

FIG

FIG WORKING WEEK 2017

Helsinki Finland

29 May - 2 June 2017

*Presented at the FIG Working Week 2017,
May 29 - June 2, 2017 in Helsinki, Finland*



Surveying the world of tomorrow -
From digitalisation to augmented reality

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Urban Sustainability in Vuores, a New Housing Development in Tampere

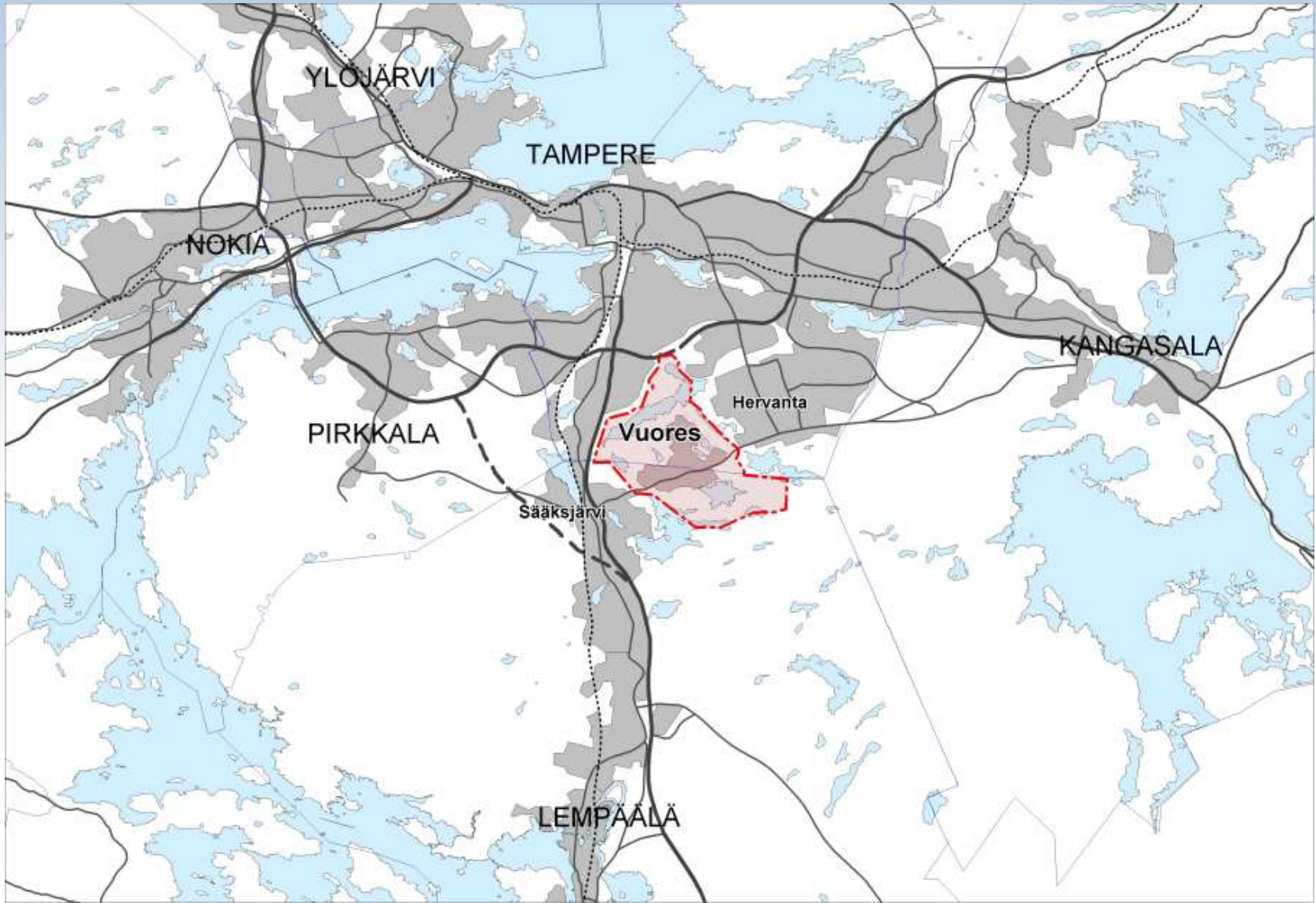
Pertti TAMMINEN, Finland



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Location of the Vuores area



VUORES – The Small Town in the Midst of Nature

Vuores

- one of the largest city development projects in Finland
- 14,000 inhabitants,
3000 – 5000 working places
- a combination of
 - high-quality architecture
 - versatile housing production
 - eco-efficiency
 - leading edge technology



An aerial photograph showing a vast landscape. In the foreground, there is a large, dark blue lake with a small peninsula. The surrounding area is a mix of dense green forests and open green fields. A few small buildings and structures