
Results

Conclusions



OULU ***Hiukkavaara***

Hiukkavaara



— Hiukkavaara centre, city plan 2015
Planning area of INURDECO development project

Former military area. Land was transferred to the City of Oulu in 1999.

Oulu's third district centre, which will provide services to the approximately 40,000 inhabitants of the eastern and northeastern parts of the City of Oulu.

Extensive and versatile municipal, commercial and private services and workplaces.

The Hiukkavaara district centre is about 6 km from the city centre of Oulu.

Inhabitants in Hiukkavaara
in 2016 2,500
in 2035 20,000

Scope of the area about 1 500 hectares.

No city plan for the area.

Majority of the land is owned by the City of Oulu.

Hiukkavaara strategic path

Hiukkavaara Arctic Smart City Living Lab ?



City plan for Hiukkavaara centre (2015)

INKA –program Arctic Smart City (2014)

Environmental plan of the City of Oulu (2014)

Oulu service model 2020 and organization program (2013)

City of Oulu ownership policies (2013)

Strategy of the City of Oulu (2013)

Development projects (2012) → INURDECO, RESCA yms. → Hiukkavaara project portfolio

Energy wise built Oulu – Oulu ERA17 roadmap (2012)

Acquisition policy program of the City of Oulu (2011)

”Hiukkavaara – Experiences and starting points, elements of identity and image, concept and strategic choices” -report (2011)

Energy policies of New Oulu (2011)

Development approach and development programs of the City of Oulu 2010 – 2013 (2010)

Outline plan of Hiukkavaara (2008) → City planning, Future living environments and KERVO -projects

Report of Oulu Triple Helix task force (2007)

Oulu Master Plan 2020 target plan (2003)

