

**BUSINESS  
FINLAND**

# **WORLD IDEAS IN SMART BUILDING**







# CHALLENGES IN CONSTRUCTION AND LIVING NEED WORLD- CLASS SOLUTIONS.

- Our focus is on smart high-performance buildings with greater energy efficiency, lower life cycle costs, better indoor climate, and higher levels of comfort.
- Smarter digitalized buildings have smaller impact on the environment, and they provide healthier, customizable, and more comfortable surroundings for the occupants.



# BACKGROUND OF FINNISH EXPERTISE

Finland has the northernmost building stock and highest need for building heating in continental Europe.

## Heating Degree Days 2016 – EU Countries

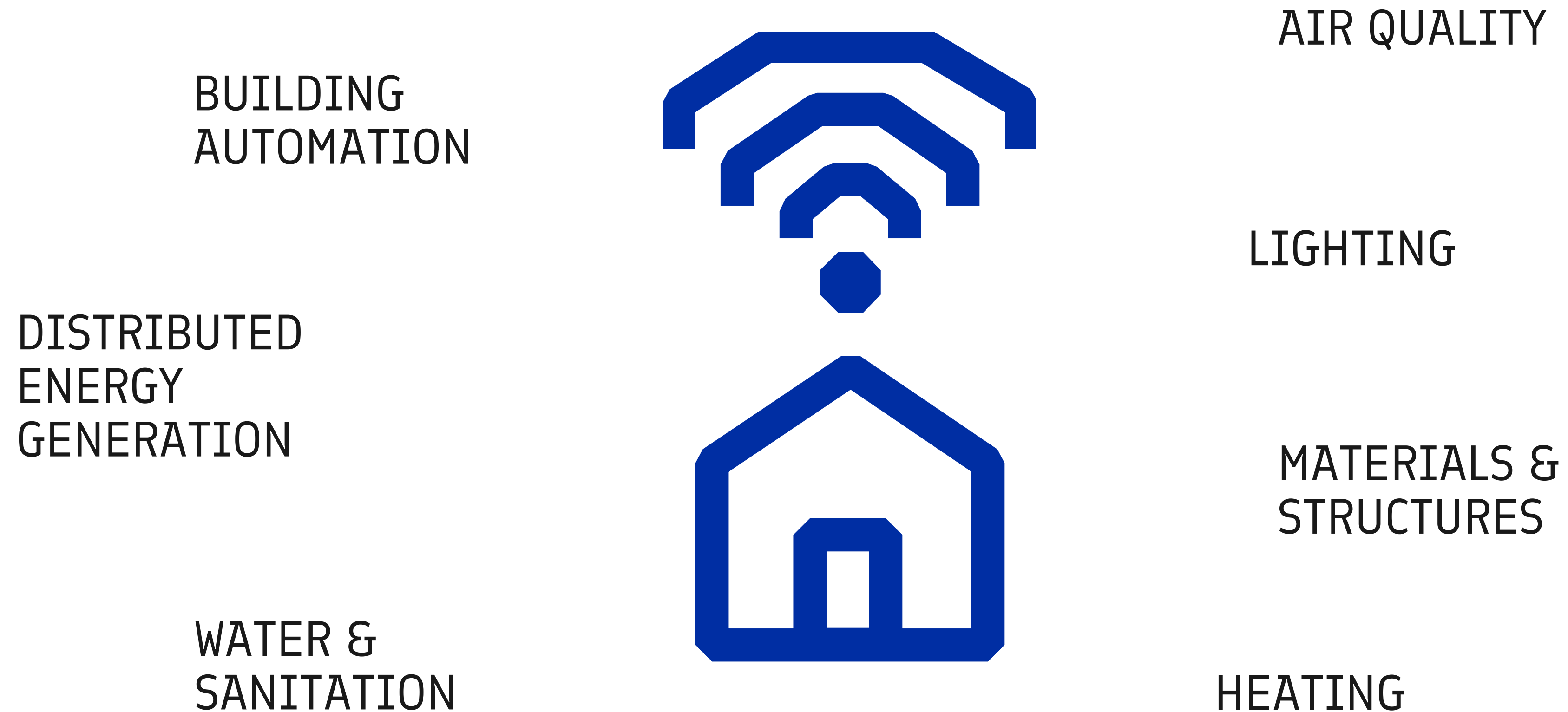
<b>1</b>	<b>Finland</b>	<b>5 338</b>
2	Sweden	5 125
3	Estonia	4 208
–	<i>EU-28</i>	3 025
11	Germany	3 005
24	Spain	1 729





