

**OSCAR Annual conference at Scandic Fornebu Hotel 27.10.2015**

# **Towards Future Learning Environments**

## **Co-creation, Co-investing and Co-evaluating in Campus Retrofitting**

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University Properties of Finland Ltd.  
Tampere University of Technology**

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Newsec Advice Oy???  
Tampere University of Technology  
Aalto-University**

# Agenda

- About UPF
- Campus retrofitting
- Co-creation
- Co-evaluating
- Co-investing
- Conclusions

# University Properties of Finland Ltd.

**In 2010 we decided to have ambitious vision:**

## **The most respected campus developer in Europe**

- Founded in 2009, in connection with the reform of the Finnish University Law
- Owners and users: 10 universities outside the capital area
- Asset value 1,11 billion €
- Turnover 140 M€ (2014)
- 1,3 million sqm, 19 campuses
- 115 000 students in the premises
- Approx. 6 500 pupils in training schools
- 20 000 persons working in the premises
- Only 36 employees =>network org.



# CAMPUSES

## All over Finland



### Hämeenlinna

Hämeenlinnan kaupunki: Seminaarin kampus

### Jyväskylä

Jyväskylän yliopisto: Jyväskylän kampus

### Kuopio

Itä-Suomen yliopisto: Kuopion kampus

### Oulu

Oulun yliopisto: Kontinkankaan kampus

Oulun yliopisto: Linnanmaan kampus

### Rovaniemi

Lapin yliopisto: Rovaniemen kampus

### Tampere

Tampereen teknillinen yliopisto: Hervannan kampus

Tampereen yliopisto: Kaupin kampus

Tampereen yliopisto: Keskustan kampus

### Vaasa

Vaasan yliopisto: Vaasan kampus

Åbo Akademi: Vaasan kampus

### Joensuu

Itä-Suomen yliopisto: Joensuun kampus

### Kajaani

Kajaani: Kajaanin kampus

### Lappeenranta

Lappeenrannan teknillinen yliopisto:  
Lappeenrannan kampus

### Rauma

Turun yliopisto: Rauman kampus

### Savonlinna

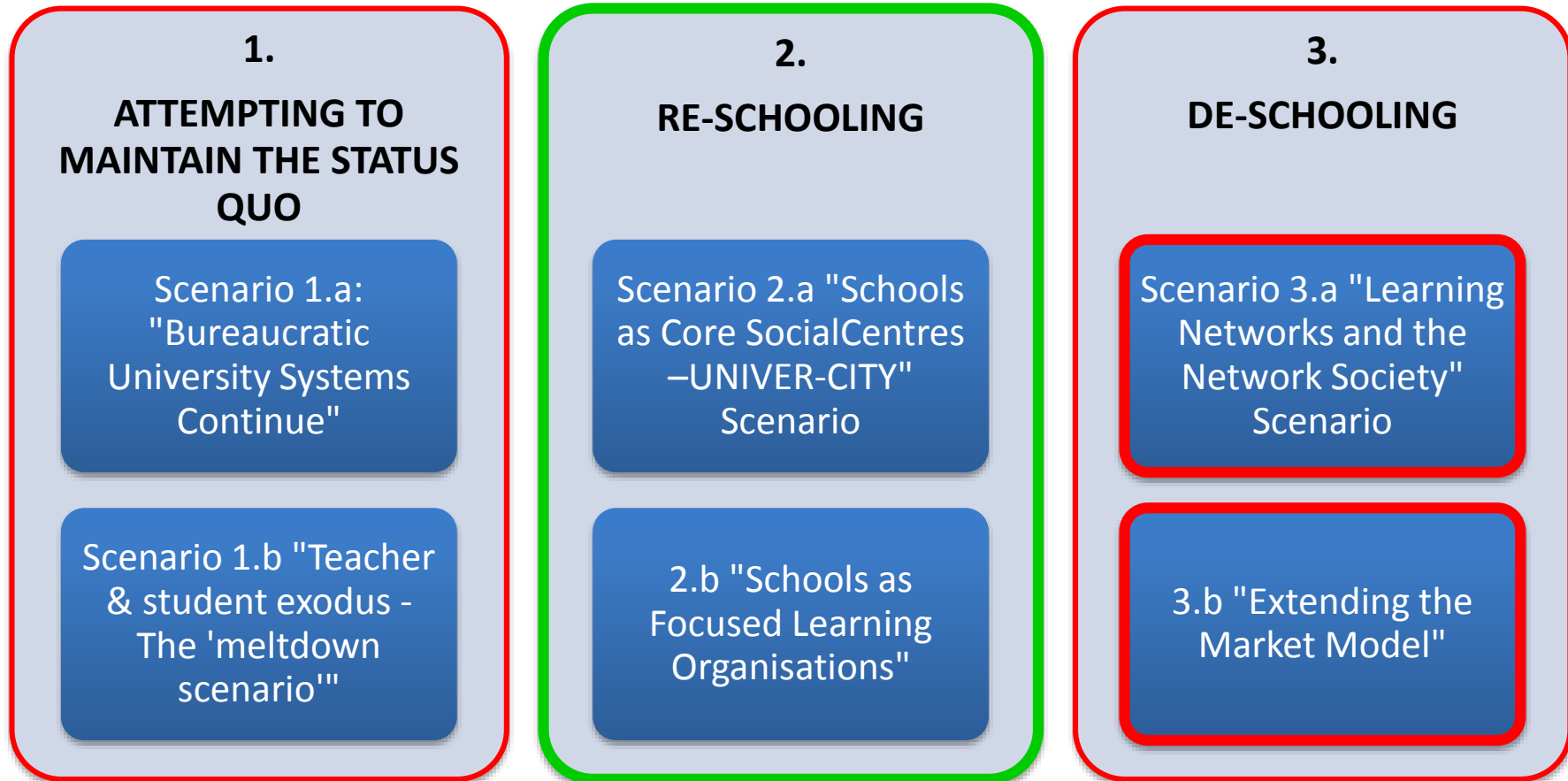
Itä-Suomen yliopisto: Savonlinnan kampus