are scattered across the fields. In the middle ground, a road or path winds through the forest. In the far distance, a town or city is visible, situated near a large body of water under a blue sky with some clouds.

1998



City Centre

Vuores Centre

24.5.2017



23.5.2017

Objective: high-quality urban environment



Environmental art





EU: **10,9 tn** CO₂ / capita

**CO2 emissions in EU countries
must be reduced**



Kestävä: **1 tn** CO₂ / capita



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Main objective: eco-efficiency

- Eco-efficiency = to construct and run urban environment using fewer natural resources



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Key elements of eco-efficiency in Vuores

- Urban structure: well-designed, effective
- Transport system
- Energy solutions
- Waste management
- Storm water management
- Bio-economy – timber construction



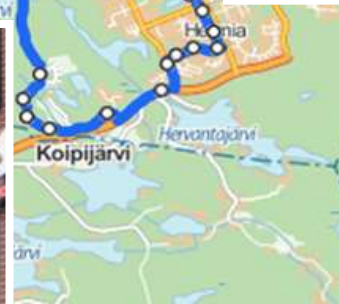
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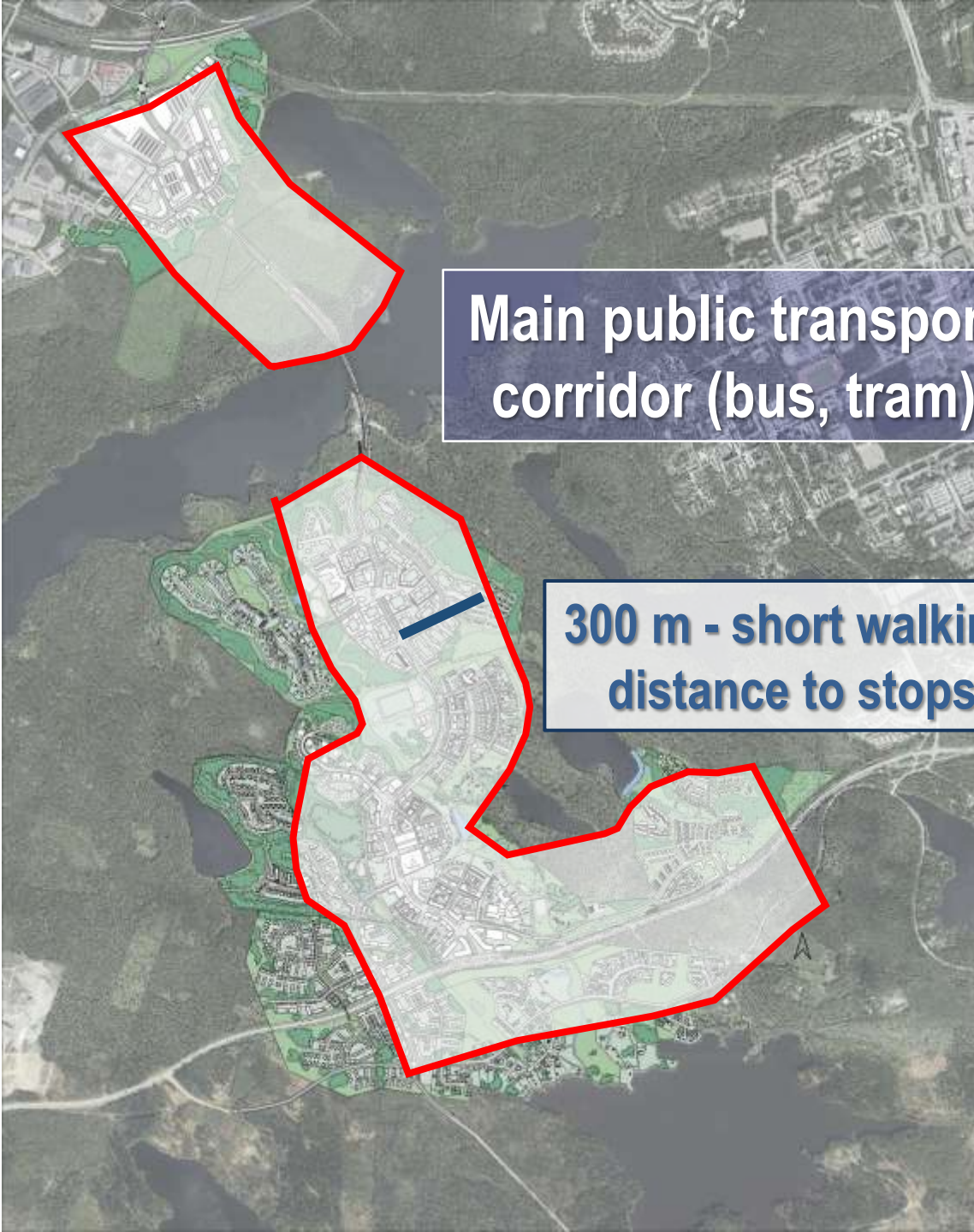