Hiukkavaara city planning, construction and plot allocation



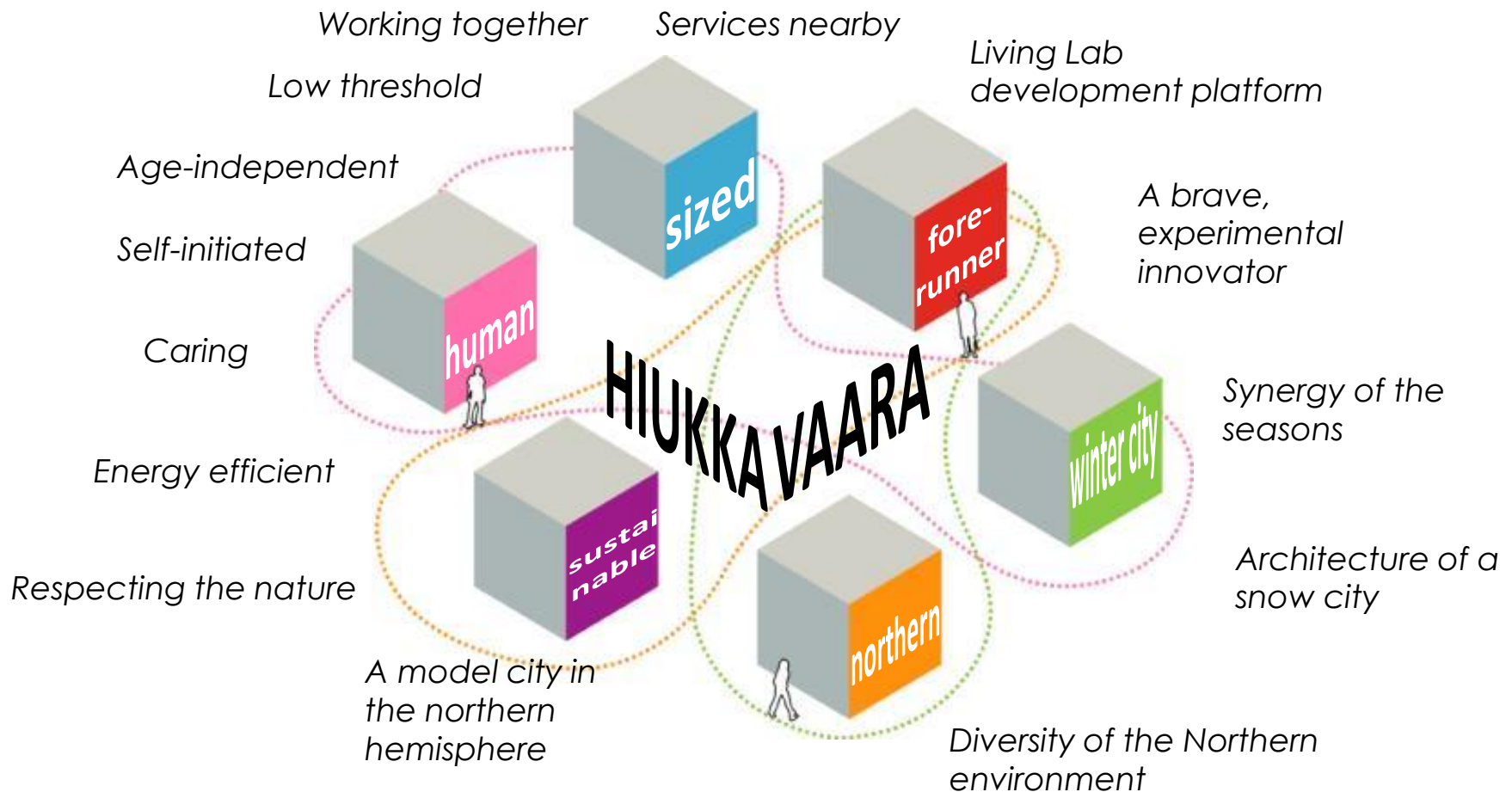
- 1 **Kivikkokangas**, planned in 2009 – 2011
2,500 inhabitants and 1,050 apartments
- 2 **Kiulukangas**, planned in 2010 – 2012
1,200 inhabitants and 650 apartments
- 3 **Soittajakangas, Vaskikangas and multifunctional centre**, planned in 2011-2014
1,700 inhabitants and 670 apartments
- 4 **Hiukkavaara centre**, planned in 2011-2015
3,900 inhabitants and 2,100 apartments
- INURDECO –development project
- 5 **Old Hiukkavaara**, planning started in 2016 -
2,000 inhabitants and 1,000 apartments
- 6 **Sarvikangas**, planning starts 2017

**Areas 1-6 are planned first,
thereafter sections 7-9.**

Regional identity of Hiukkavaara, Vision development 2011

HIUKKAVAARA

A northern winter city – a human-sized, sustainable forerunner



Integrative Urban Development Concept – INURDECO

Hiukkavaara centre – Sustainable northern winter city

Joint project:

- **City of Oulu** (Urban and Environmental services / City planning as a project initiator and coordinator)
- **University of Oulu** (Faculty of Architecture, International Business Management Institute of Oulu Business School, and the Mass and Heat Transfer Process Laboratory)
- **Hartela-Forum Ltd**
- **Skanska Ltd**
- **Sonell Ltd**
- Oulun Energy (financier)

Funded by:

TEKES (the Finnish Funding Agency for Innovation), ERDF (European Regional Development Fund) and participants

Total budget of project: about € 2,050,000

Schedule of project implementation:

06 Nov 2012-28 Feb 2015

**COOPERATION FROM THE VERY BEGINNING OF CITY PLANNING
TO SERVE BETTER THE END-USERS**

Integrative Urban Development Concept – INURDECO – Why?

