

# LIPS2015 Barcelona

## Lean in Public Sector Construction Conference

### Session 2\*

## Case Study of a Hospital Project

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# Kainuu in Europe

Area	24 452 km <sup>2</sup>	100 %
- land	21 567 km <sup>2</sup>	88,2 %
- forest	20 439 km <sup>2</sup>	83,2 %
- water	2 885 km <sup>2</sup>	11,8 %







# Kainuu Social and Health Care Joint Authority

- Kainuu is a forerunner in Finland in terms of **integrating primary health care services with specialized medical care as well as social services**
  - provides all social welfare and health care services for approx. 80 000 inhabitants
  - central hospital located in city of Kajaani
    - distance to the next emergency hospital is 200 km > two hours drive
- Budget > 320 M€ (~ 3 200 employees)





- Area total 156 378 m<sup>2</sup>.
- Current buildings tot. 51.447 m<sup>2</sup>,
- of which in hospital use 44984 m<sup>2</sup>.
- Main buildings built 1969.
- Extensions 1993, 2010, 2013.

# PROJECT OBJECTIVE AREAS

**1: Customer driven  
processes**  
*(integrated social  
and health)*



**2: Management, organisational structure,  
HR-policy**  
*(integrated social and health)*

**3: Construction  
and technology**  
*(hospital)*





# THE CONCEPT OF KAINUU NEW HOSPITAL

- **Dividing acute and elective care**
  - 24/7 core hospital, elective departments (policlinics) and in-patient wards
- **Declining inpatient care**
  - Rehabilitation must be emphasized
  - Flow of diagnostic services
  - Day surgery and other operative models
  - Discharge flow
- **Standardized patient and examination rooms**
  - Safety and quality
  - Fluent patient care
  - Technical and support facilities.
- **Joint processes and facilities with primary health care**
  - The care processes organized by the patient need.
- **Patient self care**
  - Patient responsibility
  - Telemedicine
- **Safety hospital environment for patients and professionals**
- **Customer focus**
  - Customer influence on service experience

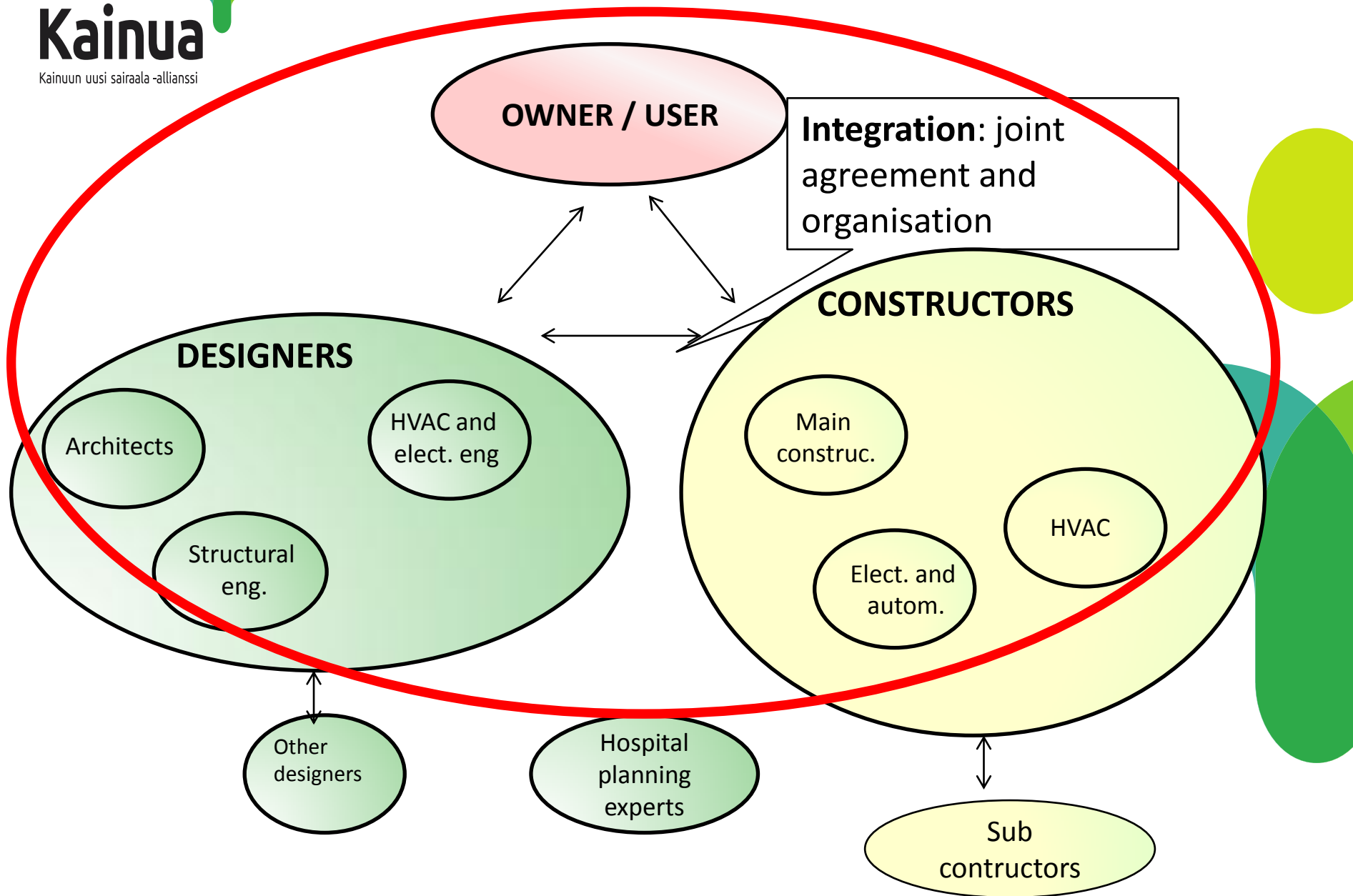


# How to tackle several challenges?

- Demanding planning and building
- Complex implementation with a running hospital
- Budget
- Quality
- Time
- Wood construction
  - > Integrated project model
  - Kainuu Hospital is the first alliance project in hospital setting in Finland