### Turku

Turun yliopisto: Turun kampus

Åbo Akademi: Turun kampus

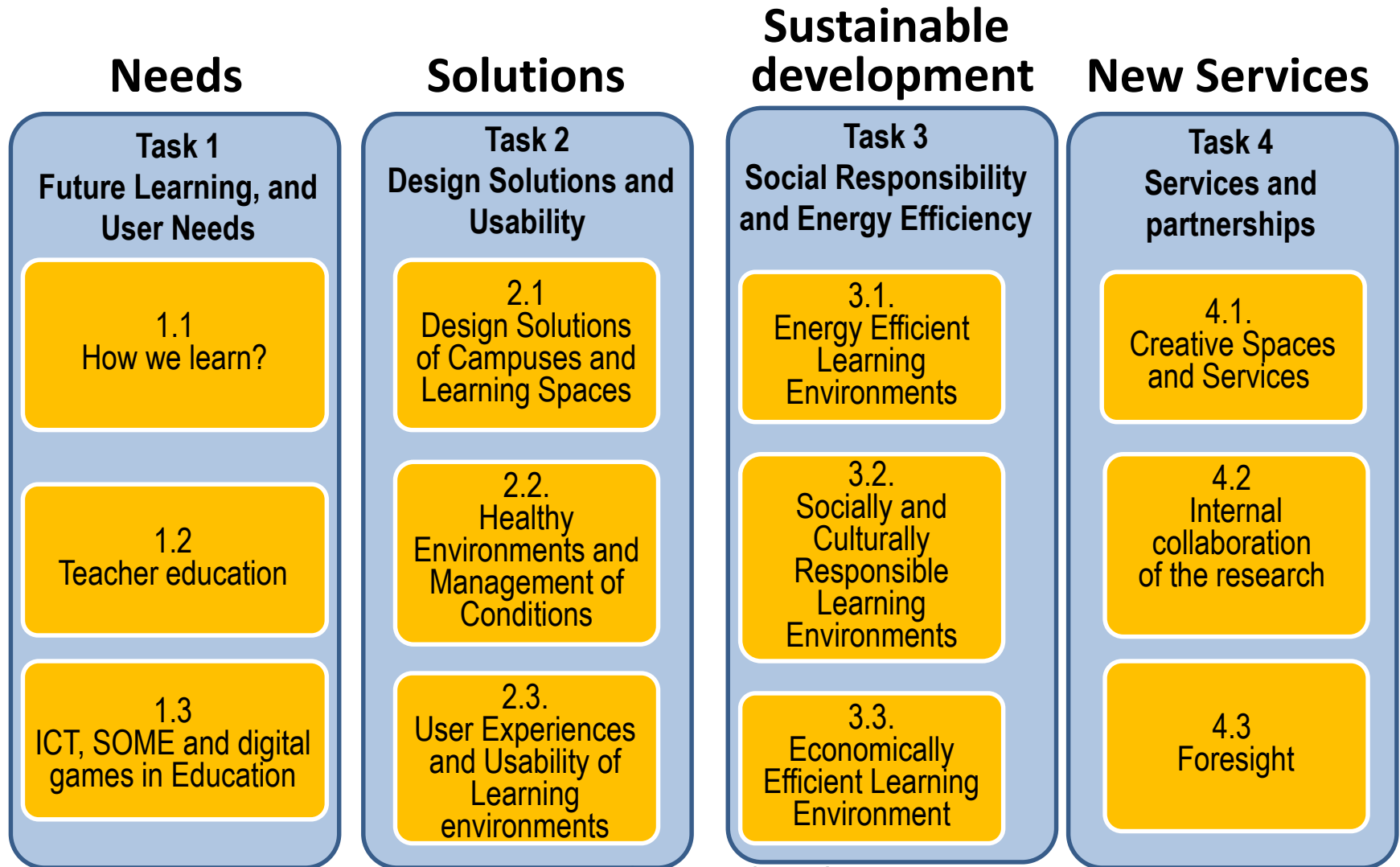
# Future challenge: Three directions and six scenarios



Applied from  
<http://www.oecd.org/edu/preschoolandschool/centreforeducationalresearchandinnovationceri-theoecdschoolingscenariosinbrief.htm>

# Future Learning environments

## Tasks and Sub-tasks of the 10 M€ research



Towards Future Learning

Environments

Olli Niemi

- Suvi Nenonen



# Research, Development and Innovation in UPF in 2014

Research → Development → Commercialisation

Nordic Campus Retrofit CARE –project, in Finland 450 000 € 2014-2016:3

Target: Pan European Campus Demonstration project 2016-

Investments in Research 500 000 €/a

Future Learning Environments 10 M€

Target: Pan European Campus Research

New ideas from R&D & clients

Small scale demonstration  
Duration <1 year

Further development

Business as usual  
2...4...8 years

10 demos = 1,8 M€ per year:

Learning by doing  
Design, construct, use  
Co-creation demos  
Service demos

Analysis of impacts

=>Evidence based design

Strong resistance based on learning, not doing

400 projects per year:

Repair and maintenance 17 M€ (5 % on demos)  
Investments (new bldgs+renovation) 113 M€  
=> Multiuse projects, new service concepts  
Under Construction and  
Design phase 175 projects 540 M€

