

 Contenu archivé le 2023-04-12

Smart buildings: predictive maintenance is crucial

A talk with Italian expert Antonio Disi about building maintenance, smart technologies and “energy illiterate” citizens



© Marco Verch

Maintenance represents the bulk of the costs occurring in a building’s life. How can the advent of smart technologies lessen this financial burden? And are citizens ready to deal with the innovations? These are some of the questions we asked Antonio Disi, expert in energy efficiency, researcher at ENEA, the Italian National Agency for New Technologies, Energy and Sustainable Economic Development. He is responsible for public campaigns to raise awareness on energy

saving such as the “No lift days” and has recently published “Storie di ordinaria energia” (in Italian “Stories of ordinary energy”), ten humorous tales about ordinary people and their stormy relationship with energy and technologies.

How much do maintenance costs affect the overall cost of buildings?

In the life cycle of a building, maintenance costs largely exceed the construction costs. Actually, maintenance is a strategic activity, and a sound planning that starts right from the design stage is very important to ensure the economic sustainability of future interventions. For example, in Italy between 2014 and 2015, the cost of ordinary and extraordinary maintenance works was around €117 billion while the construction sector was worth €169 billion. Safeguarding existing stock was therefore equal to 70% of the building sector’s entire turnover.

What about the impact of smart technologies on maintenance costs?

Innovative technologies in smart buildings drastically reduce operating and

maintenance costs thanks to their ability to collect and analyse data, which previously was unattainable. In addition, sensors placed on equipment can automatically programme maintenance activities, which are therefore based on use rather than pre-scheduled intervals. Predictive maintenance is 3 to 9 times cheaper than a reactive approach, traditionally achieved when the damage has already occurred. Moreover, with smart building management technologies, owners are informed of potential problems before the equipment actually fails.

Can the average citizen deal with smart building maintenance?

Basically, citizens have no role in the maintenance, not even in reporting the faults. The process is completely automated and any issue is solved before the occupants realise it.

Moreover, the technicians involved in the intervention on the building will not waste time looking for information to fix the problem. Thanks to thermography or infrared scanning, for example, a building manager will be able to detect any device running outside the temperature range. This data can be easily detected in advance, so that maintenance can be performed before the equipment interrupts the system.

Another example is the detection by ultrasound. Electric transmission lines, which have slots or holes, produce ultrasounds. This can go unnoticed in normal cases, but with IoT technology, technicians can easily identify the exact location that needs the maintenance intervention.

Having said that, it is also true that the success factor in a technological innovation lies in the degree of acceptance by users, who can perceive it as a "threat" affecting their daily life. It's therefore important to involve users early on and to familiarise them with the smart technology to be implemented.

Read more: <http://www.bresaer.eu/smart-buildings-predictive-maintenance-crucial/>


Mots-clés

smart home, internet of things, energy control

Pays

Italy

Contributeur

Versé par

youris.com EEIG
Drève du Pressoir 38
B-1190 Brussels
Belgium 
[Site web](#)

Projets connexes



BRESAER

Breakthrough solutions for adaptable envelopes for building refurbishment

18 Juillet 2023

PROJET

Dernière mise à jour: 26 Février 2018

Permalink: <https://cordis.europa.eu/article/id/122950-smart-buildings-predictive-maintenance-is-crucial/fr>

European Union, 2025