B2G – Boosting Smart Energy in Cities and Communities: Case Helsinki

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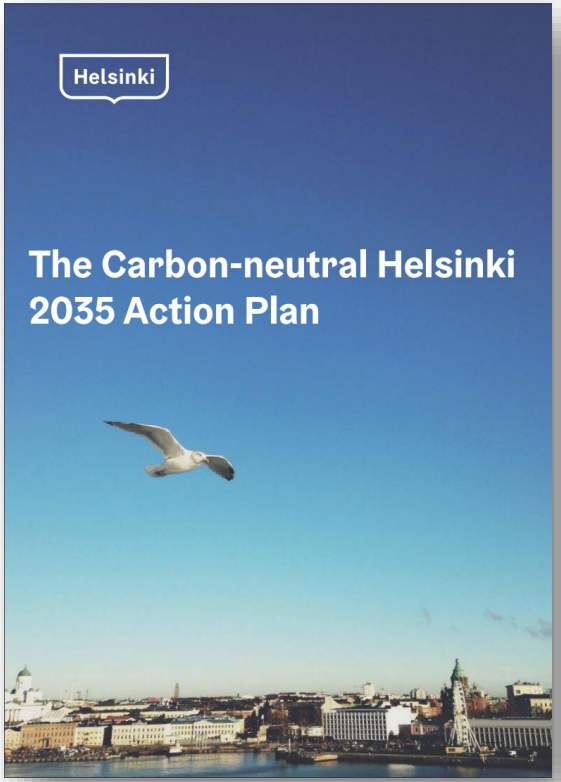
eurocities.eu

Motivation: Why Smart Energy?



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The New York Times

Helsinki Makes Sustainability a Guiding Principle for Development

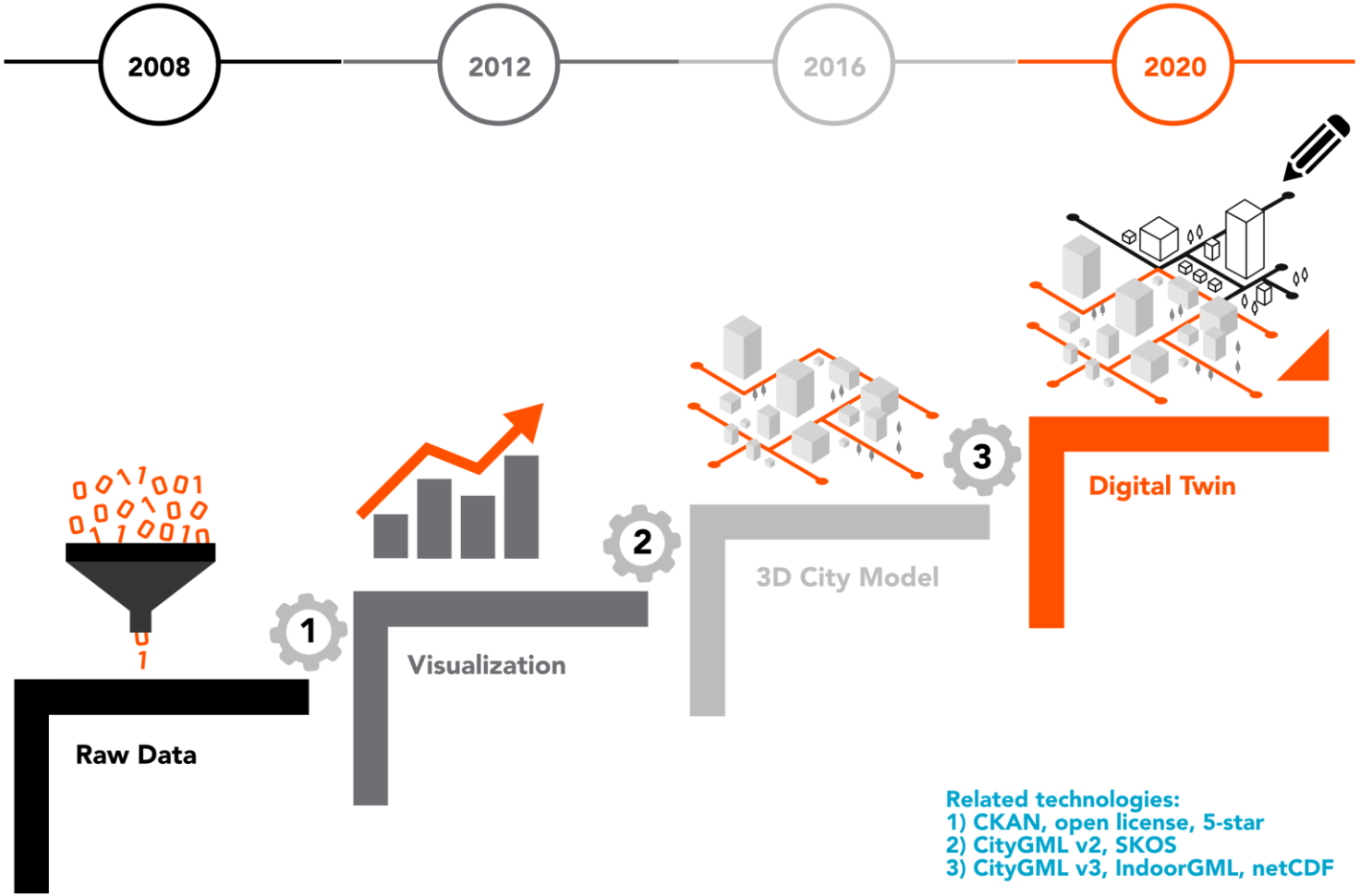
A century-old train factory undergoing redevelopment in Helsinki. The Finnish capital remains dependent on fossil fuels, especially for heating, but officials and planners have put an emphasis on sustainable growth. Teemu Heljo

