Energy Saving Center

Smart solution 3
Smart, energy saving tenants

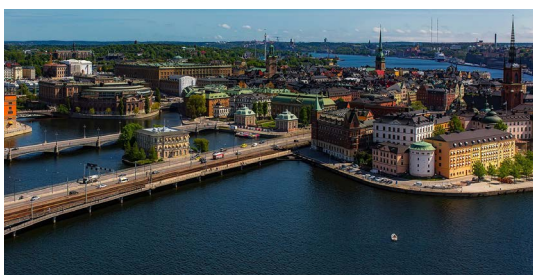| Impacts	Controls	Analyses	Optimises
	Installed equipment	energy consumption	energy consumption

What is it?

An internet-of-things platform that is to be used as a building energy management system (BEMS). The platform improves building energy performance by helping the decision-making process related to the application of energy efficient measures. The solution works for both tertiary and residential buildings. The Energy Saving Center (ESC) offers proactive monitoring of the customers' installations and a regular analysis of building energy consumption data for its optimal use, and includes an adaptive heating control system.

What did GrowSmarter do?

The service company L&T developed the tool 'Energy Saving Center' and implemented it in the GrowSmarter testing grounds of the residential buildings Brf Årstakrönet and Valla Torg, the office building Kylhuset and the cultural centre Slakthus 8.

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The building's new, or existing control systems, were connected to the ESC while other smart meters, such as temperature-, CO_2 sensors and moisture-meters, were connected in order to make a platform for a smart building. Data was also collected from the district heating network, water sensors and electrical sensors through automatic meter readings, allowing users to read the "live" data and respond proactively.

Analysis and comparison was made to regulate consumption 24/7.

Lessons learnt

Working on a building level brings fewer privacy concerns compared to smart home systems. Depending on the type of building owner (e.g. corporative or public administration buildings), the collection of measurement data may present some challenges due to the required development of a communication chain through different networks (firewalls). This should be considered in implementation planning phase.

Upscaling & replication potential

A lot of buildings can be affected positively by a 24/7 supervision, that allows for the monitoring and identification of unwanted rises in energy use or sudden temperature falls.

Including the energy surveillance tool in packages with other building services will reinforce the replication potential. The monitoring and decision-support software tool for the operation and maintenance of energy installations can also be sold together with other computer-based systems used to monitor and control services such as lifts, fire safety, ICT networks, or security systems.

> It is important to always see energy savings/ surveillance as an ongoing process.

How did the measure work?

Technical feasibility ● ● ●

All installations involved with energy saving should be supervised in some way to secure the result. Not doing so poses a risk for sub-optimization with different systems working in opposite ways. This can be avoided by central control.

Economic feasibility ● ● ○

The tool brings proven savings for the building owner: reduction of heat, electricity and water costs during building operation.

Replication potential ● ● ●

Developing the business model from B2C (Business-to-Consumer) to B2B (Business-to-Business) could be a good opportunity to upscale the solution.