1. Change in energy legislation

- The City of Oulu is responding to stricter energy laws and regulations
- EU's 20–20–20 goals
- ERA 17, Time for energy-smart built environment 2017; Ministry of the Environment, Sitra and Tekes 2010
- ERA 17, Oulu's roadmap – Energy-smart Oulu 2013

2. Planning for northerly conditions

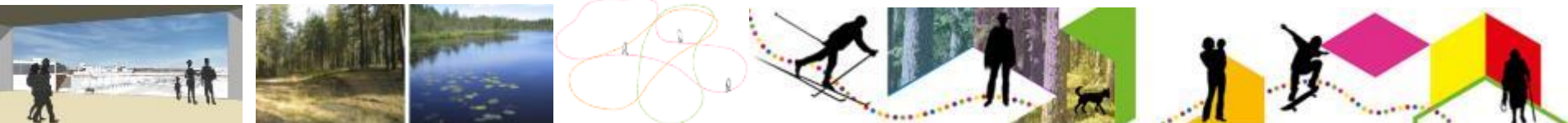
The City of Oulu is seeking the role of the Capital of Northern Scandinavia in the Northern Hemisphere.

3. Attractive city districts and residential environments

The City of Oulu is creating new attractive residential environments in partnership with the developers to respond to increasing competition between regions.

4. Oulu's economic situation and the ongoing structural change

The City of Oulu is looking for new ways of doing things to enable the creation of new jobs. These operating models could include open development platforms like Hiukkavaara (Living Lab).



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Hiukkavaara

Energising city plan tools – 29 sustainable criteria

Working process of the integrative city plan

Flexible city plan

Block models

Multichannel participation

3D modelling

Innovative Plot allocation and land-use policy

Hiukkavaara Arctic Smart City Living Lab – Pilots

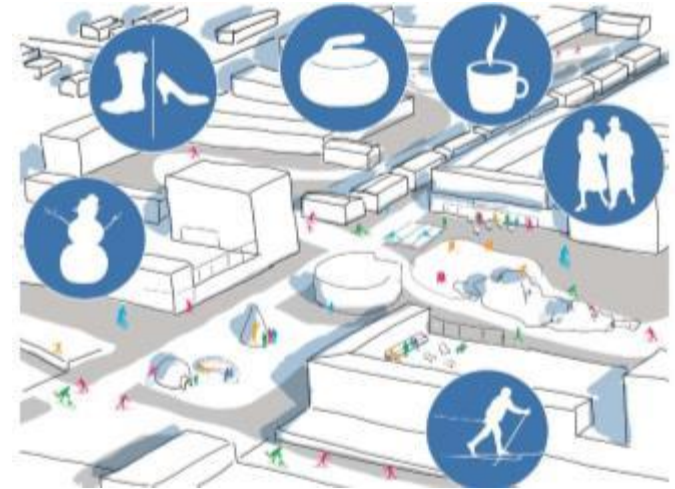
Living Lab agreements, practices and models

