

# AMC NU

# ADVANCED MANUFACTURING PROGRAM<sup>(AMP)</sup>

Powered by: **Regio Deal Twente**

**T**ogether with regional government and partners, the Fraunhofer Innovation Platform for Advanced Manufacturing (FIP-AM) has developed the Advanced Manufacturing Program (AMP) to establish a transitional framework towards Manufacturing 4.0 and empowering manufacturing industries in the Eastern part of the Netherlands.

The Advanced Manufacturing Program (AMP) provides subsidies through the RegioDeal supported by the Province of Overijssel and the Dutch state. It aims to encourage rapid development of Twente

and other regions in the East Netherlands by forming an Advanced Manufacturing hub with an outward looking European image. With this the AMP greatly enhances the region's reputation and business climate.

Within the AMP, the Fraunhofer Innovation Platform for Advanced Manufacturing at the University of Twente develops innovation projects around manufacturing technology themes. Every AMP project is built around solid industrial collaboration, empowering companies with relevant knowledge and new technological and industrial

methodologies. Through the hub, these can be shared with other high-tech manufacturing industries in the region.

Member companies of the AMP can solve their specific technology problems and answer their market-oriented questions. This is achieved by developing and creating demonstrators that offer participating companies direct technological insight. FIP-AM then utilises workshops and master classes to further disseminate this newly acquired knowledge.

*The Advanced Manufacturing Program (AMP) is a funding program that helps us support you in your transformation to Manufacturing 4.0. This is made possible through the Regio Deal supported by the Province of Overijssel and the Dutch State.*



Rijksoverheid



**regio  
Twente**



# PROJECT 01

## DATA-DRIVEN LEARNING ENVIRONMENT

The continuous and rapid evolution and progression of technology in all levels of the society requires the people to develop different set of skills, while many of them are still trying to overcome the knowledge gaps created with it. The new and old generation of workforce in the companies, especially those of the Industry 4.0 domain, are faced with a challenge to develop new competences and adjust to the fast changes in the market demands.

To successfully face these challenges the companies and their staff need support to quickly acclimatize to the new technology and data driven era, and to adjust the competence building (knowledge transfer) to the customer needs and desires, as well as to enable life-long learning by creating an on-demand learning environment that is

merging the on-site and digital way of learning while providing hands-on experience from the comfort of peoples' homes.

With the project consortium consisting of The Virtual Dutchmen and Connec2, we are working on a tool to demonstrate the possibilities of I4.0 in a working environment.

Project activities of various types are carried out, and include research and development of the state-of-the-art knowledge transfer tools, building demonstrators that can showcase how new I4.0 technologies can enhance the learning experience (virtual shopfloor visit and interaction with machines), as well as development of onsite and online learning environment tools.

Consortia partners:  
**The Virtual Dutchmen**  
**Connec2**

# PROJECT 02

## DRONES

Drones, also known as unmanned aerial vehicles, are becoming increasingly popular. Nowadays, drones can not only be seen in the private sector, but they are finding their ways into the industry as well. This project aims to investigate and demonstrate the application of generative and parametric design to develop models for flying sensors which can be used for various applications.

First, an optimized design is created with generative design software, and different materials and manufacturing technologies are evaluated. In this design light weighting, strength, and

the carrying payload are included in the decision making. Integrated in the frame, sensors will be tested and used for various applications, ranging from measurements to inspection. The last, but most important step, will be the creation of the position awareness architecture. This technology will reduce the changes of failures, collisions, and enable in-flight human-drone interaction.

Initial discussions around this topic were held with BOLK, Clear Sky Solutions, Corvus drones, and Saxion. The consortium is open for additional partners. ■