<http://www.designcouncil.org.uk/designprocess>



*How to*  
**CO-CREATE**  
*campus?*



# As a result of our research all our new projects differ from traditional university buildings

Jyväskylä - Ruusupuisto



Tampere - Kampusareena



Tampere - Arvo2



Turku - Medisiina D



Oulu - Uusi Hammas



Investment  
portfolio  
500 mill. €

Lappeenranta - Verso

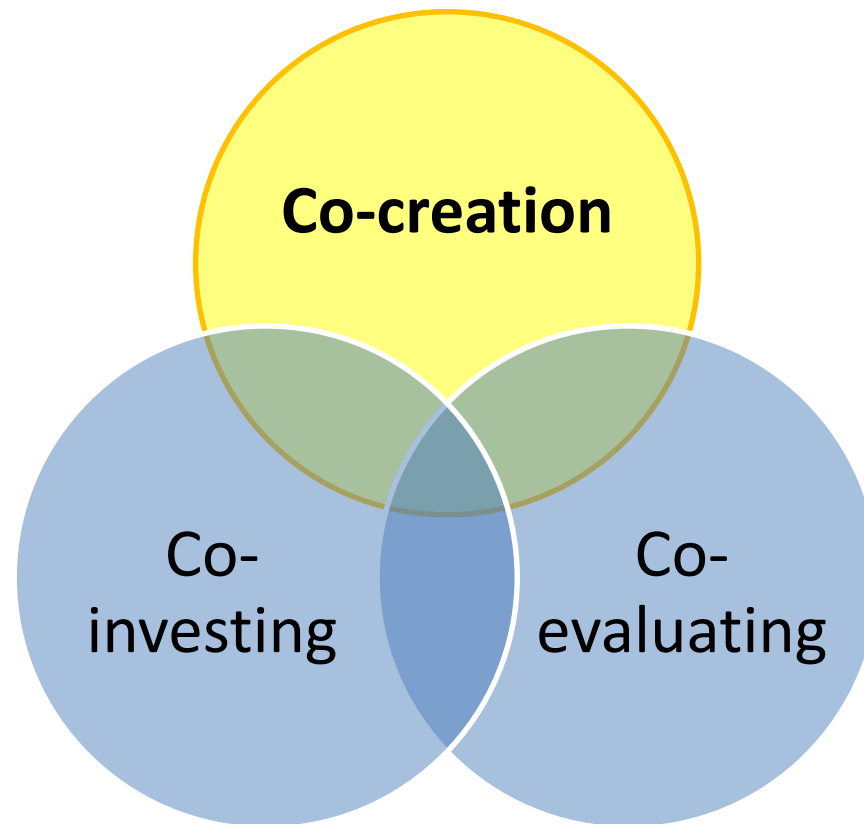


All

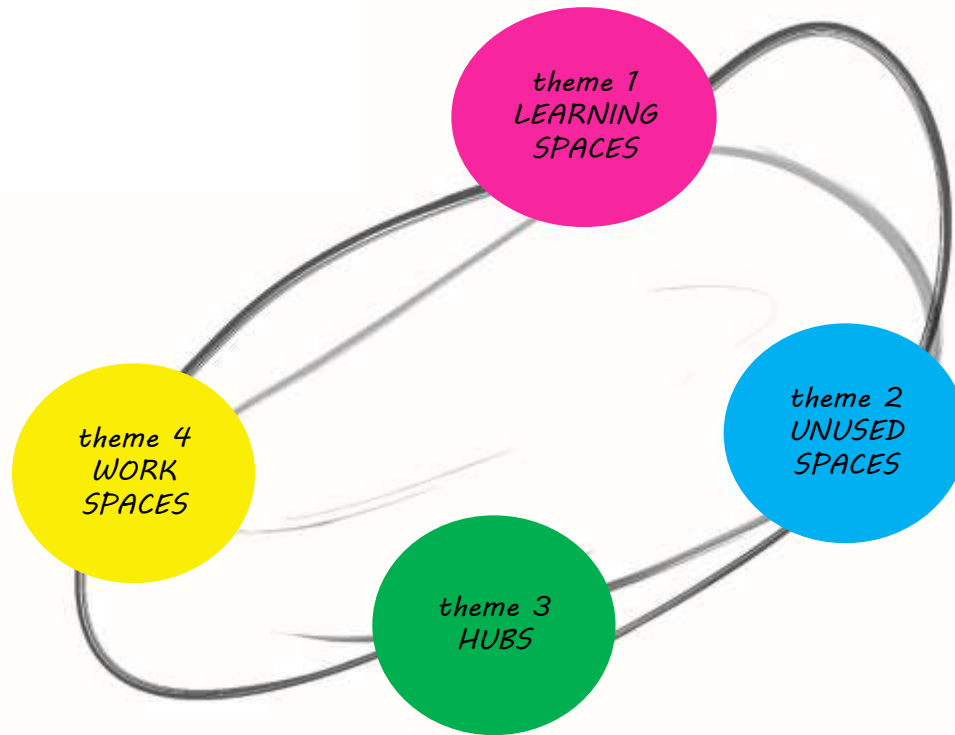
- Are multiuse buildings
- Have shared spaces and services
- Active co-creation has an important role in every project

# Retrofitting –from building based retrofitting to activity and evidence based retrofitting

- Retrofitting processes are the additions of new technologies, functions and services to existing built environment systems.
- **The activity based retrofitting** consists on multidisciplinary collaboration and learning processes where the diverse users have diverse roles during the retrofitting process.
- The process and the product are as equally important for successful retrofitting concept.
- **The evidence based retrofitting** follows the impacts of interventions on existing buildings.



Demonstrations are divided into four themes, which form a path of learning and innovation creation



Picture: Heidi Sumkin

# Theme 1: LEARNING SPACES - MUSICA

theme 1  
LEARNING  
SPACES

BEFORE



AFTER



University of Jyväskylä



## **How it was done?**

In 2014 we did our first  
demonstration of co-creation process  
**Charrette**



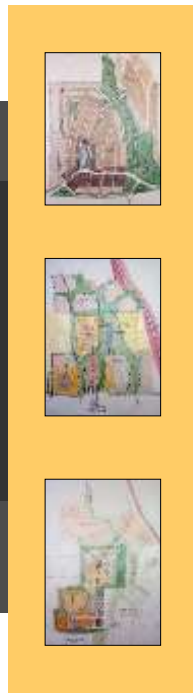
# Charrette Work Cycles

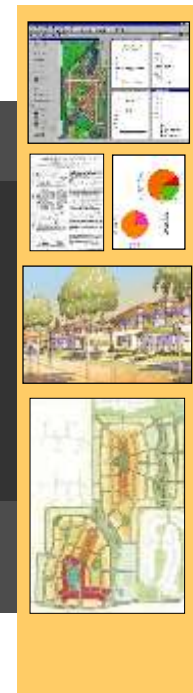
public meeting  
vision

public meeting  
review

open house  
review

public meeting  
confirmation




alternative

preferred

plan



# Day 1: Empty student restaurant: Target and biggest possibilities





# Day 2

## Space concepts



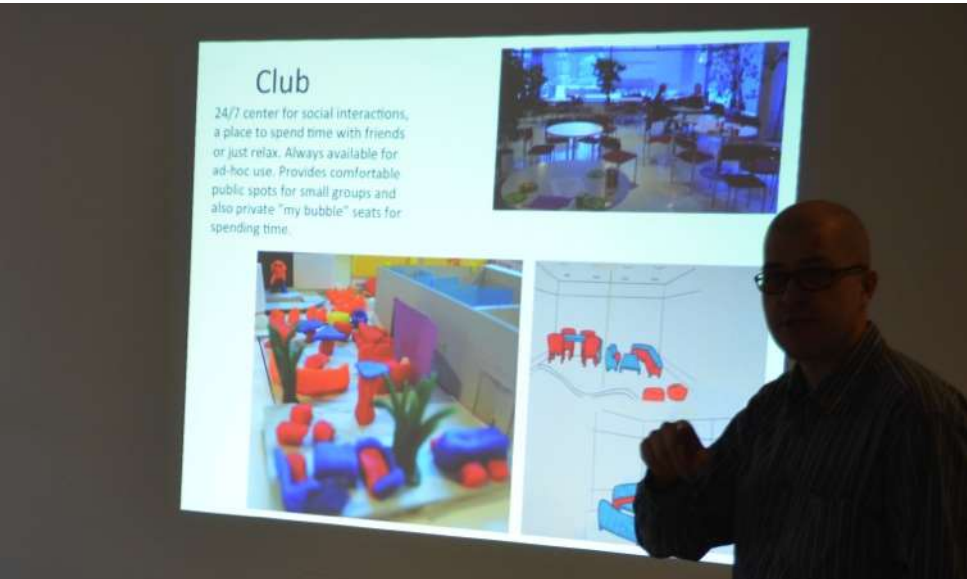
# Day 3

## Designing space concepts, Scale models of the concepts





# Day 4 Unified design, open house



# Day 5 Decisions and architect's first draft





# Impacts of Co-creation

500 000 € => 125 000 €

Usage time  
from 11-14 =>  
To 8-20-24  
+ Weekends...