# SMART SOLUTIONS FOR...

RESIDENTIAL BUILDINGS, COMMERCIAL  
BUILDINGS AND PUBLIC BUILDINGS.







VALUE PROPOSITION

# SMART HIGH-PERFORMANCE BUILDINGS INCREASE THE LONG-TERM VALUE OF YOUR INVESTMENTS

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Operation costs account for the biggest part of a building's cost of ownership

Saving energy and developing smarter buildings significantly lower operation costs and increase comfort



# FINLAND IS...

## 1st

### **THE GREENEST COUNTRY**

Finland is the greenest country in the world 2016 according to the environmental performance index (EPI)\*

\*Yale and Columbia universities along with the World Economic Forum.

## 1st

### **IN INNOVATION\*\***

\*\*The World Economic Forum, Global Competitiveness Report 2014–2015.

## 2nd

### **IN CLEANTECH**

Finland was ranked number 2 in the Global Cleantech Innovation Index

## 1st

- Qualified engineers
- Information technology skills
- Development and application of technology
- Funding for technological development
- Public and private sector ventures

IMD World Competitiveness Yearbook 2014



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# COMPANIES





# FOURDEG

## Company background

Heating service provider for buildings and district heating networks. Fourdeg operates electronic wireless radiator thermostats in central and district heated buildings.

## Value proposition

Services to improve the indoor comfort and save heating energy by lower consumption and demand-side management.

## Products & services

We provide high customer satisfaction and lower heating and maintenance costs for building owners whereas the construction and renovation companies enjoy the perks of the digitalization of the whole heating process.





# NUUKA SOLUTIONS

## Company background

The company has strong expertise in energy-efficiency solutions for buildings, modern business intelligence and reporting systems, as well as building automation and telecommunication solutions.

## Value proposition

Nuuka reduces energy costs, raises the value of the property, automates sustainability reporting and gives valuable data of indoor air quality.

## Products & services

Nuuka SaaS service, a building process and operational data management platform improves energy efficiency, indoor air condition, sustainability and maintenance processes with the help of big data.





# LEANHEAT

## Company background

Leanheat was born in 2011 to meet growing need for optimizing heat usage in buildings and heat production in district heating networks. Currently Leanheat manages over 15000 apartments producing proven benefits for residents, building owners and district heating operators

## Value proposition

Typically Leanheat saves 5-20% in building's heating costs ,and it supports predictive maintenance of buildings.

## Products & services

Leanheat provides advanced IoT solution for centrally heated buildings, and its AI works in collaboration with district heating companies.





# FINNFOAM

## Company background

**FINNFOAM** is a family-owned group that is specialized in new innovative, energy-saving and sustainable building components. It has wide manufacturing base in Finland, Sweden, Lithuania and in Spain. The annual turnover exceeds 72 MEUR.