Winter city strategy and winter city planning

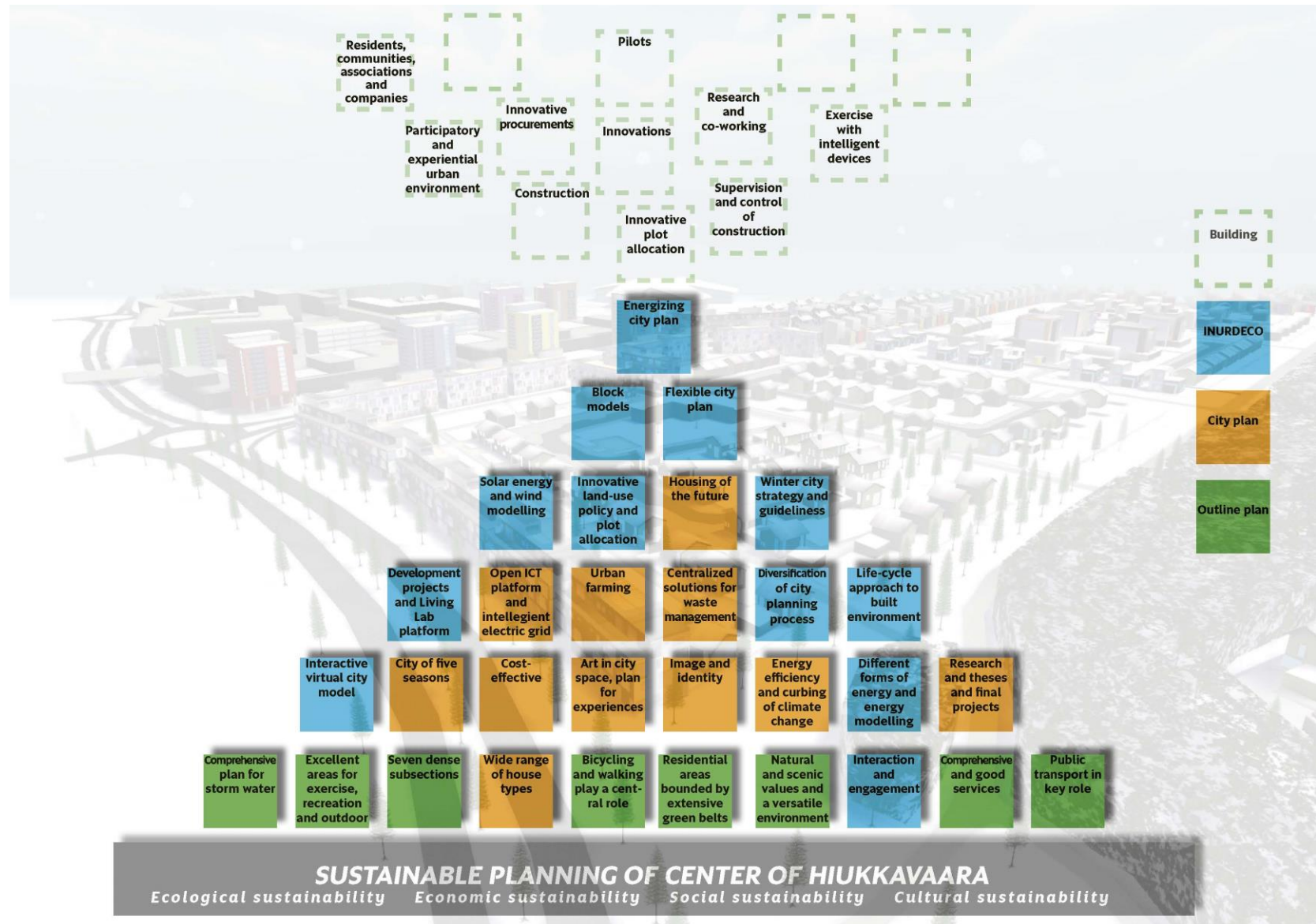
Involving art and experiences in the city plan process