# Learning hub Seminar hub Party hub



# theme 2: MULTIFUNCTIONAL STUDY ENVIRONMENT

theme 2  
UNUSED SPACES

BEFORE



AFTER



Tampere University of Technology





## theme 3: PLAYFUL MEETING LIBRARY

theme 3  
HUBS

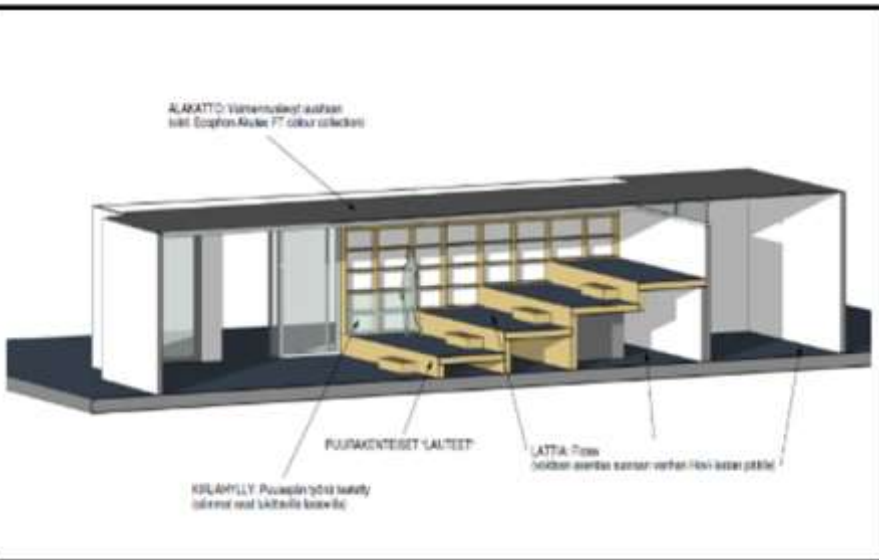
BEFORE



AFTER



University of Tampere





# theme 4: ACTIVITY BASED WORK ENVIRONMENT

theme 4  
WORK  
SPACES

BEFORE



AFTER



University Properties of Finland Ltd



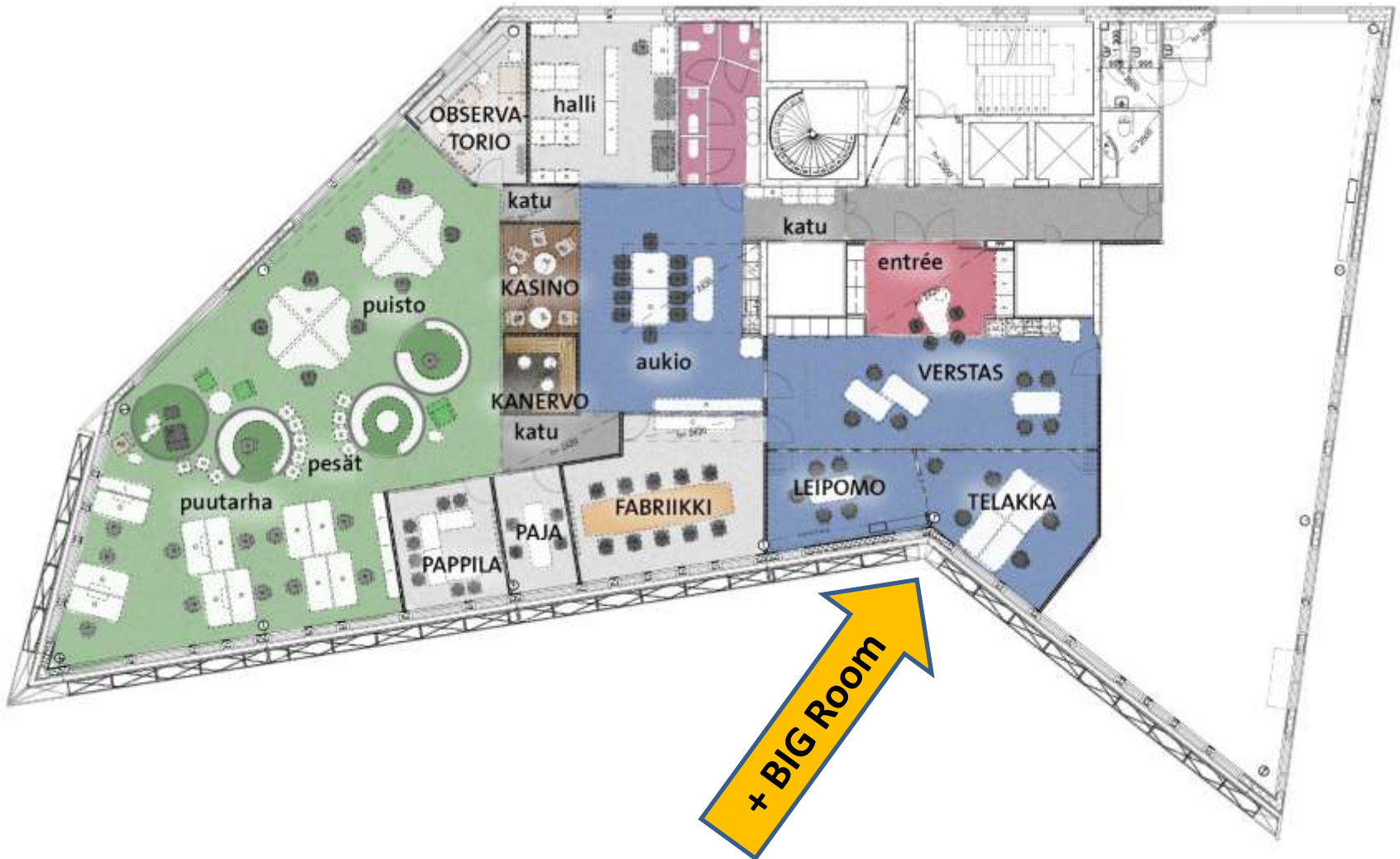


# Value Co-creation, BIG ROOM, White boards





# SYKCity





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# Flexible big room

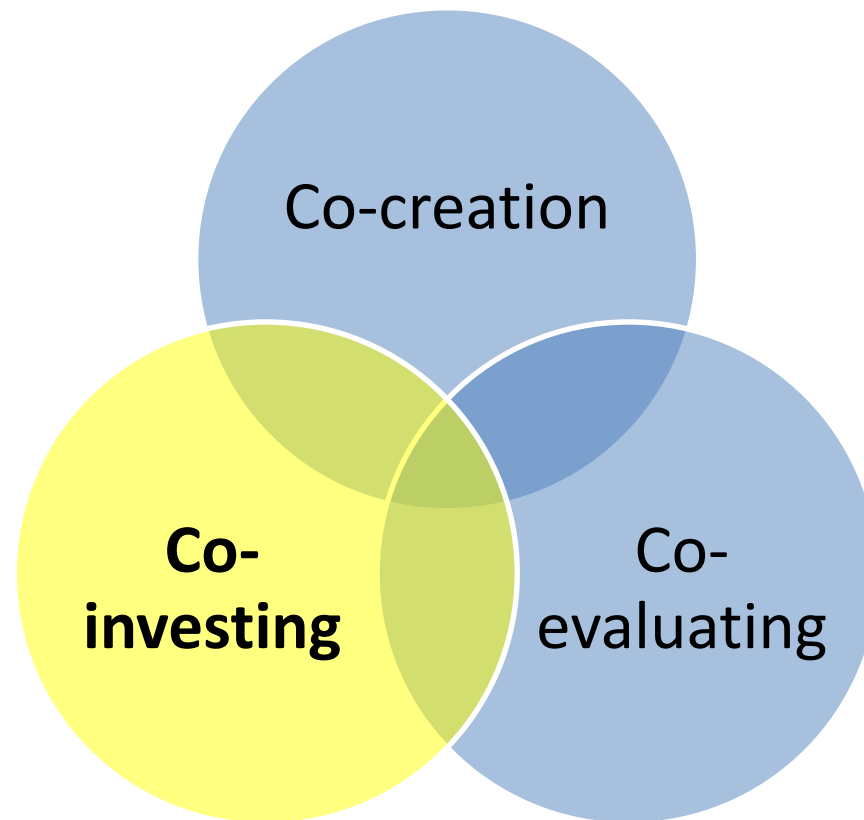






## Co-creation learning points

- Co-creation process can be long or short – the intensity matters
- Be creative who can be the co-creators
- Enhance dialogue
- Change resistance is a source for inspiring change



