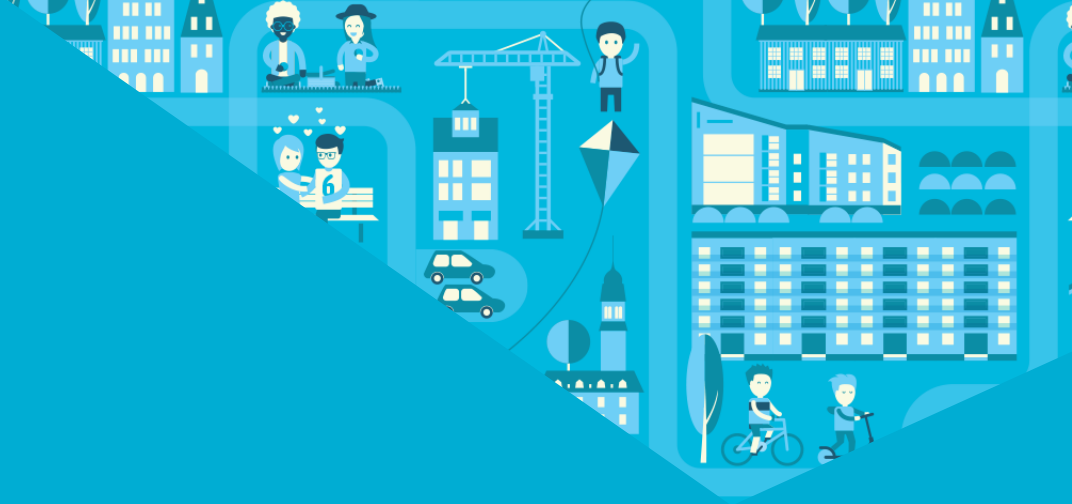

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HEKA`S ELENA ENERGY EFFICIENCY ACTIVITIES HELENA –PROJECT

Jenni Venäläinen & Marika Nyyssönen
23.9.2021

ELENA
European Local
Energy Assistance

European
Investment
Bank

Helsinki city housing company (Heka)

