FUTURE-PROOFING

THROUGH THE Advanced Manufacturing Centre

In a world where technology is rapidly advancing and consumer demands are evolving, manufacturers face constant challenges. The pressure to provide better products with shorter time-to-market and lower costs is unrelenting. Moreover, consumers often demand solutions requiring low batch sizes or customised features, providing additional layers of complexity to the manufacturing process. A possible way to address these challenges lies in advanced manufacturing technology, supported by digital models and other innovative concepts. The Fraunhofer Innovation Platform for Advanced Manufacturing at the University of Twente (FIP-AM@UT) has taken a significant step towards assisting manufacturers by opening the Advanced Manufacturing Centre (AMC) on the Kennispark next to the university in Enschede, Overijssel.

The opening of the AMC is not only a milestone for the University of Twente but also a pivotal moment for the entire Netherlands. It provides a unique platform where companies can explore and test ideas, paving the way towards the best possible solutions before committing to substantial investments. This can be particularly beneficial for small businesses who may lack the resources to undertake their own research and development initiatives.

The AMC boasts a distinctive capability, centred around two major demonstrators: one focused integrating 3D printing into the process chain, and the other on a reconfigurable, modular assembly processes. These demonstrators are highly automated and supported by sophisticated digital twins that are continuously fed with real-time data, allowing companies to experiment with cutting-edge technologies and processes in a risk-free environment.

The AMC addresses the pressing needs of manufacturing industries in the region, focusing on improving their processes through technological advancements. Most manufacturers can no longer rely on traditional methods to stay competitive. To thrive in today's dynamic business landscape, they must embrace innovation and adapt to the ever-evolving market. The AMC provides a fertile ground for exploration, experimentation, and innovation.

The AMC's commitment to supporting local businesses is a testament to the importance of collaboration between academia, industry, and research institutes. It leverages the multi-disciplinary team of highly motivated research engineers at FIP-AM@UT who are dedicated to providing solutions for local manufacturers.

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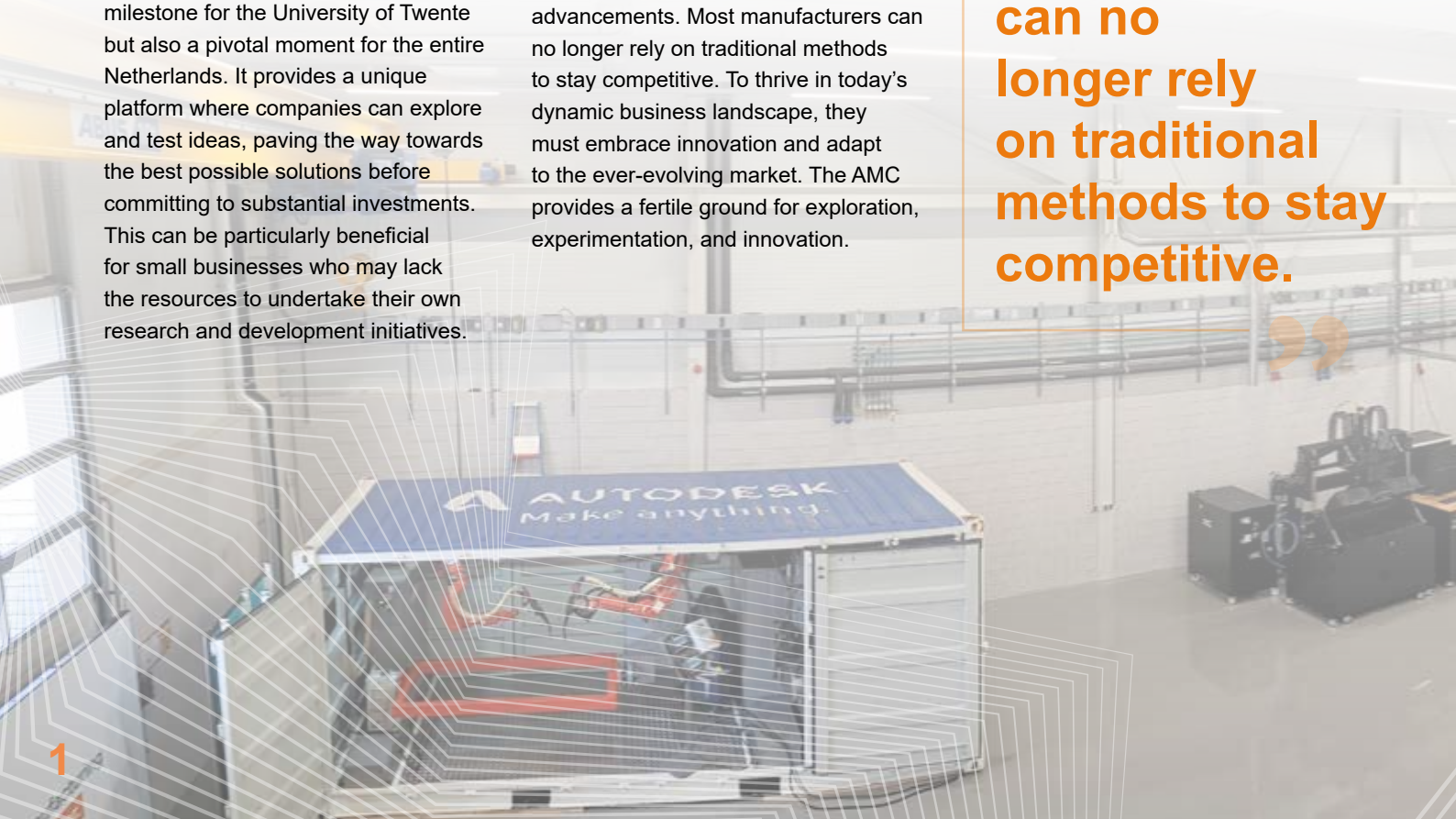

