

KIRA-AKATEMIA

KURSSIPROJEKTI: ASIAKASONGELMISTA LIIKEIDEAN KUVAUKSEEN

Kusti Kajander, Boost Brothers

Matti Sivunen, Boost Brothers

Lauri Pulkka, Aalto-yliopisto

SIIRTYKÄÄ ISTUMAAN RYHMIIN JA VALITKAA TÄMÄN VIIKON PUHEENJOHTAJA

RYHMÄ 1			
Eino	Hankela	Vuokrauspäällikkö	Sponda Oyj
Mikko	Kietäväinen	Myyntipäällikkö	Halton Oy
Saku	Laukkanen	Vastaava työnjohtaja	Peab Oy
Jan	Lund	Kehitysinsinööri	NCC Suomi Oy
Kristiina	Selin	Projektikoordinaattori	Kiinteistötarina
Ella	Väri	Isännöitsijä	Ovenia Oy

RYHMÄ 2			
Riikka	Haakana	Workplace and Service Manager	Newsec Asset Management Oy
Mari	Heinola	Asiakaspalveluinsinööri	Hartela Etelä-Suomi
Ninni	Kangasniemi	Sähkösuunnittelija	Amplit Oy
Olli	Suominen	Rakennuttajainsinööri	Rakennuttajatoimisto HTJ Oy
Samu	Viitanen	Projektiassistentti	KIRA-digi / Rakennustietosäätö RTS

RYHMÄ 3			
Ismo	Anttonen	Projektnhoitaja	Are
Iiro	Kauppi	Hankekehitysinsinööri	NCC Suomi Oy
Riku	Laiho	Tietomalliasiantuntija	Trimble
Laura	Lithenius	Lakimies	Suomen Kiinteistöliitto ry
Lauri	Pakkanen	Asiamies	Rakennusteollisuus RT
Anna	Puhtila	Projektityöntekijä	Ilmarinen

RYHMÄ 4			
Simo	Karjalainen	Rakennuttajapäällikkö	Citycon Oy
Eemeli	Lönnqvist	Harjoittelija	ISS Proko Oy
Mikko	Niskanen	Projektipäällikkö	Ovenia Oy
Riikka	Rautavaara	Työmaainsinööri	NCC Suomi Oy
Jenni	Venäläinen	Energia-asiantuntija	Realia Management Oy

RYHMÄ 5			
Esa-Pekka	Koikkalainen	Energia- ja LVI-suunnittelija	FCG Suunnittelu ja tekniikka
Annakaisa	Mänttari	Viestintäpäällikkö	Kiinteistöliitto
Ina	Suutari	Projekti-insinööri	NCC Suomi Oy
Anssi	Tikkanen	Isännöitsijä	Realia Management Oy
Nea	Tuominen	Arkkitehti	ALA Arkkitehdit

KURSSIPROJEKTIN OHJELMA

Pvm	Tavoite	Kuvaus
1.9.	Asiakasongelmien listaus	Millaisia tarpeita ja ongelmia rakennetun ympäristön eri toimijoilla on? Miten ne voisi ratkaista?
8.9.	Markkina-analyysi	Millainen valitsemanne idean markkina- ja kilpailutilanne on?
15.9.	Ansaintalogiikka	Miten idealla tehdään rahaa?
22.9.	Liikeidean kuvaus	Miten asiakasongelma ratkaistaan liiketoiminnallisesti kannattavalla tavalla?
29.9.	Liikeidean pitchi	Vertaispalaute ideasta ja sen esittämisestä
29.9.–14.11.	Valmistautuminen KIRA-foorumiin	Liikeidean pitchin hiominen ja videoiminen

AAMUPÄIVÄN OHJELMA: Kurssiprojekti pienoiskoossa

Klo	Tavoite	Kuvaus
9.30–9.50	Asiakasongelmien kuvaus	Millaisia tarpeita ja ongelmia rakennetun ympäristön eri toimijoilla on? Miten ne voisi ratkaista?
9.50–10.10	Markkina-analyysi	Millainen valitsemanne idean markkina- ja kilpailutilanne on?
10.10–10.30	Ansaintalogiikka	Miten idealla tehdään rahaa?
10.30–10.50	Tauko	
10.50–11.30	Purku	Vertaispalaute ideasta ja sen esittämisestä

- Ryhmän puheenjohtaja hakee kaksi valitsemaansa asiakasongelman kuvausta
- Ensimmäinen 20 min: vapaata keskustelua ongelmista ja alustavista ratkaisuehdotuksista
- Toinen 20 min: valitkaa yksi ongelmista / idea-aihioista ja tehkää siitä vapaamuotoinen markkina-analyysi
- Kolmas 20 min: kuvatkaa liikeidean ansaintalogiikka (bonuspisteitä visualisoinnista tai prototyypistä)
- Tauon jälkeen kukin ryhmä valmistautuu esittämään lyhyesti A) ajatuksia ryhmän työskentelystä ja B) liikeideansa