# theme 1: MODERN AUDITORIUM

theme 1  
LEARNING  
SPACES

BEFORE



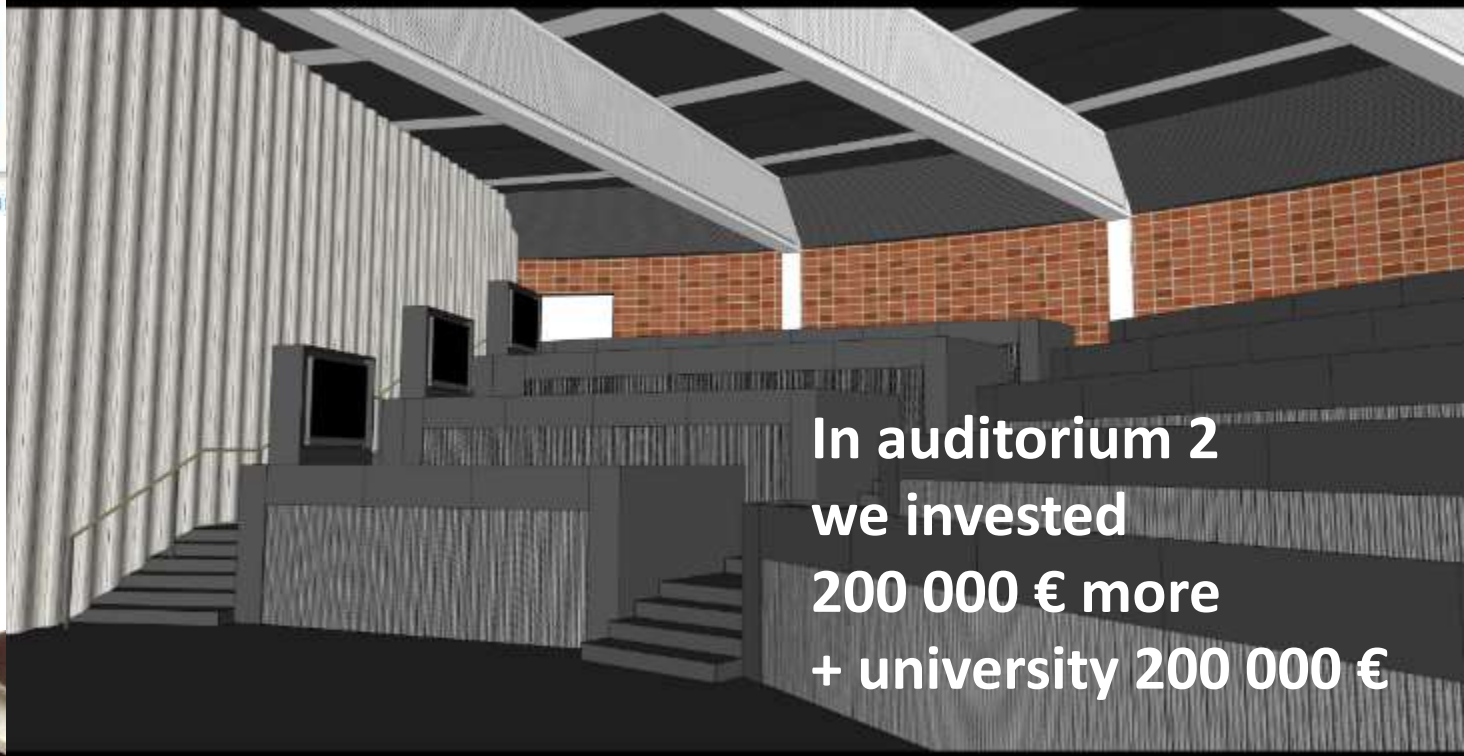
AFTER



University of Oulu



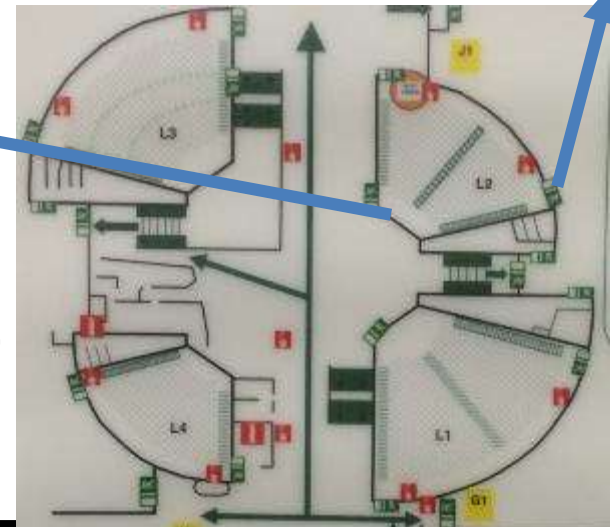
# Modern auditorium



In auditorium 2  
we invested  
200 000 € more  
+ university 200 000 €

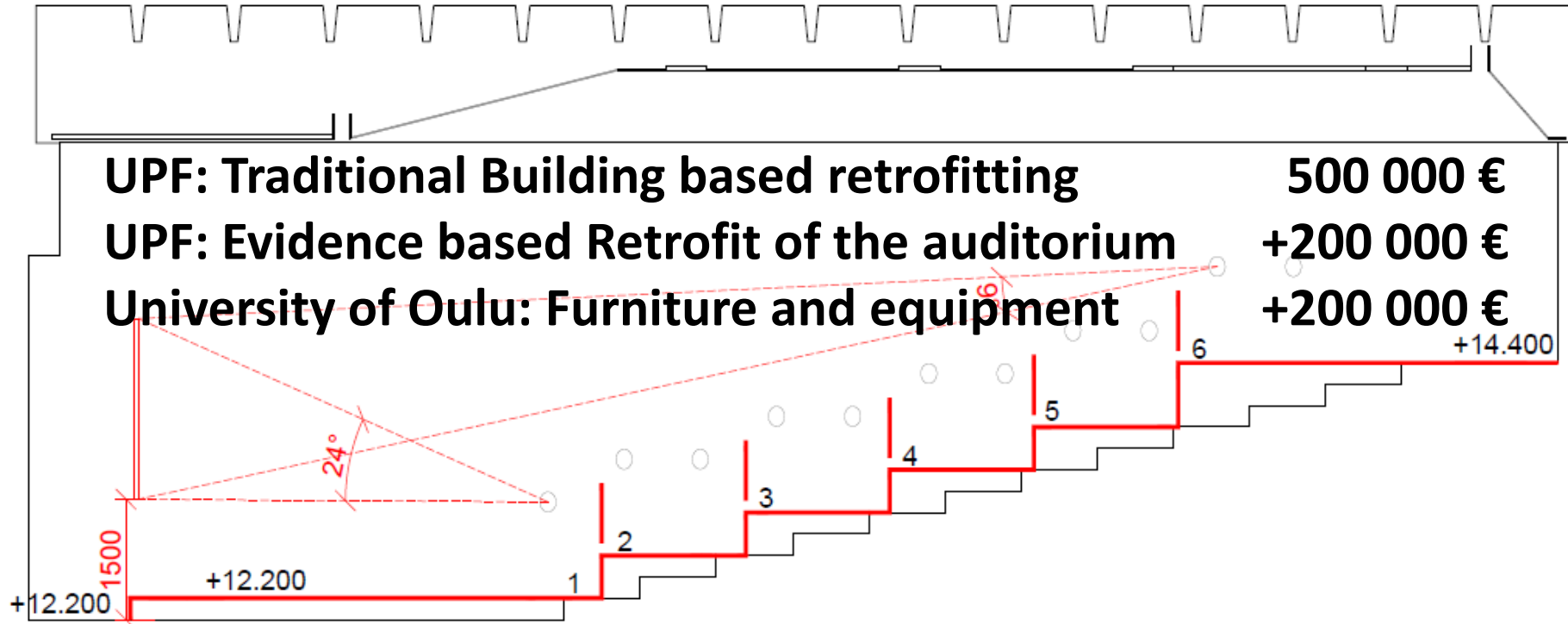


In Oulu  
university  
3 auditoriums  
were  
renovated by  
500 000 € per  
auditorium