The University of Twente, along with its international partner, the Fraunhofer Institute for Production Technology, based in Aachen, Germany, bring a wealth of knowledge and expertise to the table. This alliance forms the backbone of the AMC's knowledge-base, ensuring that state-of-the-art concepts can be explored for the benefit of industries in the region.

A unique selling point of the AMC is its focus on delivering value to businesses of all sizes. Small businesses, in particular, stand to gain significantly from this resource. They often lack the financial means and manpower to embark on their research and development projects. The AMC offers them a lifeline, providing access to cutting-edge technologies and expertise that would otherwise be beyond their reach. By offering a platform to experiment with new ideas and concepts, the AMC empowers small businesses to remain competitive in a rapidly changing industry landscape.

However, large manufacturing organizations can also tap into the AMC, since all companies struggle to test out new ideas unless they have the luxury of an experimental platform. The AMC's demonstrators showcase the potential of advanced manufacturing techniques that can revolutionize how products are designed, manufactured, and delivered to market. By facilitating hands-on experience with these technologies, manufacturers can make informed decisions, reducing the risks associated with costly investments.

Digital twins play a crucial role in the AMC's operations. These digital replicas of physical systems allow manufacturers to simulate and optimize their production processes in a virtual environment. By constantly collecting and analysing real-time data from physical processes, digital twins enable companies to fine-tune their operations for maximum efficiency and productivity. The AMC's integration of these tools ensures that manufacturers have access to cutting-edge technology that can drive their businesses forward.

FIP-AM@UT's commitment to the local manufacturing industry is further demonstrated by the support it receives from regional, national, and European funding. This backing solidifies the AMC as a one-stop shop for companies looking to explore smart industry solutions tailored to their specific needs. The combination of funding and expertise provides a unique opportunity for manufacturers to tap into global knowledge and resources while focusing on solving local challenges.

In conclusion, the opening of the Advanced Manufacturing Centre is a significant step toward future-proofing manufacturing industry in the Netherlands. By providing a platform for companies of all sizes to explore, experiment, and innovate, the AMC empowers manufacturers to stay competitive in an ever-changing landscape. With the support of regional, national, and European funding, and FIP-AM@UT's team of dedicated

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research engineers, the AMC is poised to drive technological advancements and foster a culture of innovation in the manufacturing sector. As manufacturers embrace the opportunities offered by the AMC, they will not only enhance their competitiveness but also contribute to the growth and sustainability of the Dutch manufacturing industry. ▪