By Dorn Townsend

Oct. 14, 2020, 4:37 a.m. ET

HELSINKI, Finland — When his tour as the American ambassador to Finland ended in 2015, Bruce Oreck decided to linger. Part of the draw was a business opportunity. In a neighborhood just north of the city center, Mr. Oreck paid about 11 million euros for a vast, abandoned, century-old train factory.

He has been transforming the site into a market and community center that he intends to be a model of green building and consumerism. But Mr. Oreck, who was a New Orleans tax lawyer and professional bodybuilder before he became an Obama political



Related technologies:
1) CKAN, open license, 5-star
2) CityGML v2, SKOS
3) CityGML v3, IndoorGML, netCDF

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Regulations

- Plot assignment stipulation, first version 2014:
  - EV charging
  - Submetering
  - APIs

KALASATAMA SMART ENERGY SYSTEMS
PLOT ASSIGNMENT STIPULATIONS

1. Introduction

This document defines the plot assignment stipulations that the local authority has required and the private developer must commit to. As addition to the **mandatory requirements**, some **recommendations** are also being made for consideration.

The requirements are based on the European Union energy efficiency guidelines, national recommendations for building lifetime changeability and market trends that are related to the smart energy systems.

In the construction project, special attention should be put on the facility as an entity so that the energy efficiency goals can be met on electricity, heat, heated water, cooling, water consumption, air conditioning and ventilation. It should be however noted that the energy efficiency is monitored on apartment level and the smart energy systems are supposed to provide the homeowners and tenants new opportunities to utilize the new, data-driven services that are based on metered energy data.

The implementation of these stipulations involves several areas of planning and subcontracting in a construction project. Such areas are HVAC, building automation, plumbing and piping plans, electrical and telecommunications cabling systems. It is vital that this is noticed as early as possible in the planning phase in order to avoid overlapping and extra costs in designs and installed systems.