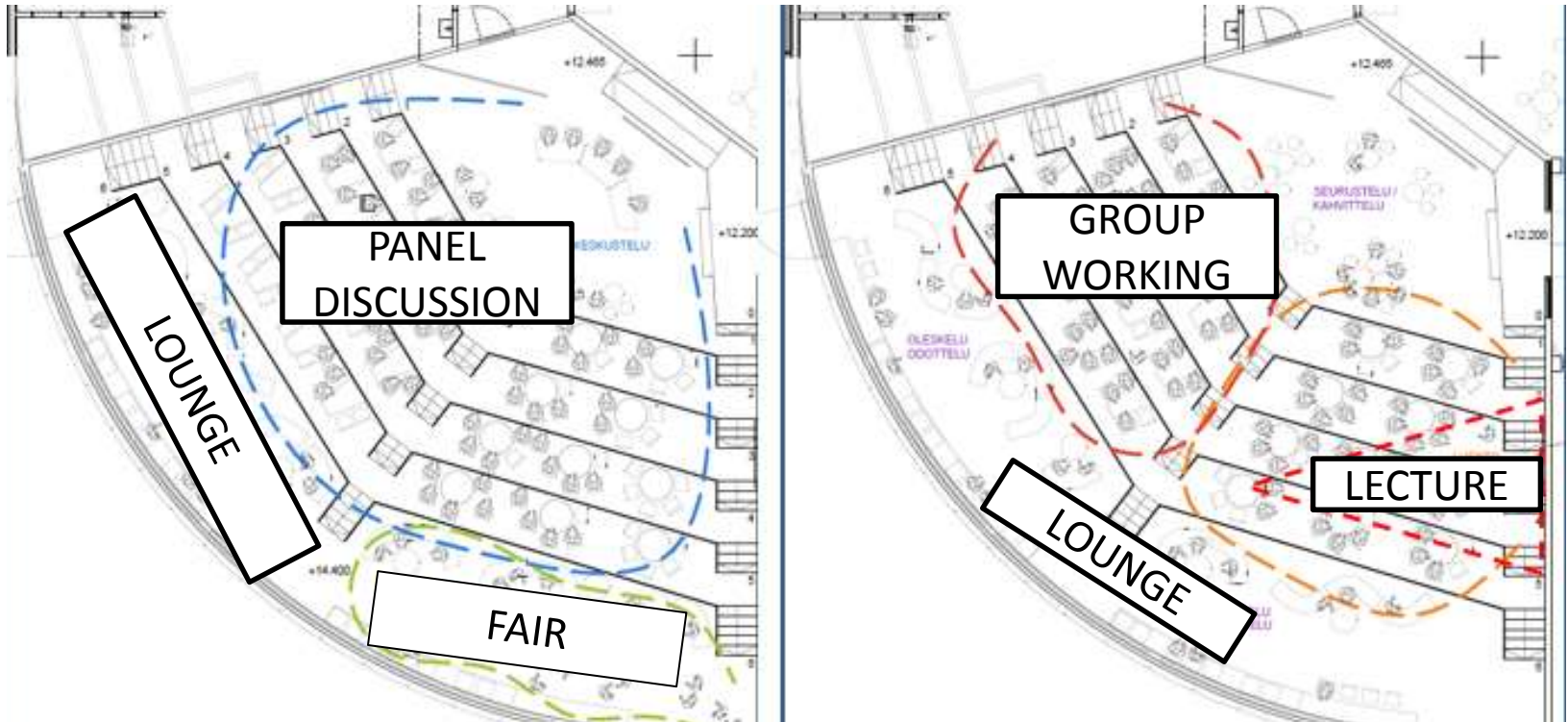
# Co-investing

## Interactive, multiuse auditorium,



KATSELUKULMAT, ESIMERKKI: 2,25m kuvakorkeus

OULUN YLIOPISTO, luentosali L2 // käyttövaihtoehtokaavio 1:50 // 20.5.2013 LINJA ARKKITEHDIT OY





# Interactive, multiuse auditorium

**Interactive teaching and learning**  
**Group works when the auditorium is free**  
**External seminars**  
**Exhibition Events**  
**Terrace Restaurant**  
**Christmas parties,...**





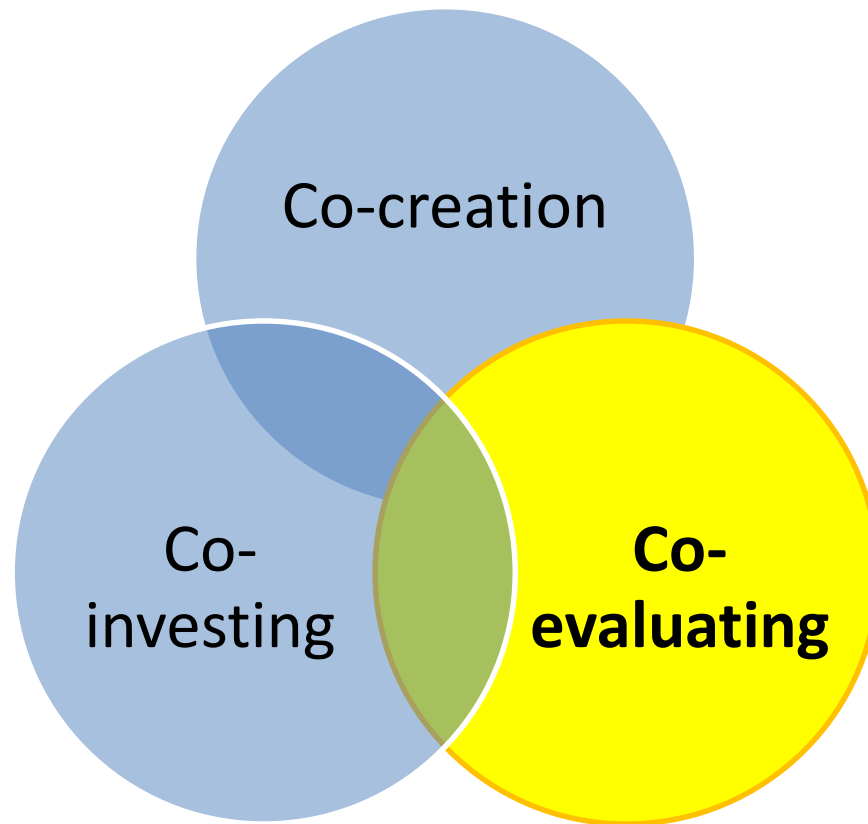
# Impacts of Co-investing and co-creation

500 000 € => 700 000 + 200 000 €

Lecturing => seminars, evening parties, external users,...





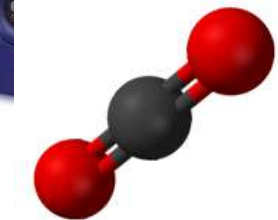


# We need evidence: Measurements before and after

## Collection of information

- User experiences: Happy or not questions and explanations by QR codes
- Changes in use rates and ways of use by Interval cameras
- Changes in indoor air conditions: Wirepass wireless sensors