Main public transport corridor (bus, tram)

Urban structure is based on public transport system and bicycle and pedestrian networks

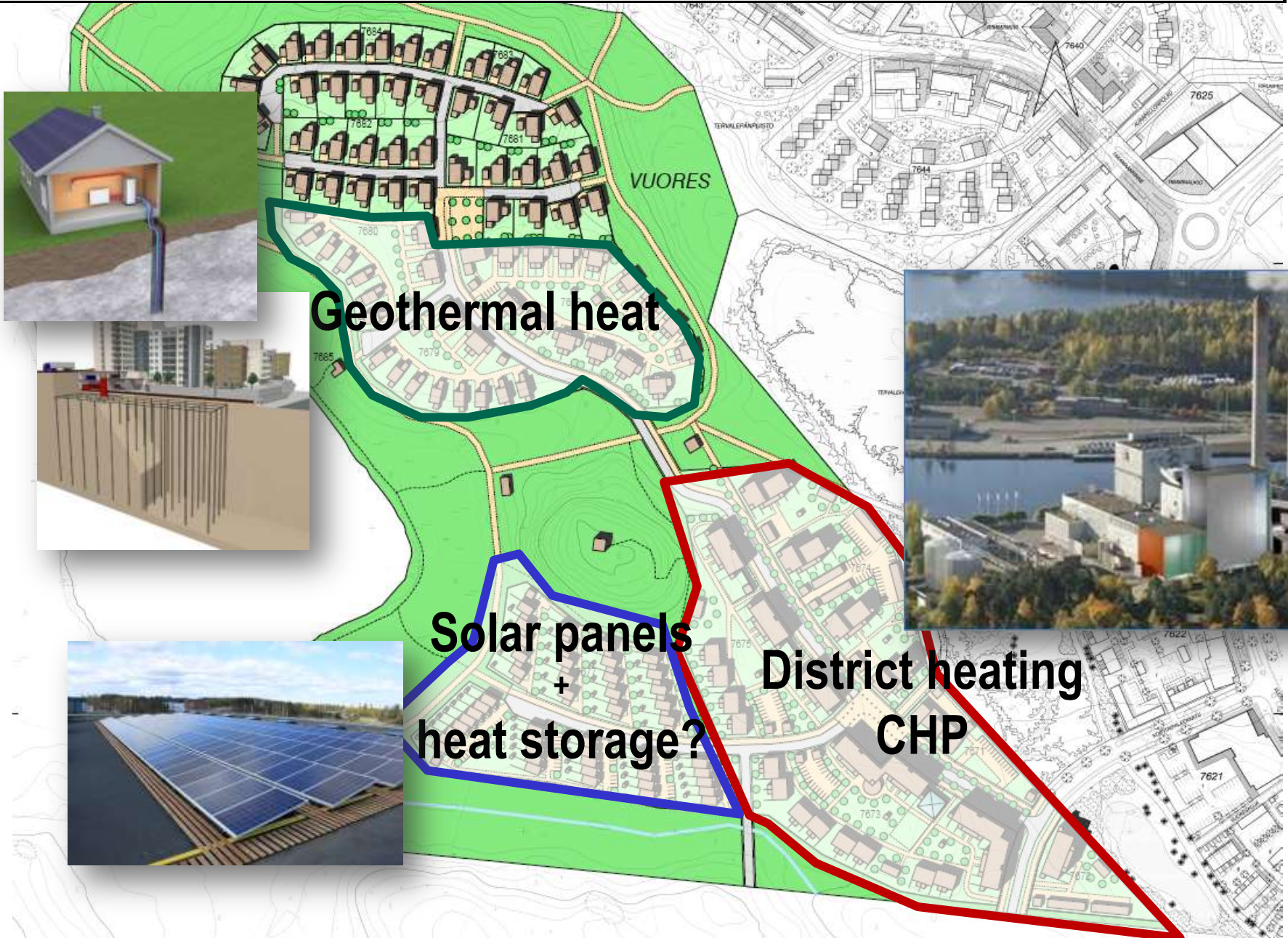




**Main public transport
corridor (bus, tram)**

**300 m - short walking
distance to stops**

Example: Koukkuranta residential area



Vuores Central Park Storm water management

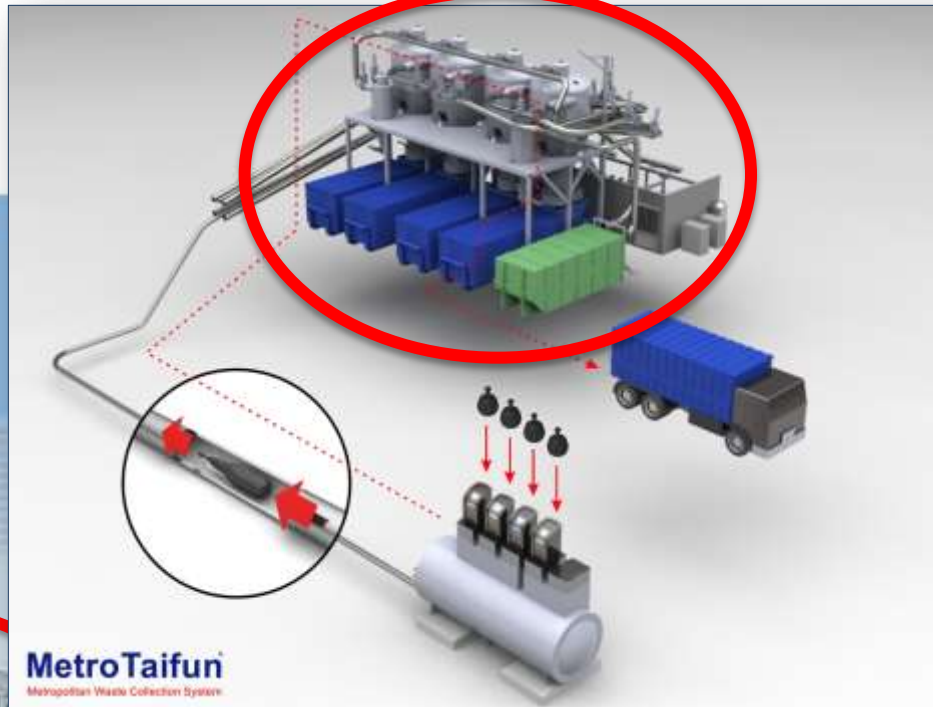


Vuores Central Park: most important part of storm water management system