Housing of the future

Energy goals

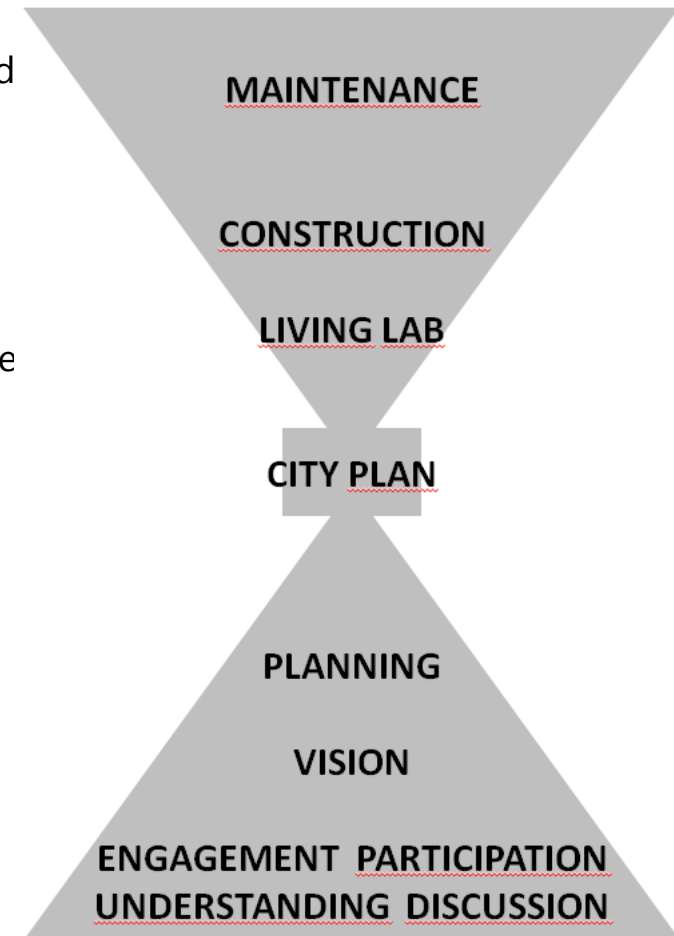


Energizing city planning tools - 29 sustainable development criteria



Process

- A public invite to all constructors in Oulu
- Information session about the project, the basis for the design and planning of Hiukkavaara Centre
- Signing up for the project, forming a consortium
- Finally three separate constructors engaged
- Producing content in cooperation
- Each party applied for individual financing decision as a part of the overall project/consortium
- Kick-off seminar – to define mutual mindset and objectives
- The constructors selected independently their preferred area for development in the planning area
- Cooperation agreement on the planning area
- Workshops, seminars
- The developer hires an architect
- Innovative plot allocation
- Planning regulations in cooperation – flexible city plan – engagement required



Hiukkavaara centre – block models – Inurdeco partners 1/2

Joint planning during city planning work.

Three developers with different starting points of development.



Developer Hartela-Forum Ltd
Architects Veli-Karjalainen Ltd

- A hybrid block utilizing waste energy
- Role as a developer in the larger area
- Constructed parking



Developer Sonell Ltd
Architects Juhani Romppainen Ltd

- Customer oriented interactive virtual tools
- A new generation low-rise blocks
- Shared spaces

Hiukkavaara centre – block models – Inurdeco partners 2/2



Developer Skanska Ltd
Architects HML Ltd

- Energy efficiency calculation models
- A new generation apartment building



University of Oulu

Faculty of Architecture:

- Integrative city development study, Living Lab
- Energy efficient block design

Mass and Heat Transfer Process Laboratory:

- Energy calculation models
- Energy production sustainability analysis
- Wind modeling
- Tools for sustainable development

International Business Management Institute of Oulu Business School:

- Development of a business ecosystem in the Living Lab environment

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Hiukkavaara

Flexible city plan

→ *Mission: more flexible city plan and planning process*



Problem

- Rigidity of planning process limits implementation planning and factor that slows down implementation
- Construction of planned area over a very long period → the plan no longer meets needs that have changed over time
- If there are very few plan regulations, how to guarantee the achievement of the desired cityscape and quality?

Comparison of "Traditional" and "Flexible"

- What, whom and why does the city plan control or guide?
- How is the type of planning task or conditions of the area reflected in the need for control or guidance?
- Are there things which could use less control or guidance? (cf. Content requirements of plan)?
- What kinds of degrees of freedom are desired and where?
- What kinds of things can change over time and therefore should not be overly guided?
- Where and how does the guidance and monitoring of plans and construction take place?

Development of participation

Goals:

- Right information for planning from participants at the right time
- Improvement of flow of information and opportunities to influence
- Fewer claims and appeals
- Boosting the quality of the final result, cost savings
- Testing the suitability of different methods
- Life-cycle model: planning, building control, maintenance

Methods:

- Participation plan for city planning – study and survey
- Workshops, "idea days"
- Virtual modelling as a tool for planning and interaction – study
- Cave virtual space, city model watched with 3D glasses
- Online 3D applications realXtend and Unity
- PATIO –web developer forum, discussions and surveys
 - > test group became familiar with the city model
- Questionnaires with UBI displays
- Companies' own surveys, letter questionnaire
- HIUKKAVAARA PIKNIK: panel discussions and workshops



