Smart assembly line earns itself back in less than three years

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Our new pilot line for cost-efficient small series production officially started On 18 October. We had an overwhelming turnout at the inauguration: a total of more than 200 people from the industry came to our Smart & Digital Factory in Kortrijk. This proves that what Sirris is offering is perfectly in line with the needs of our technological companies.

With the construction of a completely new demonstrator, allowing companies to test the possibilities of Industry 4.0 in a real-life environment, Sirris tackles the challenges of today's and tomorrow's production, supported by POM West-Vlaanderen.

Changing needs

New technologies and digitisation will become even more important in our industry in the future and will lead to smart production, smart products and services. Many companies are preparing their transformation to the factory of the future or have already taken their first steps, but the need for support remains significant. In particular, SMEs concentrating on the production of small series with many variants may need additional help. These companies are faced with several obstacles, the most important of which is the continuous fight against complexity. A need exists for simple, low-threshold solutions. An important move towards more efficient production includes user-friendly interventions that make difficult and repetitive work easier by supporting the operator.

In addition, it should be possible to switch to a higher response time. This is done by reducing the production volume to a single-piece flow, reducing the buffer in production to zero and using one-touch logistics and self-controlled production cells.

Future-proof assembly line

To meet these and other demands, Sirris developed a new pilot line in the Smart & Digital Factory in Kortrijk. This test version of the factory of the future consists of an assembly line of six cells, completely in line with Industry 4.0 and imbued with the QRM concept. The assembly line not only integrates operator-supporting solutions and strategies that enable a quick response, but also pay attention to the first-time-right technologies which make it possible to detect and avoid human errors.

Another important aspect of the quality control of the factory of the future is learning from mistakes and striving for continuous improvement. The ICT solutions display the right amount of flexibility to support this. After all, heavy-duty, rigid automation and ICT are a brake on improvement and process innovation in many companies. This is another thing the pilot line responds to.

Such a line is relevant in an assembly environment that has to deal with large numbers of variants, because single-piece-flow becomes possible (and affordable) through meaningful and affordable digitisation. With the new line, we want to demonstrate that an SME with a **budget of 100,000 to 150,000 euros** can build such a smart assembly cell with the technology currently available on the market. The ROI must come from an improvement of man productivity, quality control and increasing speed and flexibility. A **repayment period of less than three years** must be realistic.

Composition of the assembly line

The new demolition line consists of six cells that together form an assembly line for the efficient manufacturing of product families with many variations. The starting point is the operator who must

be able to work efficiently. This is done by supporting all kinds of technologies, such as a cobot, AGV, and digital work instructions that are projected on a screen or the work surface. In addition, the principles of QRM, lean and kaizen are used. The digital integration of the various processes and tools is also provided for in this line.

At the service of the companies

With the new test set-up, Sirris shows the industry what is possible with the latest technologies, and companies can try out on site what is possible in their specific business context.

The set-up is part of a test version of the factory of the future that Sirris is developing, to enable companies to experience the possibilities of Industry 4.0 in real life. It is a testing ground, which can be used as an experimental space. After the official commissioning, they can test the line in function of their own activities. They can experience the difference between the often beautiful theory and the sometimes frustrating practice and learn the necessary lessons from it. In the long run, the application lab will be further expanded into a real experience center.

Are you curious about our new pilot line or do you want to carry out tests (or have tests carried out)? Please contact us!

The new assembly line was developed as part of the Interreg project Factory 4.0, which stands for a cross-border approach to show companies in the border region technologies that fit into the context of Industry 4.0 and their options.

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