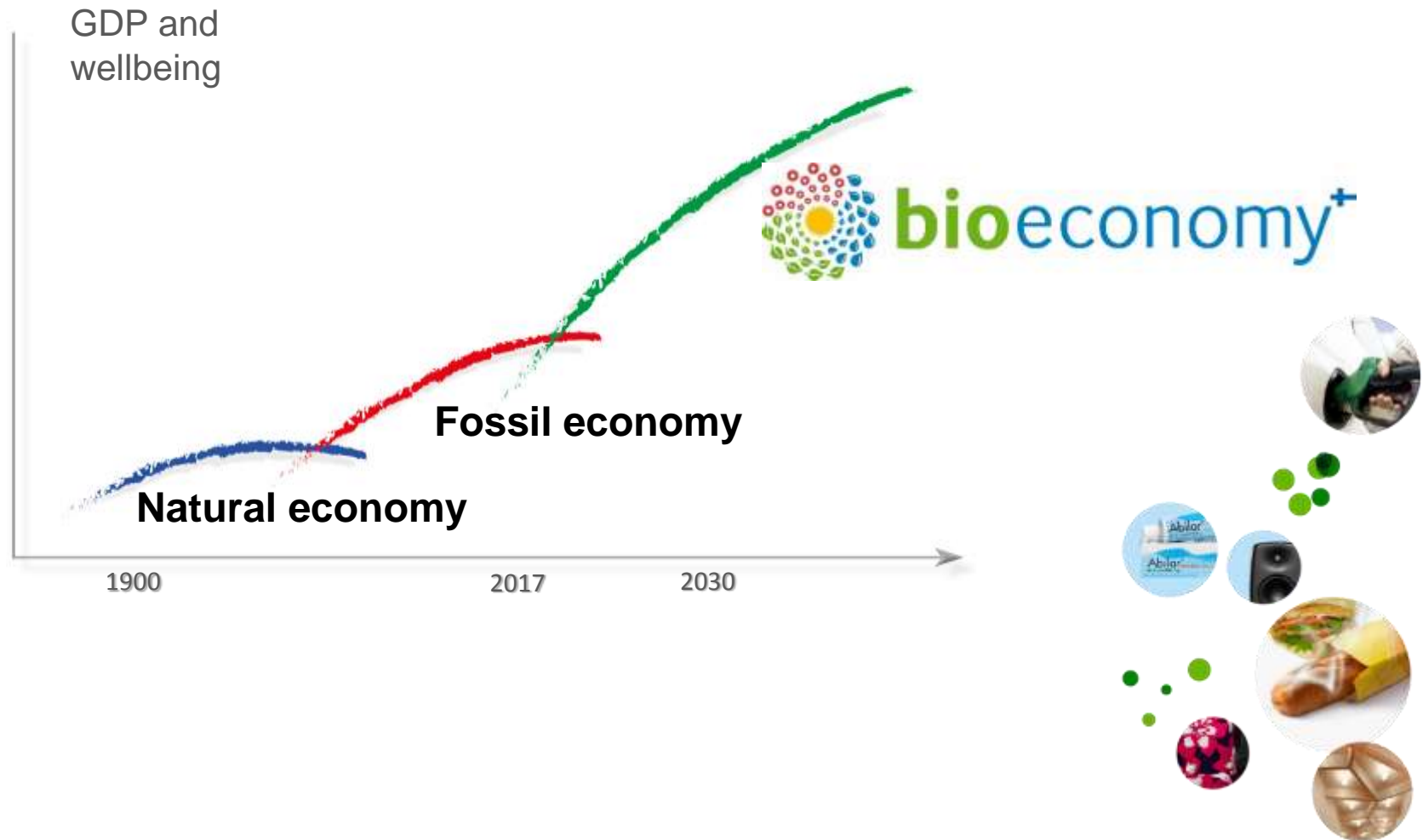
Automatic waste collection system

Metro Taifun
Automatic Solid Waste Collection



MariMatic
Member of MitrGroup

Bio-economy: The next economic wave



Construction with timber is an important part of bio-economy in Finland

Bioeconomy: The next economic wave

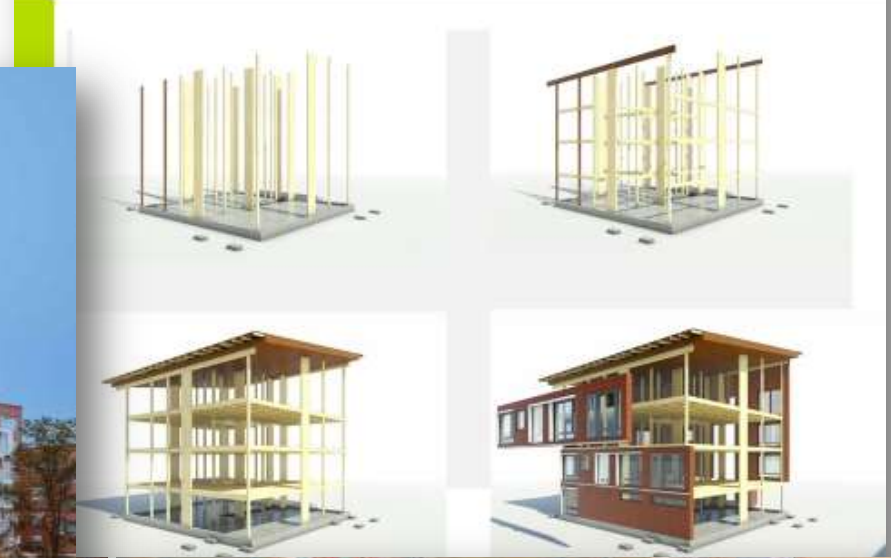
‘Bio-economy’

- includes all industries and economic sectors that
- produce, manage and otherwise exploit biological resources,