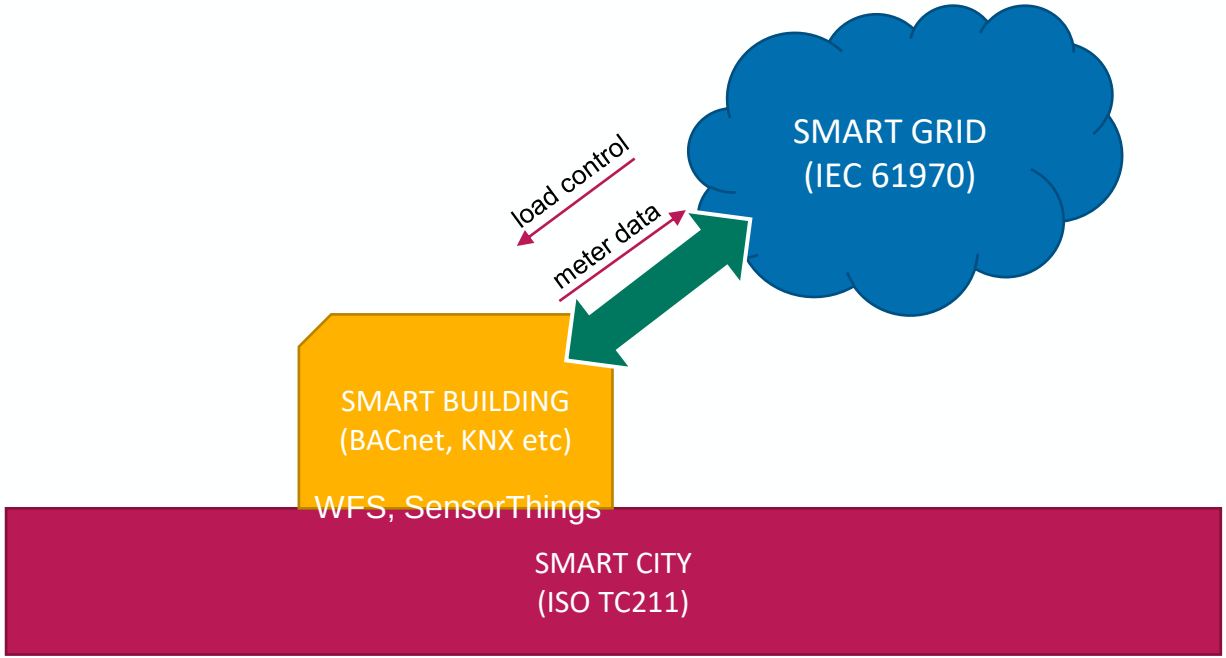
Chapter 9 applies only on commercial space and offices.

2. Open Interfaces

REQUIREMENT 2.1:
All building automation systems must be implemented in a way that allows later addition of API from the Internet. The API specification must be open and based on common standards.

With the API it is expected that new business opportunities and services are enabled and significant cost savings are achieved on system level. The systems must be implemented in a way that pseudonymised data and interfaces are made available using common open data licensing terms. In such case the license terms used in the Helsinki Region Infoshare –service must be adopted. IN addition, the interface must allow serviced provided by third parties, where the person living in an apartment gives consent for the service provider or research partner to use her own data (MyData). The system design and implementation must follow the European Union General Data Protection Regulation (GDPR) requirements.