**Kainuun sote**

**SKANSKA**

**SWECO**



**Caverion**

# LESSONS LEARNT 1: Procurement

- Keep it Simple
  - > Alliance Performance (tested through the negotiations)
  - > Only a few technical issues to be evaluated in tender
  - > The price
- Look for the best group having abilities to
  - Organise
  - Solve Problems
  - Build mutual confidence
  - Self-reflect
  - > Other benefits will follow (if pre-selection has succeeded)!



## LESSONS LEARNT 2: Project implementation

- Empower the hospital staff
  - Lean development program for care processes
- Early integration
  - Use time for team building and shared rules of working
- Visualise the design material
  - 3D-modelling in CAVE



# Interim Outcomes

- Masterplan approved
  - Using lean principles
    - Functional and logistic lay outs
  - Phased production plan
    - Modular construction
    - Avoiding temporary moves / interim facilities
  - Considering owners objectives
    - Standardisation
    - Modularity
    - Adaptability
    - Use of wood
    - Technology
    - Patient centered hospital and healing environment



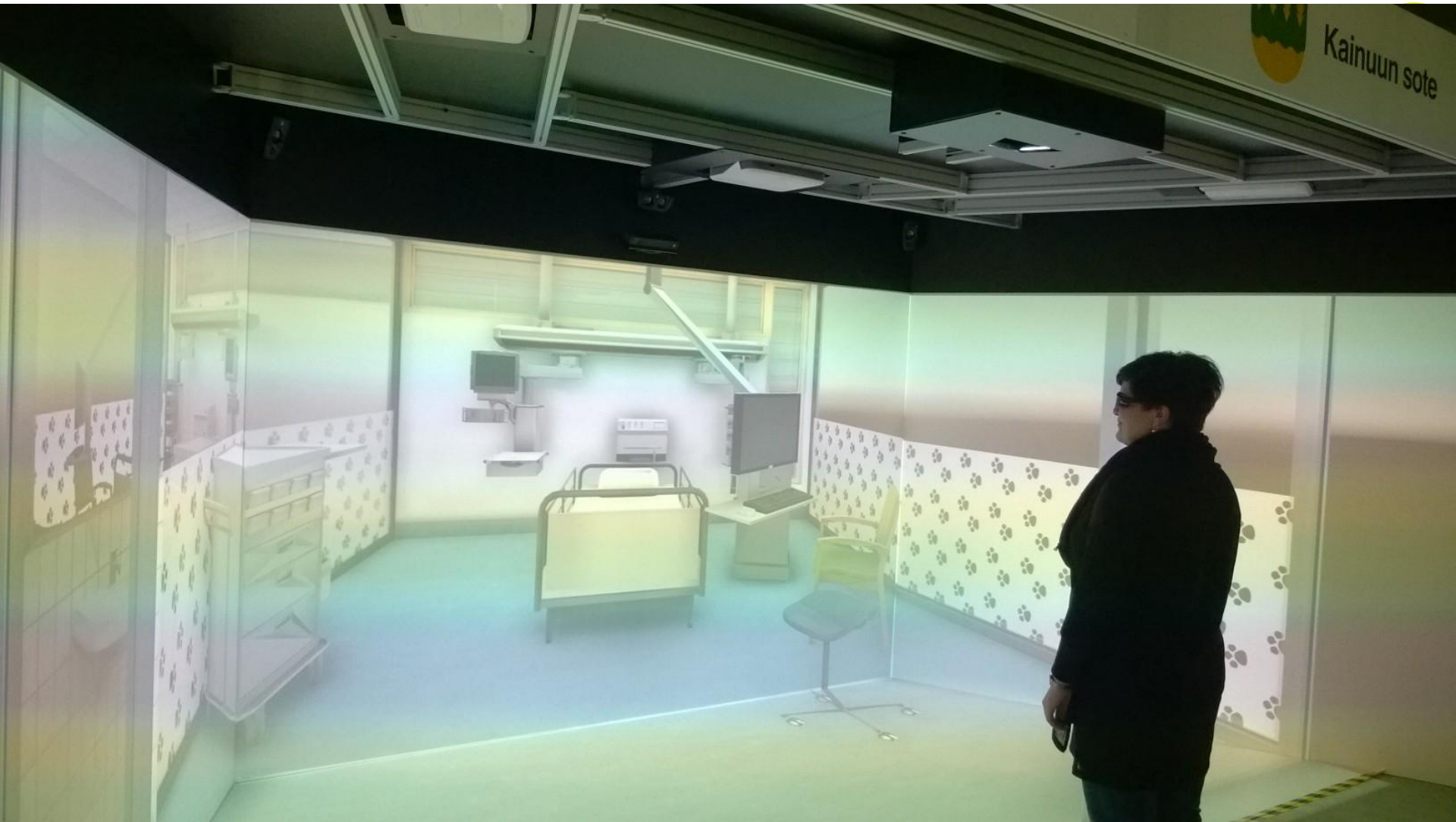


Sweco  
Architects



# CAVE (Computer Assisted Virtual Environment)







# THANK YOU!



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