- such as agriculture, food, fisheries, **forestry**, etc.

Timber construction – bio-economy

Bio-economy: The next economic wave

LVL-post and beam-construction



CLT

Cross
Laminated
Timber



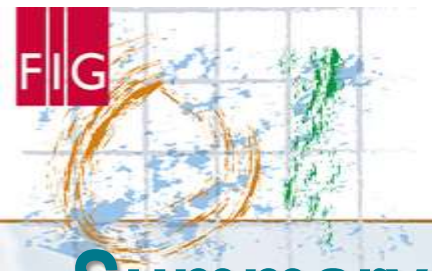


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Summary

- **Land use planning is essential to the successful implementation of an eco-efficient city district**
- **Traffic system:**
 - 1st public transport, walking and cycling - 2nd private cars
- **Energy systems:**
 - Most dense areas – district heating based on CHP
 - Solar energy, geothermal heat: increasingly important
- **Timber houses → renewable building material = eco-efficient**



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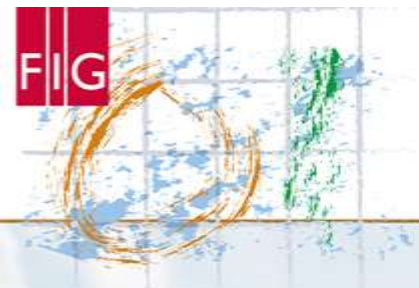


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Thank you!



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