

## Looking back at the last 5 years of the Fraunhofer Project Center

*The Fraunhofer Project Center has been a leading solution provider for manufacturers. Here's how the center became a leading innovator in the manufacturing sector.*

When the Fraunhofer Project Center opened its doors on the University of Twente (FPC@UT) campus in 2017, their vision was to create a bridge between the university and the manufacturing industry in the region. They have since become a leading solution provider for manufacturers, facilitating innovation in the exciting era of the fourth industrial revolution.

The FPC@UT started out as a relatively small team, with just four engineers in addition to several other fulltime staff members. During these early stages, they had a few projects running with the Fraunhofer Institute for Production Technology in Aachen, Germany. Since then, they have grown a great deal to incorporate a large team of academics, researchers, and domain experts, working with manufacturers across the Twente region and beyond.

### Defining the vision

Since the beginning, the center's goal has been to bridge the gap between the innovative ideas that emerge from scientific research to fully-fledged industry solutions. To that end, the FPC has sought to connect expertise from the University of Twente with the regional manufacturing industry. The impact for Twente was their main focus area. They needed to identify the most relevant topic areas to connect the questions and challenges of the local manufacturing sector to expertise from the university.

Finding that sense of direction in a period of rapid change was undeniably challenging at times. They had to identify themselves and where they would fit into the broader framework of the industry. This explanatory expedition took some time, especially since they started out with a relatively broad perspective. In particular, they needed to understand the unique needs and characteristics of the industry in a local context, where there are many small- to medium-sized manufacturing firms.

They soon realized that the FPC was destined to become more than just a solution provider for manufacturers – they also had to help industry partners define their own needs. They needed to become enablers of innovation by establishing a bridge between the manufacturing sector in the region and strategic partners like the University of Twente. Since then, they have worked with many researchers from the university, with some assuming permanent roles on our scientific board.

### Helping manufacturers weather the pandemic

According to FPC's scientific director Ian Gibson, when companies look at things from the perspective of the industry, they can usually see trends, but they are unsure of how precisely they fit in with their unique needs and production environments. It is not all about high-tech products, but also about choosing and implementing those products in a way that delivers maximum value.

This presents a huge challenge across the manufacturing sector, which faces rising pressure to achieve greater adaptability and scalability in increasingly unpredictable times. The sudden and unprecedented onslaught outbreak of the coronavirus pandemic in 2020 dramatically emphasized those needs and challenges.

One of the most significant side effects of the measures introduced to slow the spread of the pandemic, was the enormous disruption they caused to global supply chains. With practically no time to prepare, manufacturing firms suddenly found themselves unable to keep production lines up and running. In order to survive, they had to become more adaptable as a matter of urgency.

The local automotive industry, for example, came to a complete standstill, partly due to the shortage of computer chips for their vehicles. However, this was rather ironic, given that there are local producers that supply the machines needed to create these chips, ASML being one example. This demonstrates that even on a relatively small regional level like Twente, you have to look at things on both the local and global perspective. In that way, organizations can respond to and buffer themselves against major developments and crises, such as the pandemic.

### **Facilitating long-term innovation strategies**

According to Ian Gibson, during the pandemic, most manufacturing firms were understandably focused on survival by implementing temporary solutions that would help mitigate the effects of the disruption. But achieving true organizational resilience requires a long-term approach to adaptability. Thus, the long-term goal must be to be innovative, in order to become more adaptable to change and stay relevant.

Recently, the FPC worked with Aeronamic, a local aerospace company based in Almelo. They wanted to implement additive manufacturing, also known as 3D printing, to increase the output of their production environment. One of the first things they noticed in the early stages of the project was that there's a lot of difference between the needs and challenges of manufacturing startups and established companies like Aeronamic.

Unlike startups, established manufacturers already have full-fledged production environments, so they're more likely to be looking to optimize their existing production lines rather than build something completely new from scratch.

By contrast, one thing the center has noticed from startups is that they have developed a good product with a solid value proposition, but it's not yet a good fit for an existing production environment. In this case, the center needs to help design a manufacturing approach that starts with redefining the product so that it's suitable for production on a much larger scale. This is especially important concerning the impact for Twente, where there are a lot of smaller-sized manufacturing firms.

### **What's next for the Fraunhofer Project Center?**

With the fourth industrial revolution now in full swing, the FPC has finally outgrown its current premises at the University of Twente. However, the center is excited to announce its imminent move to a much larger facility at Kennispark in the next year.

The new location does not only offer a lot more space than the existing premises on the third floor of the Horst tower at the UT; it also offers vital opportunities to increase visibility to the wider region. Most importantly, the new venue will have its own shop floor for demonstrating cutting-edge Industry 4.0 solutions to their industry partners.

The new location is also symbolic. Being right across from the main entrance to the university campus, it shows that they are still an integral part of the University of Twente, while also making a connection with the broader manufacturing environment of the Netherlands and beyond.

In the coming months and years, the center will also be looking for new ways to integrate students into the organization and to empower them to develop themselves in all kinds of industrial projects. They are expecting to grow to around 40 full-time staff members to forge stronger partnerships and generate ever-greater value for the manufacturing sector. And that is not all – they have a lot of big plans for the year ahead, so be sure to stay tuned for more!