Heka is 100% owned by the city of Helsinki

Heka is a non-profit company

Apartments total 50 000 tenants 91 000

Largest apartment-owner in Finland

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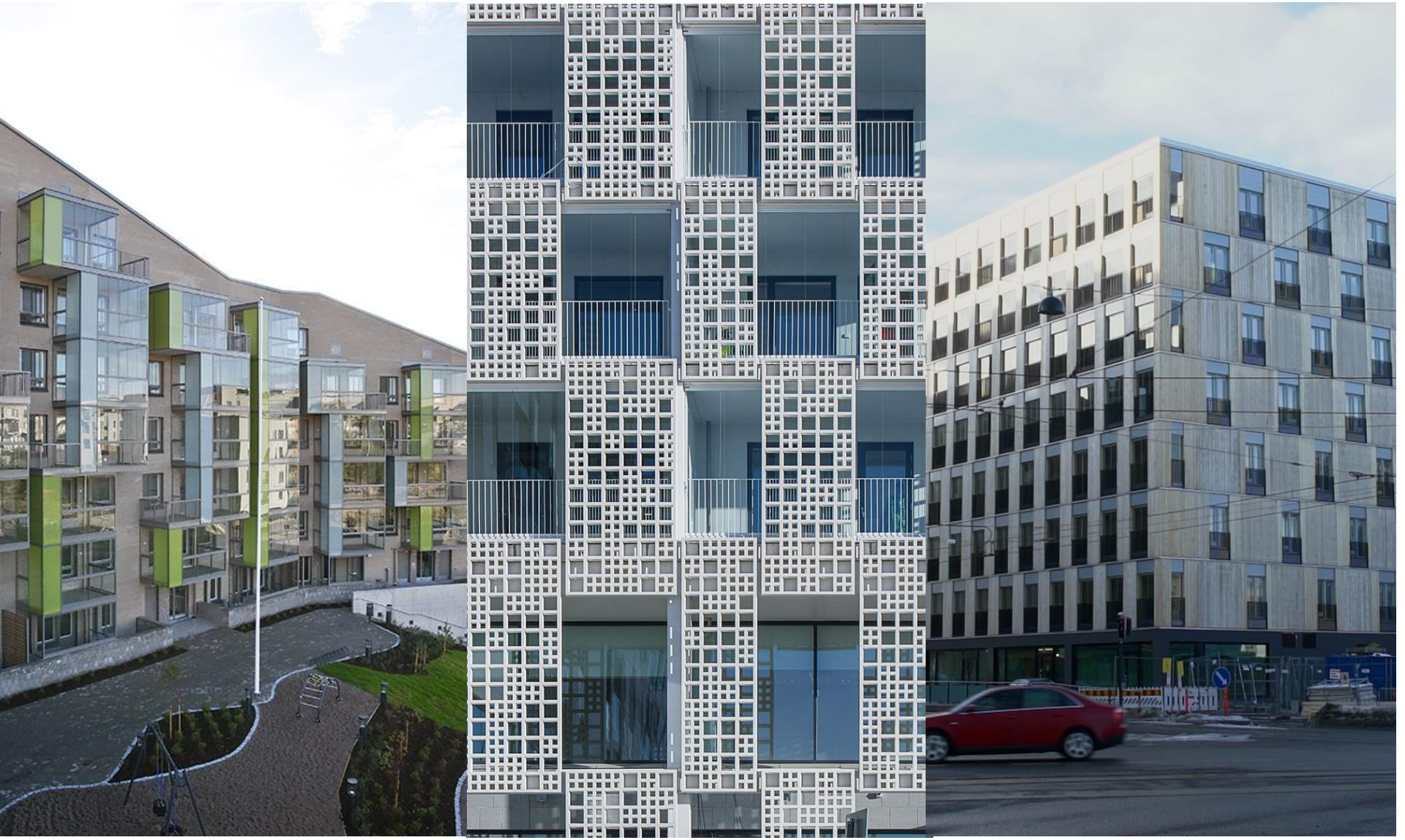
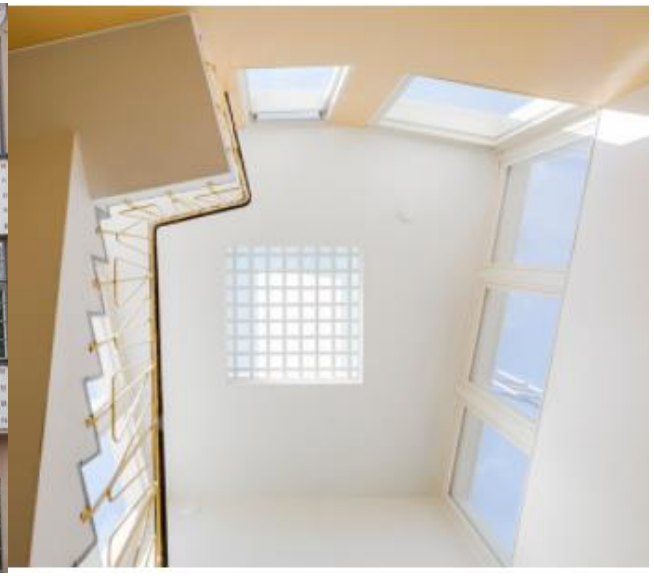


New buildings

New buildings








Older buildings

HELENA -project

- As the first Finnish operator in the field, Heka has been granted € 1,8 million ELENA funding by the European Investment Bank for **optimizing the energy-efficiency of residential buildings**.

- The multi-objective optimization for our 170 residential buildings which will be deep renovated within next three years.
- The life cycle carbon footprint (CO2eq) will be calculated for each solution.

- Duration: October 2020 - September 2023.

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ELENA – European Local ENergy Assistance

- A joint initiative by the EIB and the European Commission under the Horizon 2020 programme.
- Provides support to three sectors: sustainable 1) Energy, 2) Residential and 3) Transport
- A key objective of the ELENA facility is to contribute to the development and implementation of Investment Programmes in a way that achieves a **minimum ratio/leverage factor** between the total investment amount and the amount of the ELENA grant.
  - Minimum leverage factor between 10-20
- Can cover up to 90% of eligible project development costs:
  - technical studies, energy audits, business plans and financial advisory, legal advice, tendering procedure preparation, project bundling, project management

It does not cover costs related to the investment itself

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ELENA – European Local ENergy Assistance

- Supports energy investment programmes above 30 M€
- The numbers of HELENA:
  - Total value 2 M€
  - Heka funds 0,2 M€ of the eligible costs (10 %)
  - The value of Heka's investment program cirka 70 M€
- Duration of the ELENA supported projects: 3-4 years

- From preparing the application, getting through the process and receiving approval of the funding took about one year.