Havaintoja aamupäivän työskentelystä

- Aktiivista, reipasta, sopivan intensiivistä!
- Ujosti numeroita
- Ujohkosti kuvia ja protoja
- Asiakasongelmien / -hyötyjen korostaminen tämän päivän agenda
- Kaikki ymmärsivät jutun juonen
- Asiakkaan "kusetaminen" ei kuitenkaan ole se juoni
- Liiketoimintamallit 2000-luvulla menossa suorista hajautettuihin ansaintamalleihin
- Yritystoiminnassa ei olla yksin: kumppanit ovat keskeinen osa palapeliä
- Kiinnittäkää huomiota ryhmädynamiikkaan jatkossakin: ryhmätyö, joka ei ole kenenkään leipätyö

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- Aamupäivällä 20 min, nyt viikko per vaihe
- Jokainen tehtävä tukee lopullista tavoitetta: liikeidean kuvausta ja pitchaamista

ASIAKASONGELMIEN LISTAUS

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ASIAKASONGELMIEN LISTAUS

- Miksi ongelmia eikä suoraan ideoita? Innovaatio ≠ keksintö
- Ongelmista alustaviin ratkaisuihin:
 - Mikä tuote voisi tulevaisuudessa olla palvelu?
 - Miten tiedon läpinäkyvyys tulee muuttamaan alaa?
 - Miten pääomaa voisi käyttää radikaalisti uudella tavalla?
 - Trendejä kiinteistö- ja rakennussektorilla

Examples of key trends (Already taking place!) in the real estate and construction sector 2017-2025

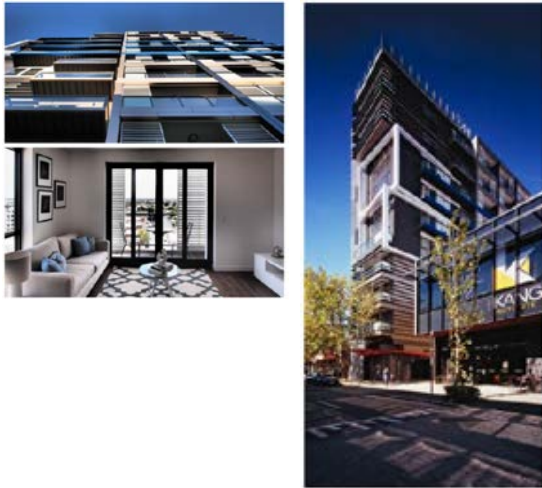


Picture: Erik Johansson

- **Trend 1:** Radical productivity improvements through automatized prefabrication and robotic assembly?
- **Trend 2:** Revolution in resource efficiency via re-usability and new materials?
- **Trend 3:** Better life-cycle usability of buildings through digital design and use?
- **Trend 4:** New functions for buildings via smart building components and services?
- **Trend 5:** Real estate as a service?

Increasing number of construction companies combine automatized prefabrication and rapid on-site assembly

Mass customization based on customer needs



Automatized prefabrication of building modules



Rapid on-site assembly



Life-cycle services



Company profile: Sekisui House



- One of the biggest construction companies in Japan, whose international business ventures has increased rapidly
- Central in the company's business model are a powerful customer experience, long customer relationships and service business during dwelling
- **Product:** 1-5 storey steel apartment and service buildings, important in the buildings are customization and flexibility of use
- Annual production volume is approximately 60,000 apartments. Sekisui has built over 2.6 million prefabricated buildings in total
- Their competitive advantages are; highly automatized factory production (tasks, control of material flows), 60-year warranty, diagnostics and life-cycle services (e.g. module upgrades)

- Country: Japan
- Founded: 1960
- Employees: 16,000
- Turnover: over 15 billion euros



Observed benefits of rapid construction

- Lower construction costs (-10-25 %)
- Faster on-site process (2-5 days/per storey)
- Less risks
- Systematic R&D together with customers
- High-value-added customer relationships

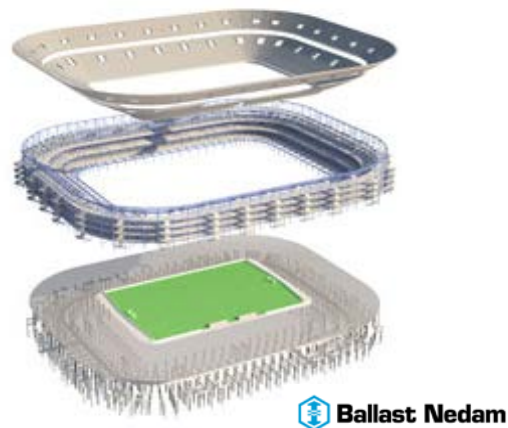




Trend 2: Revolution in resource efficiency through re-usable buildings and new materials?

