

Industry Views with Respect to Smart Ventilation as an Enabler of Indoor Air Quality

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SUMMARY

What if all the devices in your life could connect to the internet? Not just computers and smartphones, but everything: clocks, speakers, lights, door bells, cameras, windows, window blinds, hot water heaters, appliances, cooking utensils, you name it. And what if those devices could all communicate, send you information, and take your commands.

With the coming of IoT, it is not science fiction anymore. The problem is that all of these devices are called “smart”. The word “smart” has been added to so many products in the last few years by marketeers, to the point where it has lost power or meaning.

And, do you really want to be informed all the time from different sensors about any details and changes, and do you really want to act manually on any detail with your ‘smart device’? Exciting at the beginning but later we expect properly working systems which flag parameters when they are out of a suitable range, but do the rest fully automatically.

Today’s advantages of smartness are mainly focused on energy efficiency, which is important, but only a baseline expectation. The focus now should be additionally more human (wellness) because that impacts productivity for employees and well-being at home. A building that thinks for itself and adapts to suit the occupants is the new challenge.

The new “Smart Readiness Indicator”, currently under development in the EU, also focuses on energy. Wellness aspects, or more specifically “health” is only considered as a “boundary condition”. Health should be a baseline condition. That is why EVIA is developing an IAQ-label for the residential market.

For this label the University of Ghent and the EU-consultancy VHK have developed a methodology to assess the actual air exchange rates occurring per room. This specific Air Exchange Performance (AEP) determines to which extent the ventilation system is able to remove and/or dilute pollutant concentrations in the various rooms, especially during presence when exposure occurs. Compared to current practice, where only the air exchange rate over the building is assessed, this represents a major step towards more relevant ventilation performance assessment.

Whilst still in the final development phase, this methodology should prove the positive impact on IAQ of smart (automatic) ventilation systems, using local sensors and local airflow controls.

KEYWORDS

Smartness, IAQ, Label, ventilation, industry