## Measurement tools



Initial situation



Design



**Idea:**

**How the rise of floor level effects on the use of the lobby**

Design and visualization: Esa Hotanen

Before furnishing and use



In use





# New solutions make university lobbies and corridors alive

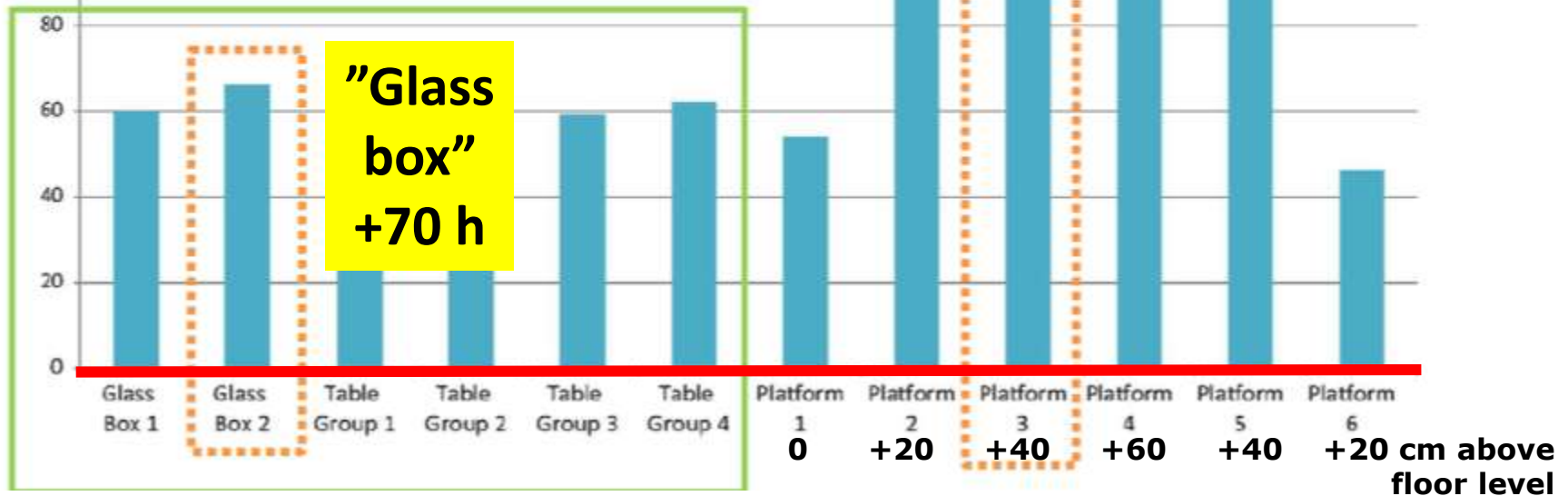
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**”+40 cm solution”  
+190 hours**



OBSERVATION AREA 1



# Learning points of Co-evaluating

- Use different measurements
- Take care about the feedback flow and feed forward flow
- Celebrate the results and success

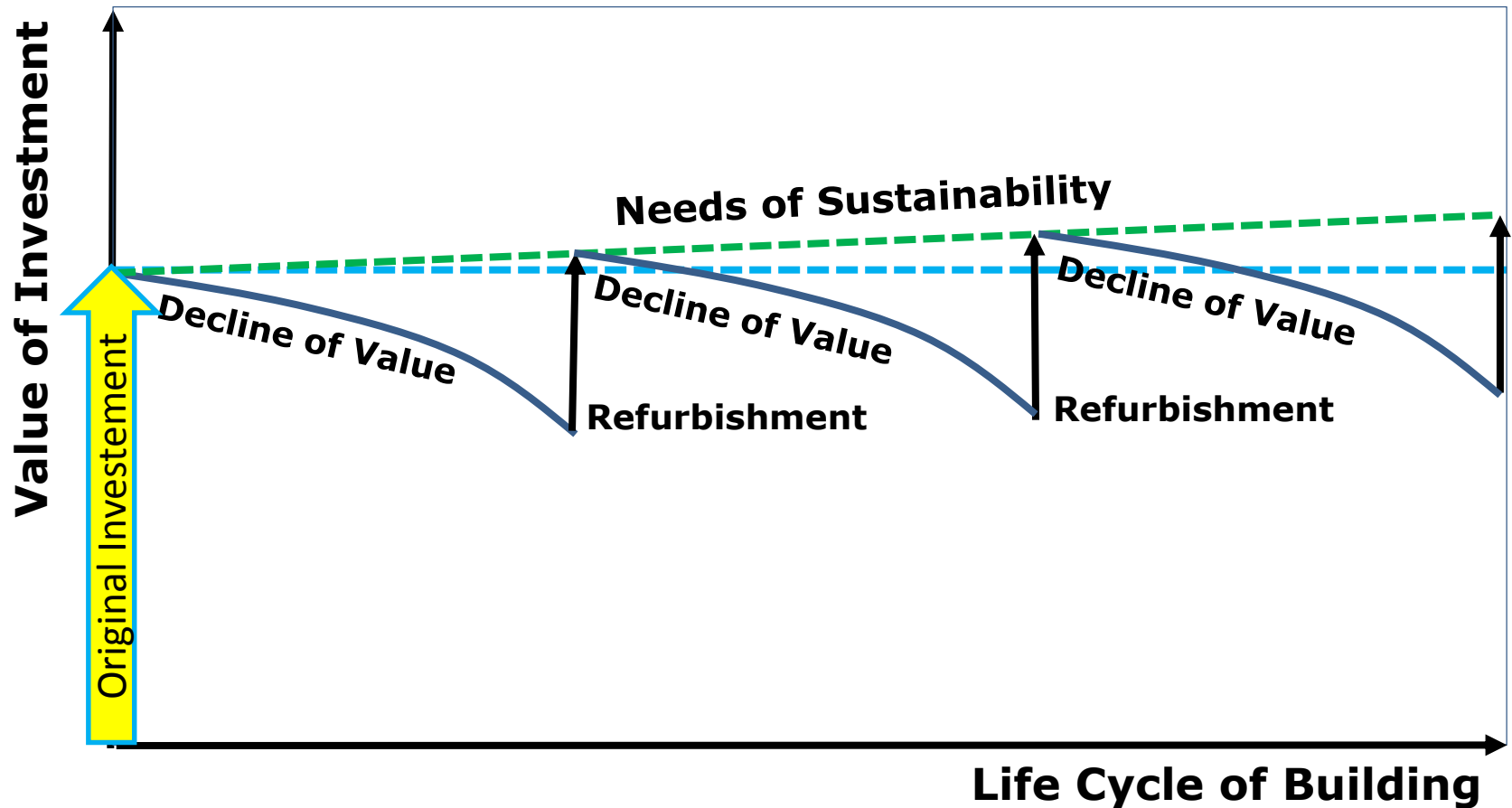
# Diverse roles in retrofitting

- Building based retrofitting – property owners pay the costs
- Activity based retrofitting – owners want their clients to pay the costs
- Evidence based retrofitting – co-financing to analyze the impacts of future solutions