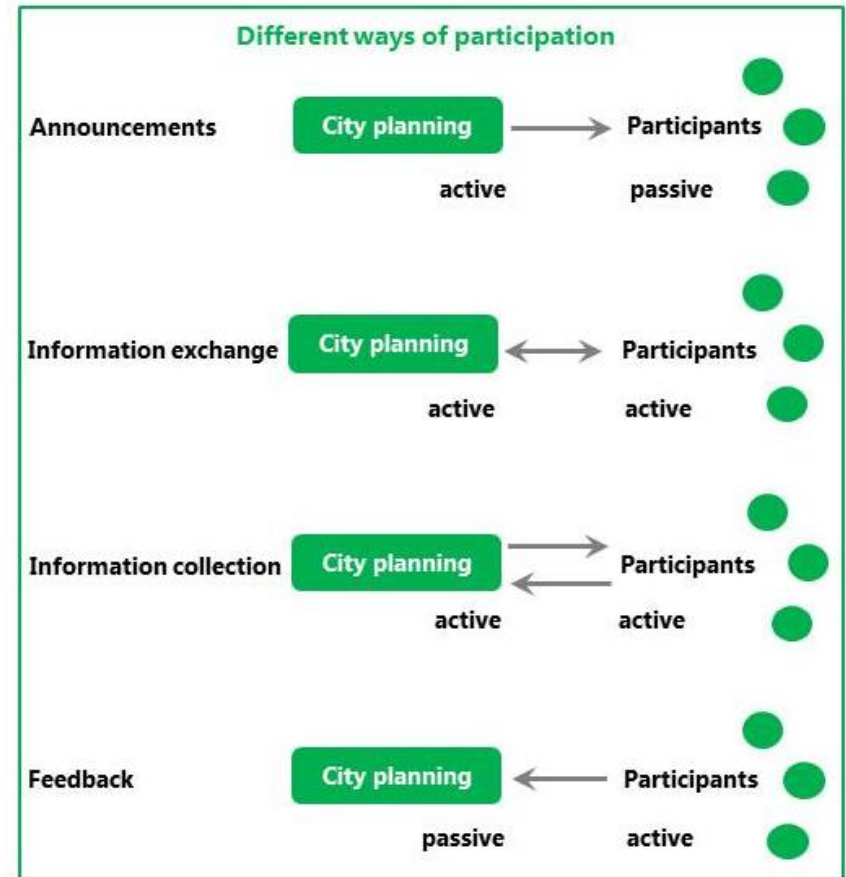
Participation plan

Participation plan creates better participation in planning, especially at early stage, by interest groups such as users, inhabitants and companies

Identified involved parties, necessary interaction, its timing and methods suitable for the situation

The participation plan makes easier to control and manage the interactivity of the extensive plan.

The participation plan illustrates the progress of a plan to local residents and tells when and how participation and influence are possible.



Parties to the participation may be active or passive.
Image: Oulu City Planning

Hiukkavaara's Living Lab, Pilots

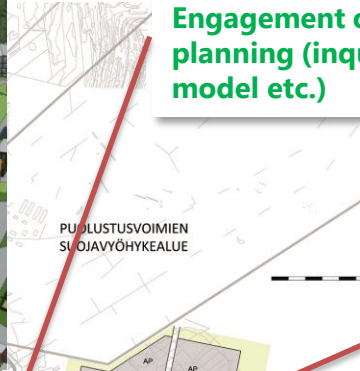


Hybrid blocks in the Hiukkavaara centre

Procurement of Hiukkavaara's multi-purpose house using an alliance model

Engagement of citizens and companies in planning (inquiries, PATIO, UBI, CAVE 3D model etc.)