Smart Energy Interoperability



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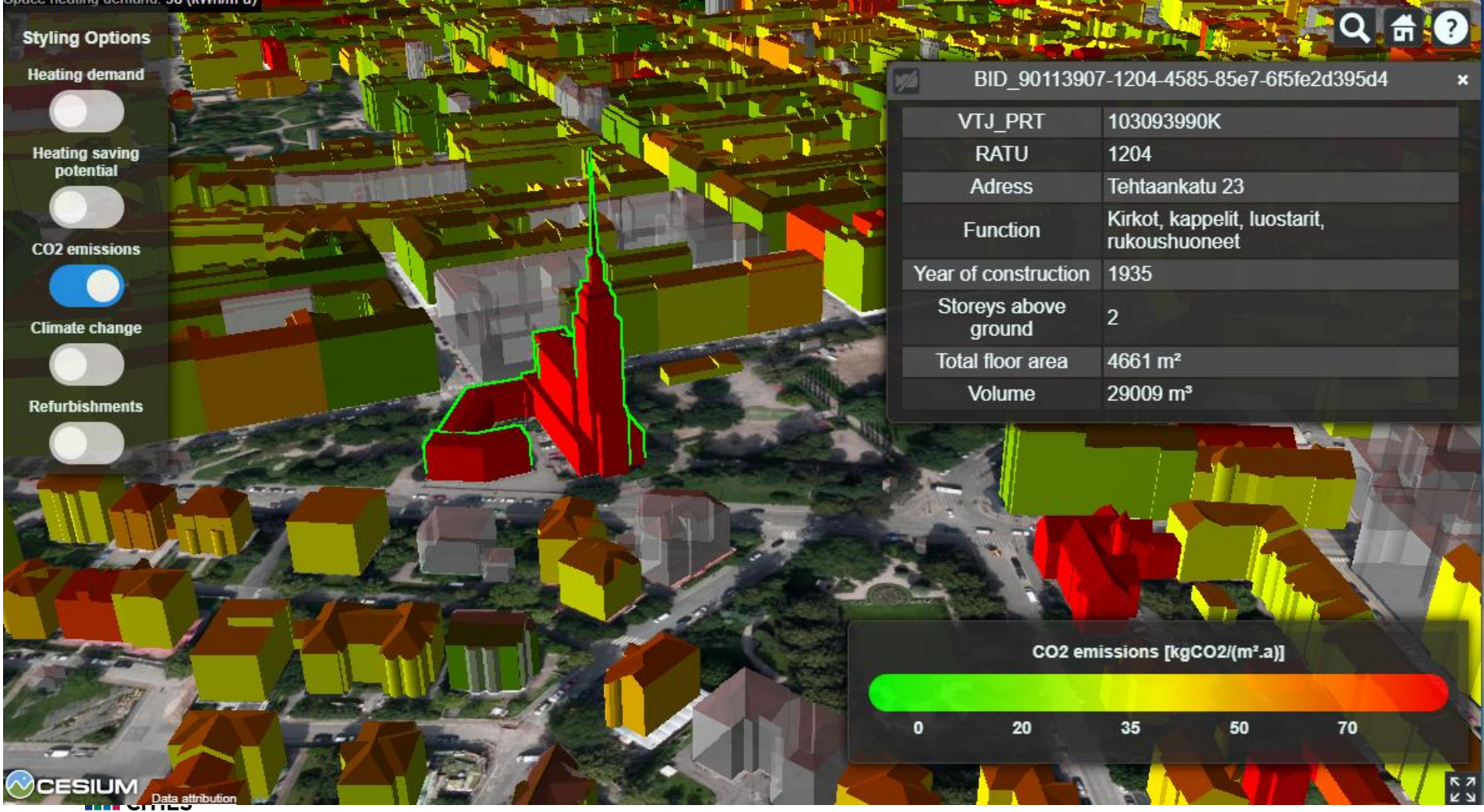
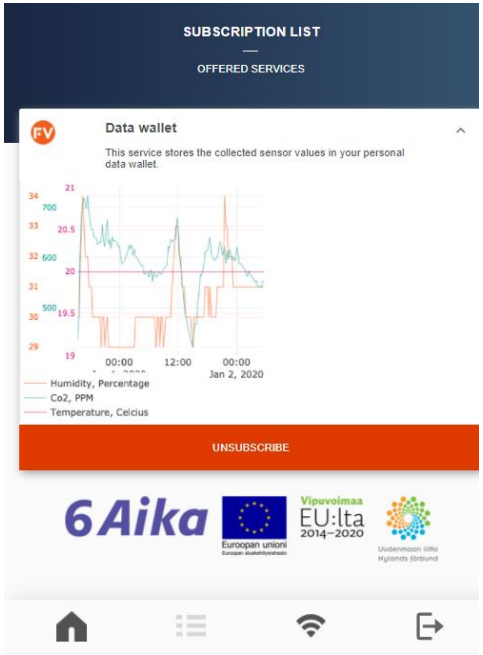

Styling Options
Heating demand
Heating saving potential
CO2 emissions
Climate change
Refurbishments
BID_90113907-1204-4585-85e7-6f5fe2d395d4
VTJ_PRT 103093990K
RATU 1204
Adress Tehtaankatu 23
Function Kirkot, kappelit, luostarit, rukoushuoneet
Year of construction 1935
Storeys above ground 2
Total floor area 4661 m²
Volume 29009 m³
CO2 emissions [kgCO2/(m².a)]
0 20 35 50 70
CESIUM
Data attribution

Privacy and Consent

Data collected from private apartment is personal data.

In ERDF project Climate Friendly Housing Companies, we created a service for tenants to see their data and assign that to third party services.



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Current Activities:

- Carbon Neutral Helsinki 2035
  - 147 actions
  - Each provided with tasks, timeline and tactical meters
- Helen Partner API
- Several ERDF and H2020 innovation projects:
  - SRI, Digital ESCO, Display Energy Certificates…
- Tech development:
  - From static datasets towards data in motion

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Thank you!

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