



A European urban transition project towards more sustainable cities through innovative solutions, in the fields of mobility, energy and digitality.

Smart City

Global Project

Coordination: CARTIF
European grant: 18M €
30 partners, 6 countries

Period: Dec. 2016 - Nov. 2021
Demonstrators:
Hamburg, Helsinki, Nantes

@mysmartlife_EU
<https://mysmartlife.eu/>

Helsinki Demonstrator Site

Coordination:
The City of Helsinki
European grant: 5,6M €
7 partners

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Digital Urban platform

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Helsinki

ACTION OVERVIEW

Urban Data Services To Boost Energy Efficiency

This action was implemented by the City of Helsinki in collaboration with Helsinki Region Environmental Services HSY. A full report (D 4.13), written in English, November 2017, is available on <https://mysmartlife.eu/publications-media/public-deliverables/>

▶ OBJECTIVES

- › To encourage energy efficiency improvements by providing building and environmental energy information map services
- › To upgrade existing platforms by new open energy data
- › To extend Helsinki urban platform with an open building-level energy data

▶ IMPLEMENTATION



Buildings by year of construction in the Helsinki city center around railway station (SeutuAtlas)

CHALLENGE / CONTEXT

Helsinki's goal is to be carbon neutral by 2035. Improving the energy efficiency of buildings is one of the most significant ways to achieve this goal. What is more, Helsinki wants to be active as a platform for smart and clean innovations.

The City of Helsinki is already a pioneer in open public data by continuously opening new data sets. Helsinki's urban data platform, which is a collection of services, is developed in sync with the European open data and open API initiatives and standards. In the project, the urban data platform is upgraded by new open data, generated in the project, for example, the heat leakage images of building roofs to support the building refurbishment activities.

PROGRESS

During the project, '3D Helsinki Energy and Climate Atlas' was created by enriching the Helsinki 3D model with energy data and two new services called 'Kattohukka' and 'SeutuAtlas'.

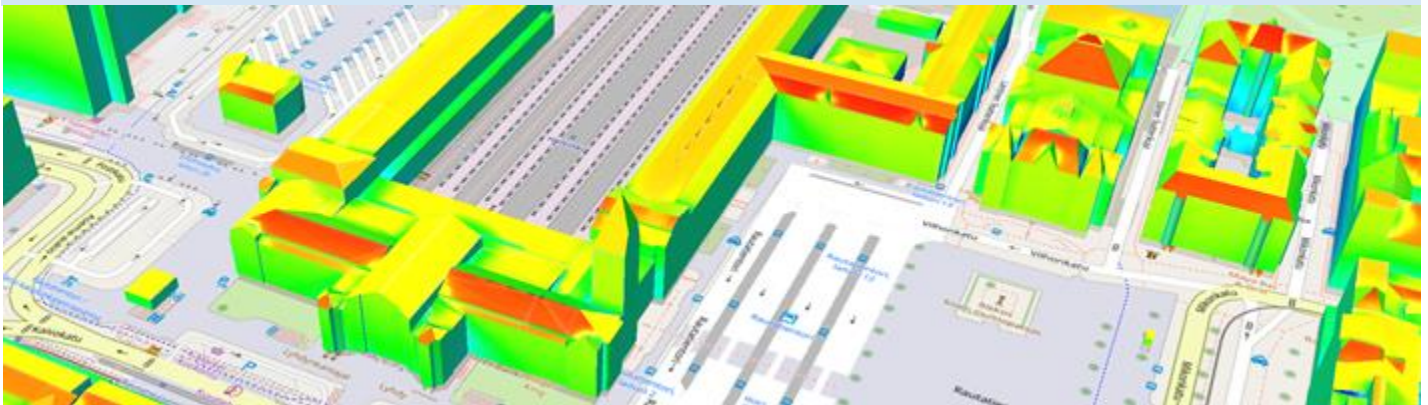
The '*3D Helsinki Energy and Climate Atlas*' has basic building-specific information, energy and repair information, as well as water, district heating and electricity consumption information. In addition, it includes building-specific solar energy potential and geo-energy potential, and calculated energy consumption of buildings (estimated by VTT Oy). Viewing data is possible at the city level, but it is also possible to examine data for single buildings.

The '*Kattohukka*' map service was implemented together with the City of Helsinki and Helsinki Region Environmental Services (HSY). The service is based on a thermal camera image taken by HSY and it covers all the buildings in Helsinki. *Kattohukka* map service depicts the thermal radiation from the roofs on a cold, clear and snow-free night. The service includes tips for improving energy efficiency. HSY maintains and is responsible for the further development of the service.

There was also a desire to develop regional map services during the project. In cooperation with HSY, the regional map service called '*Seutuatlas*' was created and it contains information about buildings energy issues from the cities of Espoo, Vantaa and Helsinki. Users can add information to the service themselves, for example, information about renovations and electricity consumption. HSY continues the development work of the service.

WHAT IS NEXT?

Atlases development and production of data continues. Among other things, the plans include adding renewable energy potentials to the model and information related to climate change adaptation to facilitate the management of flood risks. The development of the regional atlas also continues.



Solar energy potential in Helsinki city center around the railway station (3D Helsinki Energy and Climate Atlas)

LESSONS LEARNT

Atlas services are modern tools for mitigating climate change and improving energy efficiency. Atlases are great for actors, working in the energy sector, as well as for anyone interested in energy issues. Map services are an easy way for a visual presentation and to illustrate the information.

Atlases support urban planning and decision-making e.g. when assessing which energy efficiency actions the city's resources should be directed to. In addition, housing associations or property managers can compare the consumption of real estate with the consumption of similar buildings, which encourages to find out the reasons for the differences. Atlases provide a good starting point to plan energy repairs, roof renovations and other renovations. Those are also an easy way to identify potential savings opportunities.

Atlases also support the City of Helsinki's Energy Renaissance strategy (see the info sheet on Energy Renaissance strategy). In the future, it may be necessary to focus on specific target audiences for more efficient use of the services. It may be sensible to integrate some map services based on, for example, use cases.



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