Re-usable buildings and building components increase materials efficiency.

For example, Ballast Nedam's Plug & Play concept makes stadiums reusable at a different locations due to its modular design. The concept also could dramatically change the financing options for a stadium. Ballast Nedam is currently industrializing the building process to raise the standard of flexibility.



New resource-efficient materials are likely to have a big impact on building component design.

For example, aerogel (Solid smoke) is the lightest solids known (since 1930s) and the best solid insulating material. Aerogels are 5-10 times more efficient than other insulators. Aerogels are soon to make breakthrough due to major improvements in manufacturing process.



BASF SLENTITE™, the first high-performance, polyurethane-based insulation panel that needs **only 50%** of the space to do the same job as conventional materials.

"Svenska Aerogel AB has developed a novel production technology that saves **90%** of Aerogel production costs" (www.aerogel.se)

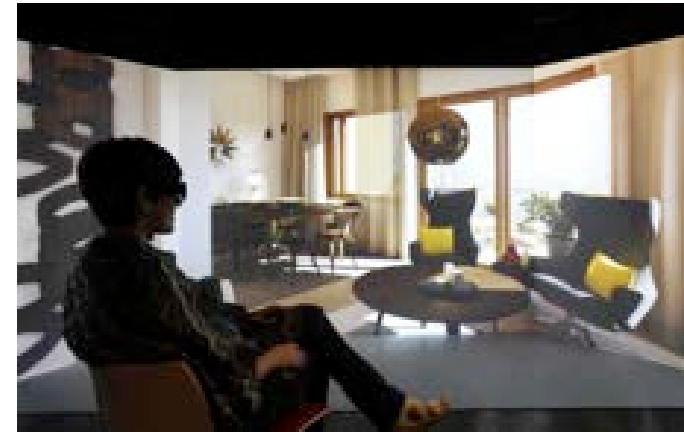
Trend 3: Better life-cycle usability of buildings through digital design and use?

Better design will play a key role in enabling the industry to meet its ambitions. Digital techniques are central to this.

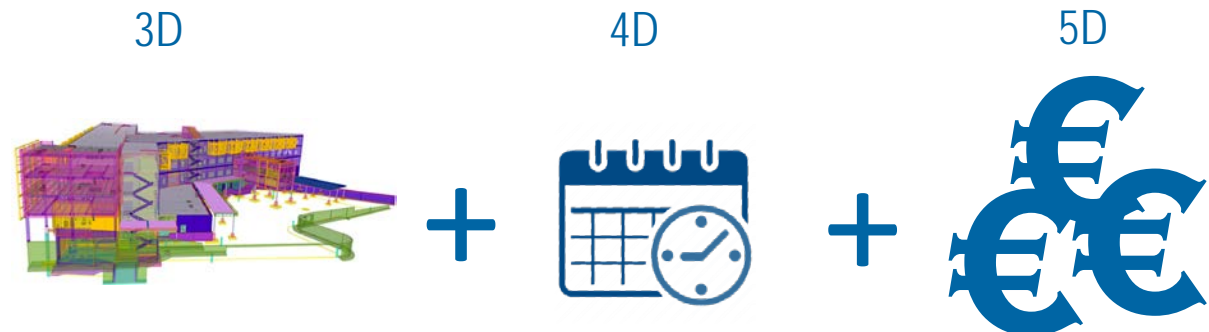
Building Information Modelling (BIM) is the *process* of generating, integrating and managing data about the building, during its life cycle. BIM is expected to result in smarter user optimal designs, requiring less materials, less risks and less labour for construction, whilst still ensuring full resilience of the assets.

BIM is expected to mainstream in the next 5 years

- The number of buildings and infrastructure that are able to interact with humans and with each other will grow to 44 billion by 2020
- Governments increasingly require digital models as the core of planning applications e.g., the UK by 2017. In Finland, city of Järvenpää already gives a construction permit fast lane to BIM designed project
- Major construction companies such as NCC, Bouygues, Obayashi, Skanska have set BIM as their number one strategic priority
- 5D BIM including 3D BIM, Schedule and cost planning will make it possible to conduct even more detailed schedules and cost calculations more efficiently. Chinese Glodon is one of the pioneers of 5D BIM



Virtual user-oriented design in Järvenpää new healthcare center / UKI-Arkkitehdit





Company presentation: Brain of Things

CASPAR by Brain of Things

- Offers the “Caspar” home automation system for the housing sector
- Caspar learns the tenants’ daily routines and is able to control the house by itself according to the residents’ habits
- Caspar systems are being installed in reference projects in the states of California, Nevada and Japan
- The company was highlighted by MIT Business Review in 2016 as one of the most promising building automation companies

- Country: USA
- Founded: 2015
- Total funding: n.a.
- Employees: n.a.
- <https://caspar.ai/>



Trend 4: New functions for buildings via smart building components and related services



Wonderwall -wall panel (TUM, Südtirol)

In the future, home-assisted living for the elderly could take a very unusual form. Research team at TUM (Munich) have developed a system that can track down reading glasses or the front door key, analyze health data, and contact a physician or a call-out service. And the technology is embedded in the walls. The walls have a modular design, with new functions added as and when required.



