

AMC

ADVANCED MANUFACTURING CENTER

ECOSYSTEM SUPPORTS DIGITAL REFORMATION MANUFACTURING INDUSTRY *EAST NETHERLANDS*

Manufacturing companies operate in a dynamic environment. On the one hand, consumers are demanding more tailor-made and personalised products, while on the other hand, global competition and the importance of sustainability continue to increase. These trends have led to a need for a greater variety of products, shorter production cycles, lower cost prices, and the ability to respond to the fluctuating supply and demand of the market more easily. To achieve this, production systems must ensure a high degree of flexibility. Digitisation and automation play a key role in this.

The industrial technologies for digitisation and automation continue to develop at a rapid pace. Terms such as Smart Industry and the Industrial Internet of Things (IIoT) refer to the technologies that can visualise production processes with the help of data and data processing. Correct implementation can lead to significant improvements in the entire value chain: in design and planning, and also, for example, in

shortening throughput times. Digital systems can create insight into the use of energy and resources and business models can be adjusted on this basis.

These developments thus have the potential of realising many advantages, but in practice they present entrepreneurs with an enormous challenge: to maintain their competitive edge and to meet the constantly changing requirements of the market, it is necessary for them to reinforce the digitisation of their production process. But where to start? Technological developments are moving so fast - it is difficult to estimate what are really meaningful applications and what training is needed for this.

To support SMEs in the manufacturing industry in their digital transition and innovation, the FPC@UT is, with support of the European contribution from REACT-EU, investing in the development of the Advanced Manufacturing Center (AMC): a test factory for the manufacturing industry. With this, the

existing initiative of the University of Twente and the Fraunhofer Institute for Production Technology IPT takes an important next step in their mission to support companies in their journey to Industry 4.0.

By inviting industrial companies, especially SMEs, to the Advanced Manufacturing Center, they get the chance to experience the latest technology in the field of industrial digitisation, according to the “test-before-invest” principle. The AMC, run and managed by the FPC@UT, will become a facility where industry can collaborate with researchers and other technical experts. Specific challenges of SMEs are investigated and there is help available for the application of possible solutions into their own production environment. Systematic development, demonstrations, trainings, and implementation support are provided. The importance of this is underlined by the Scientific Director of the Fraunhofer Project Center, Ian Gibson:

“In the east of the Netherlands there is a great need for a facility where the industry can work together with researchers, engineers and other technical experts in the field of Advanced Manufacturing. With the REACT-EU funding, we can meet that need and contribute to the construction of a well-equipped test plant for Advanced Manufacturing, to support the region.”

At the Fraunhofer Institute for Production Technology, they are also looking forward to this AMC Ecosystem. “At the Fraunhofer Institute for Production Technology IPT in Aachen, we are constantly working on innovations to optimise production efficiency, for example with flexible production systems. As a connector between essential theoretical research and practical industrial applications, our goal is to look at production processes holistically and optimise their performance. In the Advanced Manufacturing Center, we can bring our experience in the field of digitisation, process technology, and process chain analysis, to create operational added value in collaboration with the university and industrial companies,” says Dennis Meelkop, Project Manager at the Fraunhofer IPT.

The innovation ecosystem connects many stakeholders and initiatives within the Smart Industry, both regionally - through the Advanced Manufacturing Program (AMP), which is funded by the RegioDeal Twente, as well as the various innovation hubs and field labs in the east of the Netherlands, and at national and international level (the Fraunhofer-Gesellschaft and European Digital Innovation Hub), in order to guide the widest possible range of companies in taking the right steps towards a flexible, digital production environment.

The project receives a contribution from the European subsidy programme REACT-EU. With this programme, Europe is helping the provinces of Overijssel and Gelderland to invest in a rapid economic recovery after COVID-19.