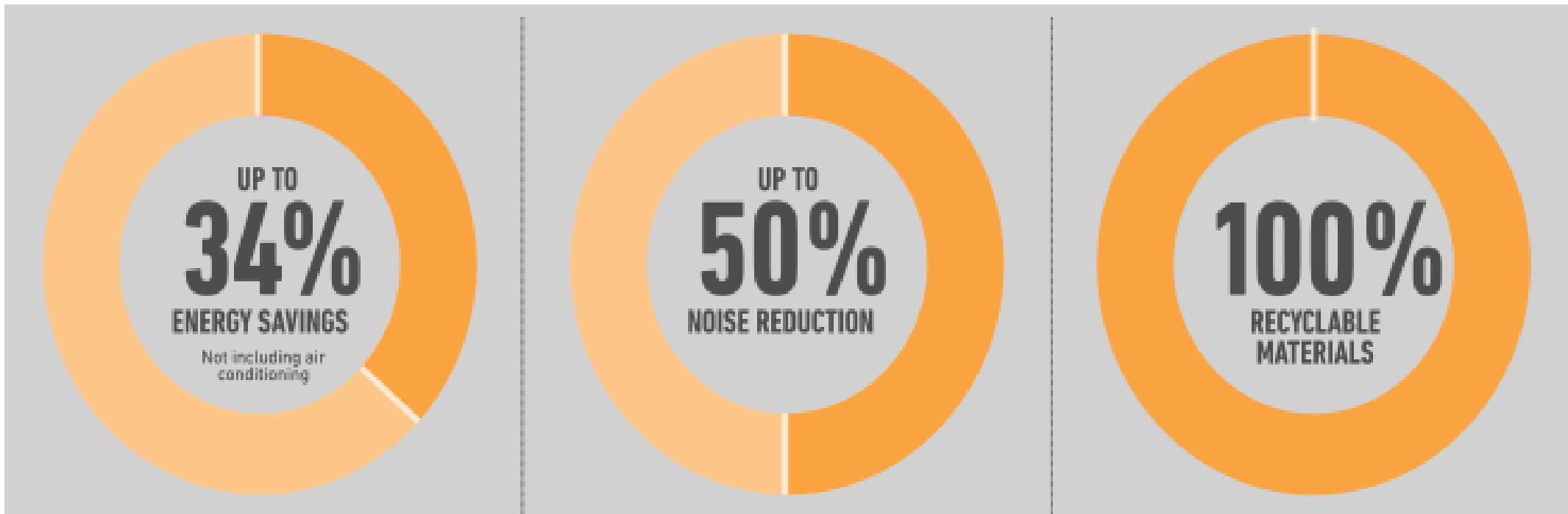
## Products & services

- **FF- Signal** –mobile signal enabler wall component.
- **FF-Wall**- ready made changeable wall component.
- **Tulppa**- wet room building board.
- **XPS,PIR,EPS** polystyrene rigid insulating boards, without ozone harmful gases.





## LUMON PRODUCT PORTFOLIO



### Lumon Balcony Glazing

- Frameless Balcony Glazing
  - Balustrades
  - Sunblinds
  - Accessories



### Lumon Terrace Glazing

- Frameless Terrace Glazing
  - Sunblinds
  - Accessories



**MISSION**  
"Better homes"





# VERTO

## Company background

Verto is Finland's leading household-specific water metering system, with more than 30 years' experience. Verto has over 300 000 customers. This year, Verto households have saved over 1,2 million cubic metres of water.

## Value proposition

The smart Verto water meter provides remotely readable measurements that are free of errors. It is easy to save water when you can see your consumption in real time. In Verto homes consumption decreases by an average of 30%.

## Products & services

The system is easy to use for all involved: design, installation, remote reading and maintenance can all be carried out effortlessly and reliably. Besides this, Verto has VertoMobile app that is hassle-free way to monitor consumption data.





# ITULA

## Company background

Itula is a family company specialized in environmentally-friendly heating and cooling systems that enhance energy efficiency. The company is the leading supplier of radiant heating and cooling systems in Finland.

## Value proposition

ItuGraf saves 30 % of energy and is especially suitable for low temperature energy sources. It provides both the best indoor air quality class (S1) with no draught nor dust and the lowest life time cost based on high output and maintenance free operation.

## Products & services

ItuGraf is a new generation heating and cooling panel for different types of rooms. The RHC graphite filling boosted panel is the most efficient panel in the market.





# OPTIWATTI

## Company background

OptiWatti gives you the solutions for room-level energy management and optimization. The company was founded in 2014, and it has grown rapidly while gathering recognition from different competitions.