Shared collection points of Soittajakangas waste collection in Hiukkavaara



Town Houses in Centre of Hiukkavaara

Energy blocks in Hiukkavaara centre

Resca Pilot area:
Innovations in energy technology and building technology, plus and zero-energy buildings and measurements and modellings (13 construction companies)

Dimensioning for snow space of a winter city

Surfaces of street squares in Soittajakangas in Hiukkavaara are permeable to water



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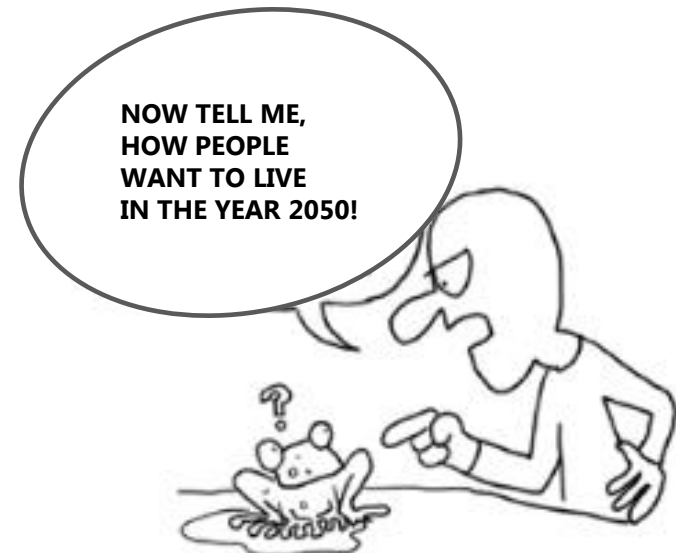
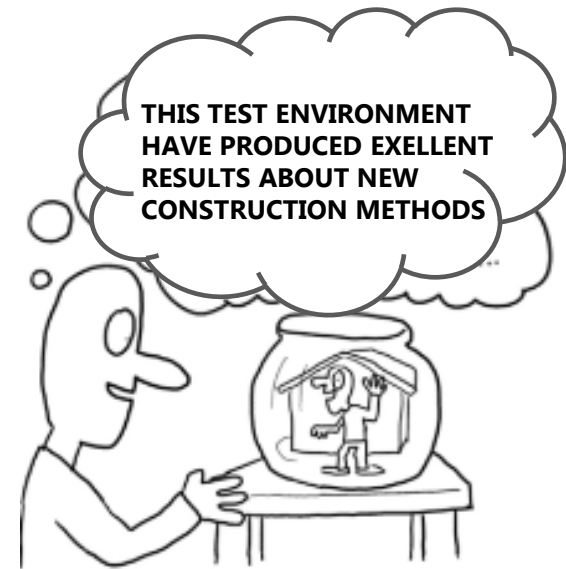
Innovative plot allocation and land use policy

How to get partners to build and design a better quality and innovative city environment ?