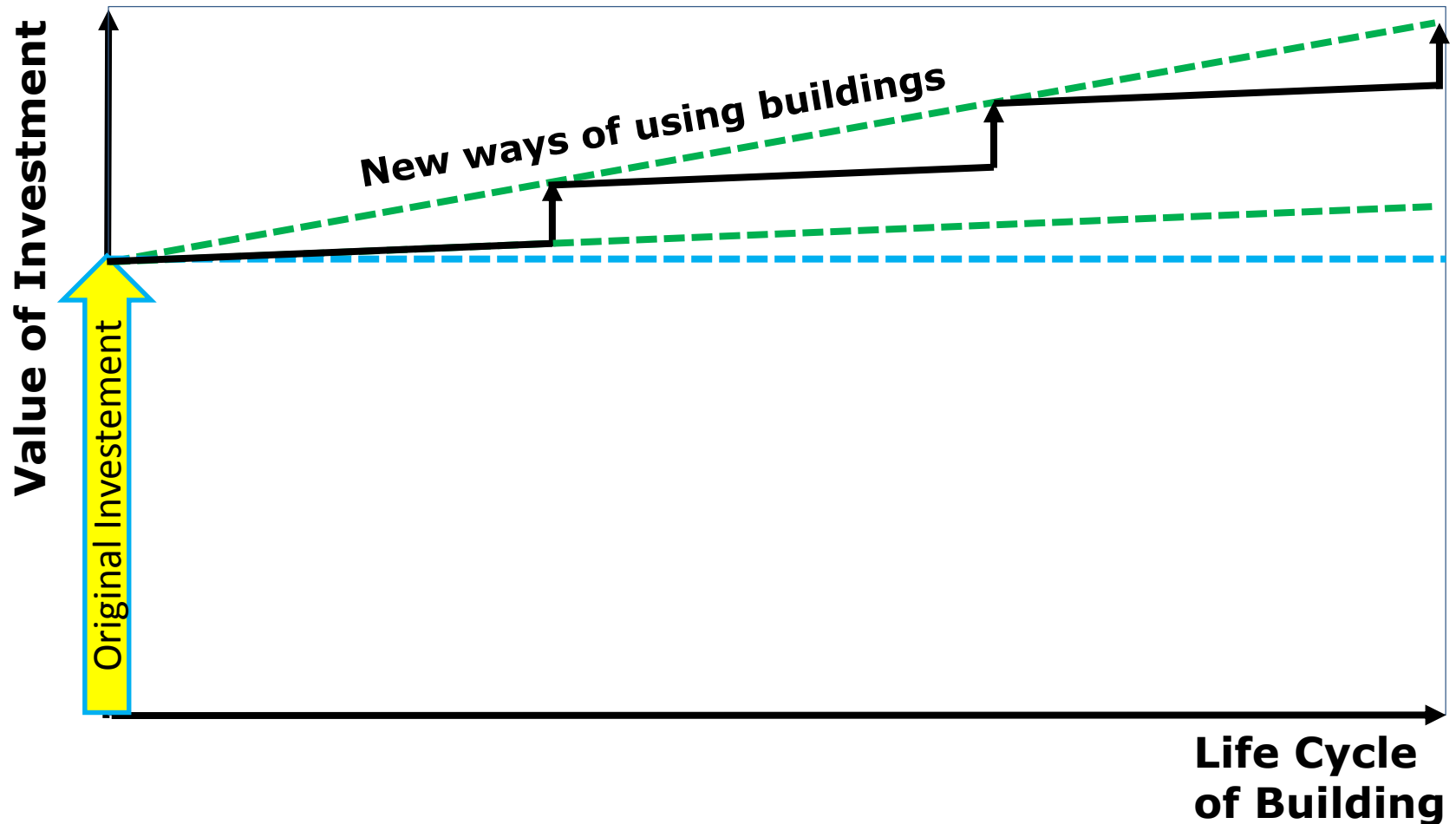


# Building based retrofitting

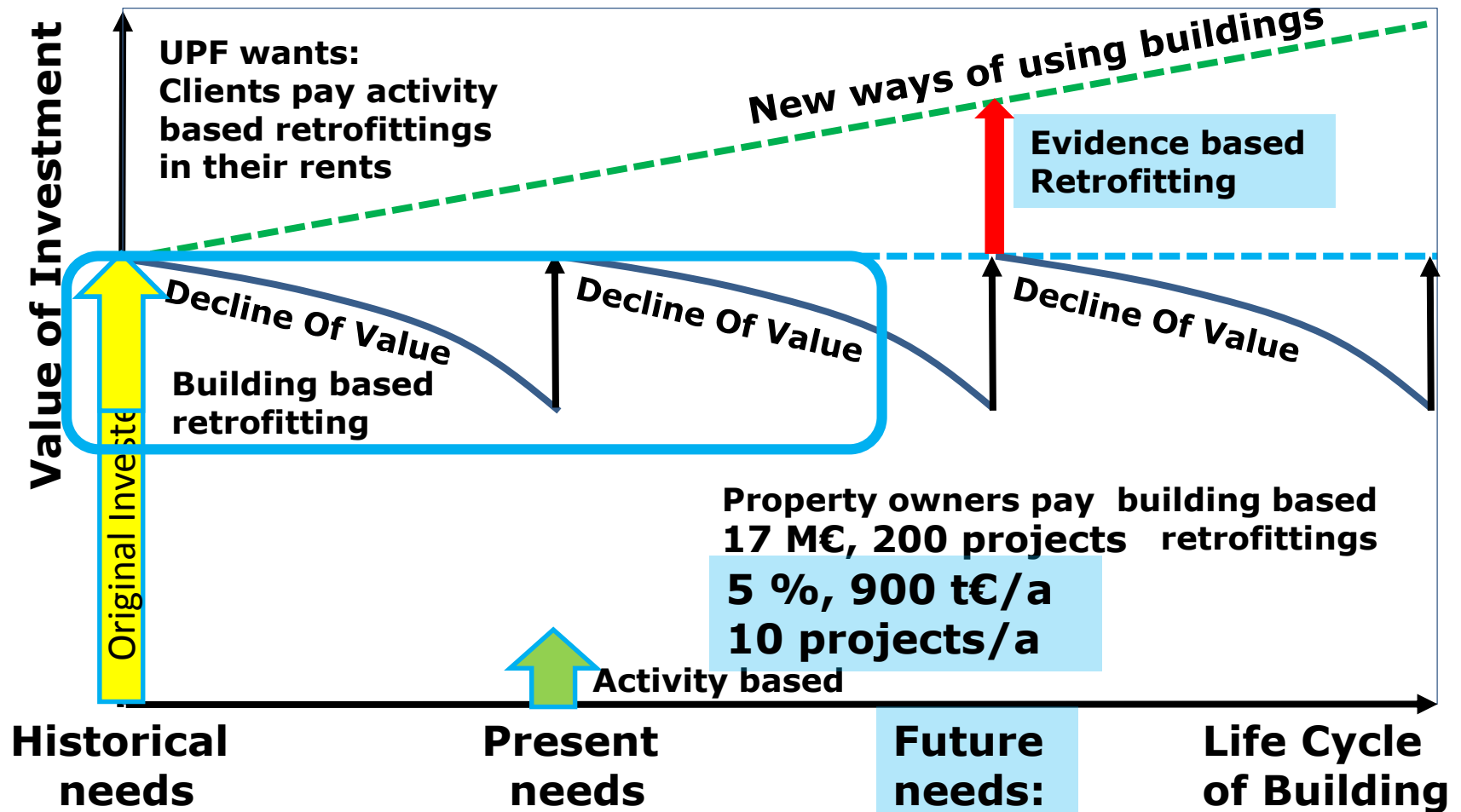
## Owners pay the costs



# Activity based retrofitting: Owners want: clients pay the costs



# Building, activity and evidence based retrofitting Co-financing





## Conclusions

- Every property owner has a budget for repair and maintenance: this can be used as a seed money for co-investing with users!
- Instead of repairing and retrofitting the building one can respond to the needs of the future – involve users! (Activity based retrofitting)
- Measure and collect evidence!(Evidence based retrofitting)



**Thank you for your interest**  
**Warmly welcome to Kampusareena**







**UPF**

# Attractive campus



**Green Campus**

**Social  
Meeting place**





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**Old parking area =>  
New meeting areena**



**Kampusfest**

# Transparency







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**We open  
our labs**







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# In future the labs are open even for outsiders

- **Model from Techshop in USA**
- Heavy lab
- TUTLab





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## Lobby with places in spaces - 40 cm higher







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# Library with places in space - 40 cm higher







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# Let's co-operate!

- All property owners can invest in R&D&I and demonstration projects in the same way, if they want.
- UPF is planning a project :  
**Pan European Research and Demonstration initiative to develop University campuses more attractive, sustainable and effective**
- You are warmly welcome to join to our effort
- **OSCAR –collaboration is important for us**
- Lets' Co-research, Co-create, Co-finance and Co-learn
- Contact:
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  - [Olli.Niemi@SYKOy.fi](mailto:Olli.Niemi@SYKOy.fi), +358 50 60210