## Value proposition

OptiWatti can give you even 40% savings in heating costs, and it has approximately a three-year ROI. While it gives the user more control and comfort, it provides various benefits for energy companies too with e.g. better load management.

## Products & services

With OptiWatti cloud-based solution, you can control electric heating, air-heat-pumps and waterboilers. The system learns all the time the heating and cooling patterns.





# LEASEGREEN

## Company background

LeaseGreen is a Finnish company dedicated to helping clients in the property sector to improve their profitability and environmental sustainability by enhancing energy efficiency.

## Value proposition

Modern building technology improves indoor conditions, decreases energy costs, improves the profitability of operations and increases the building's value. Satisfaction levels among the property's users increase. Emissions decline

## Products & services

We modernise automation systems, enhance heat recovery, renew ventilation and cooling, and replace lighting with LED technology.





# SMARTVATTEN

## Company background

Envera was founded in 2013 to bring smart savings and peace of mind to the housing boards of apartment complexes. The company operates across Finland, Sweden, the Baltics, and Germany.

## Value proposition

Envera's remote monitoring service Smartvatten helps you stop flushing money down the drain and catch plumbing leaks before it's too late.

## Products & services

The leak detector monitors the main water meter and records data on a server in real time. It analyzes changes in consumption patterns and raises an alarm immediately if there is a deviation. The data can be saved in property management systems and forwarded to your water supplier.





# SMARTWATCHER

## Company background

SmartWatcher Oy is a company founded in the beginning of 2016. Company's speciality is monitoring the cleanness and safety of indoor air.

## Value proposition

Smartwatcher helps you to minimize damages to your health and to your space caused by bad indoor air. The people living and working in the buildings will feel themselves happier and more productive when they breathe clean air.

## Products & services

Extremely precise SmartWatcher sensors provide exact information that you can follow around the clock.





# TPI CONTROL

## Company background

Innovative, financially solid cleantech company having smart and energy efficient solutions of heating and cooling systems to hospitals, schools, shopping centres and real estates in general.

Investing 15 % of turnover into R&D annually.

Offices in Tampere and Vantaa.

## Services

TPI Control Oy is a provider of expert services specialising in the study and analysis of the condition of building heating and cooling systems. The results of these analyses are used to design and create solutions for increasing the efficiency of heat transfer systems and their maintenance.

# TAKE CONTROL OF HEATING VENTILATION COSTS



# INFRAKIT

## Infrakit cloud platform for construction

With Infrakit, construction companies and infra-owners are able digitalize infrastructure construction projects. Designs and work progress is available online, in real time. Infrakit integrates all CAD systems, surveying equipment and 3D machine control under one cloud platform.

Complete projects faster with fewer errors and save 20% of project total costs.





## Tridify is leading the way in delivering quality, dynamic and real-time graphics fast over mobile devices.

Tridify is an intelligent online collaboration, sales and marketing tool for the AEC industry. Our software takes existing 3D assets and smart objects, and creates immersive, interactive virtual environments across all platforms.

- **Increase ROI** (Attract and secure investors by combining concept designs with Tridify's immersive virtual environments)
- **Speed up Delivery** (Deliver faster returns through decision consensus)
- **Reduce Total Cost of Ownership** (Rationalise solutions by testing scenarios quickly and effectively on the spot)
- **Increase Margins** (Obtain early purchase orders by 'walking' around the internal environment, swapping products & equipment, changing colours, light and materials)





# SOVA 3D

**Sova3D Oy** is a 2015 founded company developing cloud based 3D services for building industry.

## **S3D-Maps**

Is a base for publishing various 2d and 3d data available on the plain web-browser without any installations.