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Objectives in Helena -project

- The goal is to reduce the energy consumption of each building to be renovated by approximately 40% through multi-objective optimization study
  - This can be achieved by combining different measures: building envelope renovation, heat recovery systems and the installation of building integrated PVs of optimal energy efficiency measures and building-integrated renewable energy sources

- Also aim to discover
  - guidelines for the future renovation projects using the findings among the great mass of optimization studies
  - new innovative solutions to improve energy efficiency

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How are chosen the most appropriate packages for every building

- The process:
  - Building audit
  - Making 3D Model of the building
  - Making Energy model
  - Optimization process using optimization tool MOBO (Multi Objective Building Optimization) created by VTT and Aalto university (qualified simulation program).
  - Selecting the optimal solutions considering the objectives

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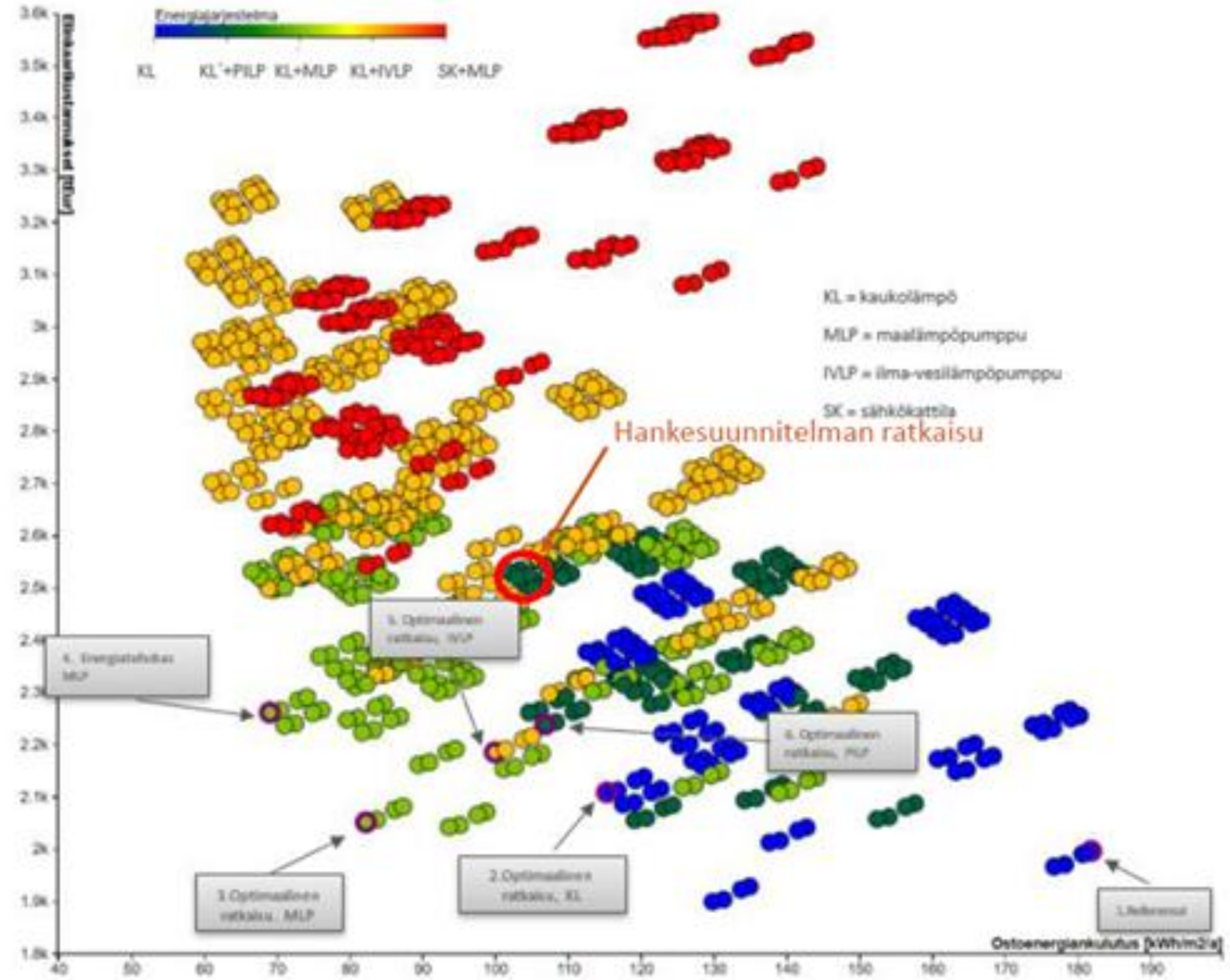
Energiajärjestelmä
KL
KL+PILP
KL+MLP
KL+IVLP
SK+MLP
KL = kaukolämpö
MLP = maalämpöpumppu
IVLP = ilma-vesilämpöpumppu
SK = sähkökattila
Hankesuunnitelman ratkaisu
Ostoenergiankulutus [kWh/m2/a]

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Any questions? Please contact us:

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