Wall panels integrated with audio-directional technology (e.g., PanPhonics) create tailor-made indoor environments. Façade integrated and other outside applications are under construction.



Floor components with TiO₂ functional coatings kill indoor air pathogens, i.e. 98% of VOC emissions. Self-cleaning tech for exterior building materials also in the market (Photocat A/S). ALD production technology is expected to significantly lower production costs of nanocoatings.



Self-healing and sensing construction materials e.g., Engineered Cementitious Composite (ECC) are in commercial pilot stage (DTU) in Denmark.

Trend 5: Real estate as a service? Example of real estate as a service: Pay-per-lux

- Philips customers can **pay-per-lux** instead of buying light bulbs
- Philips have come up with a solution which could deliver effective, adjustable illumination directly on the areas where it was needed, while the rest of the office space remained relatively dim.
 - A combined sensor and controller system further helped keep energy use to an absolute minimum, by dimming or brightening the artificial lighting in response to motion or the presence of daylight.
- The customer will get the exact amount of office illumination he needs at the price he wanted to pay
 - The system is also very flexible: lighting can be personalized, changing in intensity – or from cool to warm white light – depending on the way the space is used and the preferences of the person using it
- **Customer Benefits:**
 - Paying only for the essential
 - Improved predictability of costs

PHILIPS



Relevance:

BOOST
BROTHERS



Combined sensor and controller system helped offer a product-as-a-service (PaaS) solution instead of lightbulbs

Example of real estate as a service: Thermal comfort contract



- Carrier, the world's largest manufacturer of air conditioning equipment, is now offering **thermal comfort contracts** for buildings.
- Carrier can maintain the desired comfort level through a combination of
 - energy efficient building retrofits
 - new equipment
 - improved control and management
 - Service model based on quality factor
- Payments are based on **thermal comfort experinces**, obtained through a standardized survey method, developed by Berkeley
- **Customer Benefits:**
 - Paying only for the essential
 - Improved predictability of costs



Relevance:

BOOST
BROTHERS



Service model based on quality factor

Example of real estate as a service: KONE makes elevator services truly intelligent with Watson IoT



Collaborators: **KONE** **IBM**

Goal: Offer the best People Flow® experience

- KONE signed an agreement with IBM to transform KONE's operations and technology capabilities in February 2016
- By connecting elevators to the cloud and analyzing their messages, perfect maintenance for each individual elevator can be scheduled
- KONE will use IBM's **Watson IoT Cloud Platform** to collect, store and process data, build applications and develop new solutions
- By gathering the vast amounts of data from equipment operations and using sophisticated analysis and connectivity, downtime can be minimized and repairs carried out more quickly.
- With the IoT platform, KONE ecosystem partners and third parties can create new services and integrate existing services via Application Programming Interfaces.



A year after announcing their collaboration, Kone and IBM launched "24/7 Connected Services"

- KONE has piloted both bespoke and standard service solutions together with its customers, looking to launch them for the broader market during 2017 and 2018.
- The goal is to connect over a million elevators and escalators to the cloud globally during the next couple of years.
- Real-time data analytics reduce down-time drastically by enabling just-in-time and predictive maintenance.
- The system benefits:
 - Tenants by reducing inconveniences at the building
 - Building owners by reduced maintenance costs and more efficient operations
 - The service provider by gathering data for analytics to further develop the system



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Picture: Erik Johansson

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YLEISESTI LIIKEIDEOIDEN TYÖSTÄMISESTÄ

THINK BIG

HAKEKAA PALAUTETTA

HYÖDYNTÄKÄÄ KOKO VIIKKO

TÄMÄN PÄIVÄN TUOTOS

PAKOLLINEN

- 2–4 asiakasongelman vapaamuotoinen kuvaus
- Kustille (juho-kusti.kajander@boostbrothers.fi) ja Laurille (lauri.pulkka@aalto.fi) tämän päivän aikana

LISÄPISTEITÄ SAA

- Alustavista ideoista, miten ongelmia voisi lähteä ratkomaan
- Visualisoinnista (kuvista, kaavioista, taulukoista, prototyypeistä jne)
- Lähteistä