

Teaching old doors new tricks - How should connected entrance systems meet the needs of smart buildings?

It seems like no aspect of today's society is immune to the megatrend of digitalization. Not even something so static as a building has been able to escape, as the field of smart buildings has emerged. With actors scrambling to create a presence on this emerging market, how can Assa Abloy teach old doors new tricks and become a leading entrance system provider for smart buildings?

In cooperation with Assa Abloy, this master's thesis has, through qualitative interviews with ten individuals with insight into the smart building market, identified twelve critical value-adding factors for adopting entrances for the smart building market. Three highlighted factors include:

1. Capable data access, processing and integration possibilities.
2. Improved service offering.
3. Clear pathways of utilization to create value.

To deliver these value-adding factors, a product and service offering was designed. Three highlighted functionalities that this offering should provide include:

1. Adherence to established smart buildings standards, such as BACnet and RealEstateCore.
2. Remote and proactive diagnostics, as well as remote repairs.
3. Value out-of-the-box and clear advertisement of previous business cases utilizing connected entrances.

The roaring pace of technological development is sweeping through nearly all aspects of society. Digitalization is on the rise and companies are rushing to place their fingers on how this trend can be used to their advantage. In the field of buildings, the term *Smart Buildings* has been coined to describe a building where the megatrend digitalization has taken hold. Building systems such as ventilation, security, access control as well as

sensor data regarding temperature and CO₂ are integrated into a centralized system. This centralized system allows building owners to make the building more efficient and allows building owners to create new experiences for users. Furthermore, as building emissions make up a significant portion of overall emissions, this means that energy usage optimizations can help building owners contribute to a more sustainable society.

However, a smart building is not smart in and of itself. Its intelligence arises as a result of an ecosystem of installed products that have all been designed to integrate into and provide functionality specifically for smart buildings. This leads to questions for manufacturers who want to break into the smart building market, what do smart building owners want from my products and how should my product provide this for them? What role does my product play in such a building and how does it fit into an ecosystem?

While entrance systems have been the subject of research for this thesis, many of the conclusions can be highly relevant for other manufacturers aiming to make their products suitable for integration in the smart building market. Aspects such as adherence to industry standards for communication, data provisioning and remote control are likely valid for many products aiming to break into the smart building market. For Assa Abloy and entrance system manufacturers in general, this thesis provides distinct values and functionalities that should be offered in a product and service for success in the smart building market.

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