## **S3D-Projects**

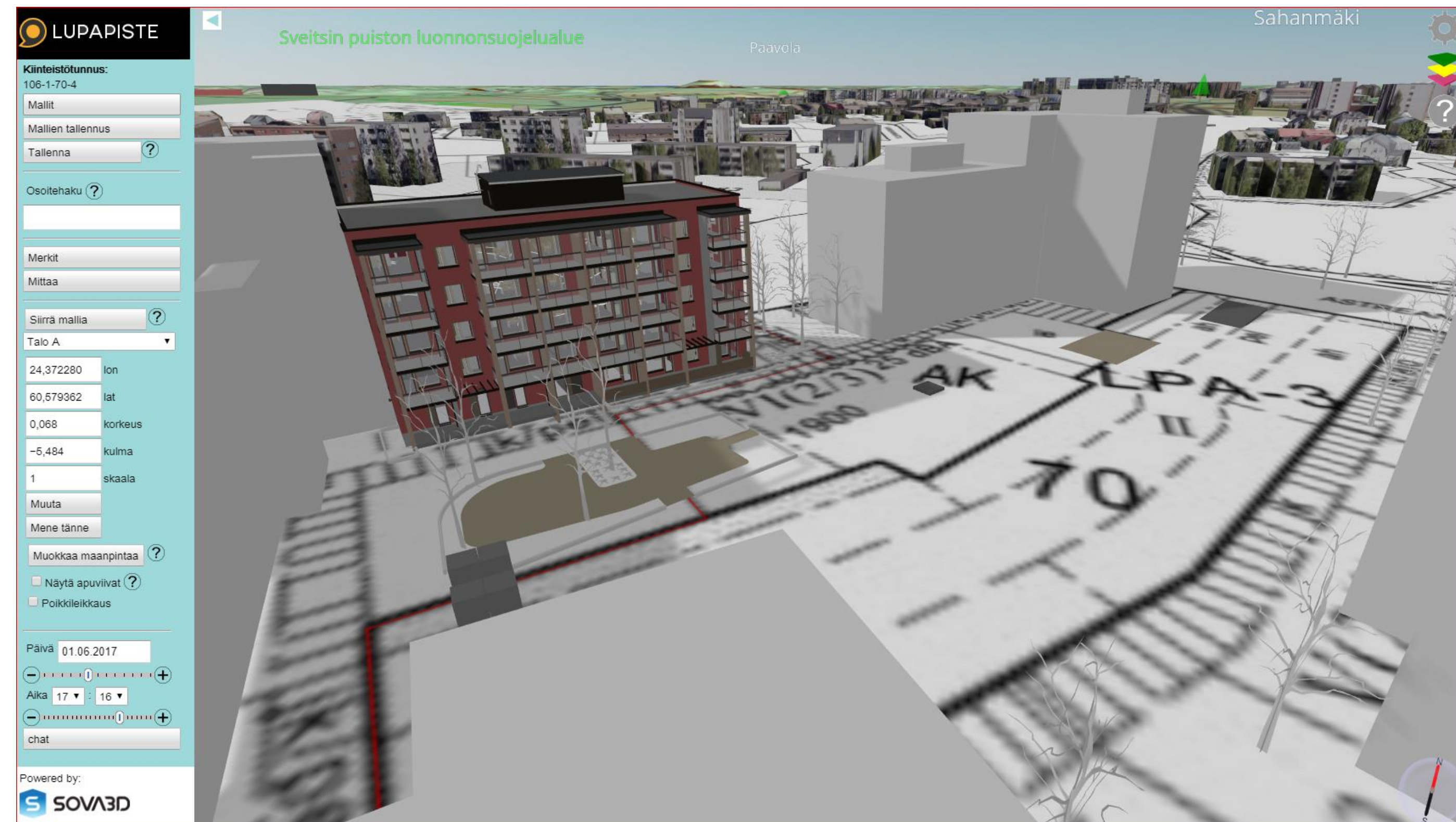
Is an co-operation environment to share 3d building project data between project stakeholders.

Sova3D-extension for

## **Building Permission**

Is an integrated solution for full electronic 3d building permission processing. Product is meant for municipalities and authorities.

S3D-Maps with Finnish 3D mapping information can be found at: <https://s3dmaps.appspot.com>





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# **WORLD IDEAS**