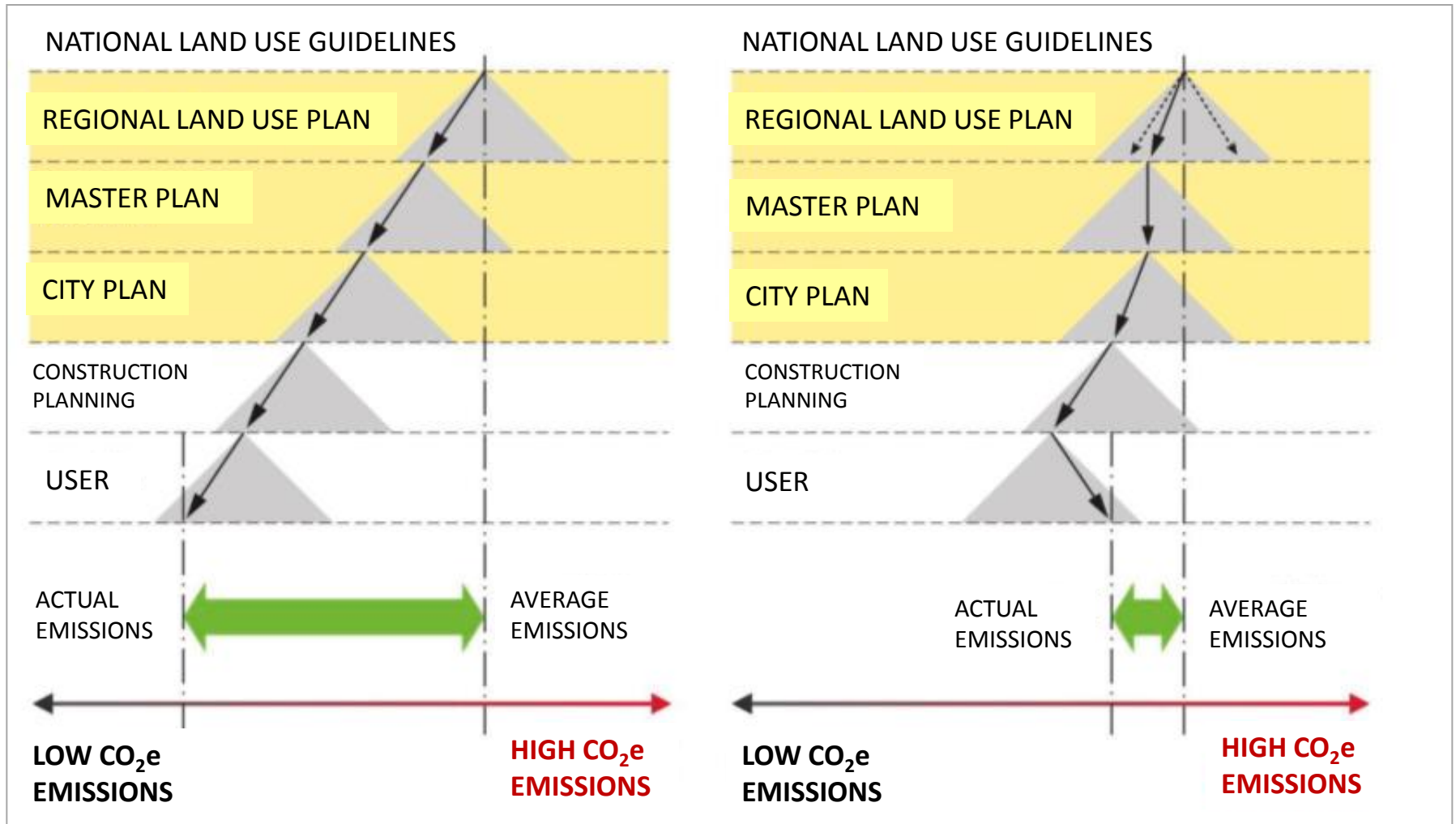
Incentives done with INURDECO developers

- Co-operation planning
- Head-start over other builders, plots will not be allocated to others until early 2019 or thereafter.
- 15% rent relief if parking is planned structurally in either basements or under courtyard decks.
- Rent discount for 2 years

The aspect of innovative land-use policy and plot allocation was not fully completed during the INURDECO development project due to resource constraints. Development has continued.



A city plan that realises climate objectives



Picture: Kimmo Lylykangas, Pekka Lahti, Tuukka Vainio (2013)

About conclusions

- **Identification of appropriate tools** for each development project is a necessity.
- **The developers were** involved in the planning of the area from early on and thus been **able to influence the content of the city plan** and therefore e.g. the threshold to construct is lower.
- **Systematic project communication** to engage the parties.
- **Open presentation of development ideas** and plans throughout the project.
- **Cooperation** - such as thesis, reports and brainstorming - **has provided highly valuable designs and research material.**
- **Companies discovered synergy** benefits in business cooperation.
- The project resulted in **block models** the outcome of which **may be implemented also in other areas** of design and planning.
- Both **in development and Living Lab activities, the use of process-appropriate incentives,** satisfactory for all parties of the consortium, **is vitally important.**
- **Company participation practices in Living Lab shall be determined clearly** in the city organisation **to avoid disappointments.**



THANK YOU !

