

Haelvoet makes nursing care beds smart and connected

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Haelvoet – an SME established in Ingelmunster, West Flanders – designs and manufactures furniture for hospitals and care centres. In order to be able to continue to stand out among international competitors, Haelvoet focuses on product innovation that meets the evolving needs of the healthcare sector. Due to the increasing number of people in need of care and the growing need for personnel and infrastructure, the focus in this sector is increasingly on operational efficiency.

For its nursing care beds, Haelvoet has looked into various aspects to improve both patient comfort and efficiency. One of these aspects is the logistics of the beds in a care environment. Equipping care beds with sensors, intelligence and connectivity opens the way to new applications. At the same time, Haelvoet was faced with many new challenges when exploring its options.

Haelvoet’s starting point is that its smart care bed makes data available to a nurse call system, already used in care centres to digitally support care tasks. The nurse call system in turn uses the data to notify healthcare providers. Another challenge is determining which technology can be used and how to keep the costs as low as possible. To start with, a solution must be technologically feasible, but not every feasible solution is available off-the-shelf or can be easily added to a product. On the other hand, a completely new development is not always necessary.

For companies less familiar with smart connected technology, these considerations are not always obvious.

From principle to prototype

Haelvoet consulted Sirris with their product idea. The technological feasibility of the ideas needed to be studied first. Once a few basic principles had been demonstrated, the Sirris experts helped the company map the most relevant challenges and draw up a development plan. Haelvoet started a development project based on this plan. As part of the project, Sirris investigated which sensor technology could be used for a reliable and cost-efficient out-of-bed detection system. The Sirris experts then created a proof-of-concept to evaluate the various sensor solutions and algorithms in their lab.

Haelvoet and Sirris also addressed the architecture of the end-to-end solution, of which the smart care bed will form one part. This helped Haelvoet to take strategic decisions and enter into agreements with partners on the further development of the complete solution. At the end of the development project, Sirris built a test bed for Haelvoet, so the tests could also be run in situ in a care centre.

The future of the smart care bed

In the meantime, Haelvoet is working on integrating the prototype into the nurse call system, in collaboration with an industrial partner that supplies digital solutions to healthcare centres. The "Haelvoet Connect Solutions" were presented to the public at the European Association of Hospital Managers Congress. Haelvoet is now focusing on the industrialisation and marketing of their out-of-bed detection system, and is elaborating ideas about additional functionalities.

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