

Belgium Invest Holding develops and markets connected air purifier

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Belgium Invest Holding is a company specialising in the field of HVAC and air treatment. It has, for several years, been marketing ventilation, analysis and air purifying systems designed for various environments. In 2021, the company director called upon Agoria and the BluePoint business centre, who put him in touch with Sirris, in view of innovating and creating his own connected device. This partnership resulted in the development of several prototypes towards an innovative product named ‘Immunizer’.

Air cleaning reinvented

Immunizer is a small-sized energy-saving device which enables air quality to be analysed in real time in different public and private environments such as offices, schools, nurseries, lifts, public transport, etc. Immunizer treats the zone it is installed in on a permanent basis! To do so, it is equipped with a liquid recharge which purifies air through vaporisation, using the OH radical technique. It is non deleterious, eco-friendly and simple to deploy on all sites. It also satisfies increasing demand from clients in quest of air quality, particularly within the context of the pandemic.
The product is also connected to the Internet and can be remotely monitored, hence enabling recording, visualisation of climatic and environmental settings, alert management based on defined

thresholds and data exportation. Thanks to a complete set of embedded sensors, a contagious risk indicator can be calculated based on recording settings (microparticles, volatile organic compounds, CO2, humidity, etc.).

From design to validated prototype, then onto production and cloud application

Collaboration with Sirris began with meetings to ascertain the product's aesthetics, dimensions and specificities. Then Sirris focused on the design of various electronic chips and embedded software, whilst determining system and consumable dimensions compatible with the generation and distribution of OH radicals.

After facing a number of design and integration challenges, Sirris provided an initial prototype, which could be installed in a test zone at ULiège in order to validate its efficacy against various bacteria and viruses in vitro. Tests proved conclusive. Once the prototype was validated, Sirris transferred the complete product file, including native 3D and electronic design files, together with the cloud application and embedded software source code, to industrial partners involved in the various fields required (electronics, plastics, design, IT) for the product's further development towards production.

Successful development of the prototypes and cloud application for the innovative Immunizer product was made possible thanks to collaboration between Belgium Invest Holding and Sirris. The final product has been available on the market since the summer of 2023, after extensive laboratory and real-life testing.

This case is one of twenty inspiring examples of how technological innovation can be put into practice in industry, included in our Annual Report 2022. Curious for more? Then be sure to read the other cases in our Annual Report, let them inspire you and discover what technological innovation can mean for you!

Read the full Annual Report

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