

WHAT IS...?

AMII

The **Additive Manufacturing Implementation Investigation (AMII)** is a business service that has been recently launched in partnership between Fraunhofer Innovation Platform for Advanced Manufacturing at the University of Twente (FIP-AM@UT), previously known as the Fraunhofer Project Center (FPC@UT) and the Fraunhofer Institute for Production Technology (IPT) in Aachen, Germany. The initiative helps companies understand how and where to best utilise AM to add and realise value and opportunities within their organisation before they invest in new technology or business models.

Additive Manufacturing (AM) is on the radar of many companies now as a wider technology that can change the way we produce and offer goods and services. However, many companies fall just shy of the experience and confidence through organisational learning to be able to see the clear value opportunities that lie ahead through AM application. Likewise, many companies will often only look at AM from a very narrow perspective, uninformed and unaware of the wider value streams that can be tapped into. Entering any new technology field can be daunting. From the outside it can appear overwhelming even for established mature companies. AMII was conceived to help solve this problem.

AMII comprehensively reviews a company's position, understanding and attitude towards manufacturing technology across all areas of business. Considering and involving a wide network of both internal and external stakeholders, the outcome is a tailored and unique action plan. The thorough investigation will allow any manufacturing company to get a head-start on a smooth implementation and transition to applied AM technologies with considerations that go beyond simple use-case suggestions and scenarios.

The AMII follows a staged approach to identify, present and support change throughout the organisation. Initially, a 'Current State Analysis' is performed to understand in detail the organisational and technical processes with respect to AM capabilities. Using a range of internally developed tools such as the industry QuickScan coupled with an experienced expert team, opportunities and value streams can be rapidly identified. In consideration of the companies' goals, challenges and needs numerous problems and opportunities can be identified where AM can be of benefit to the company.

From here the AMII team has been able to paint a clear picture of the organisation from both an internal and external perspective. The team gets



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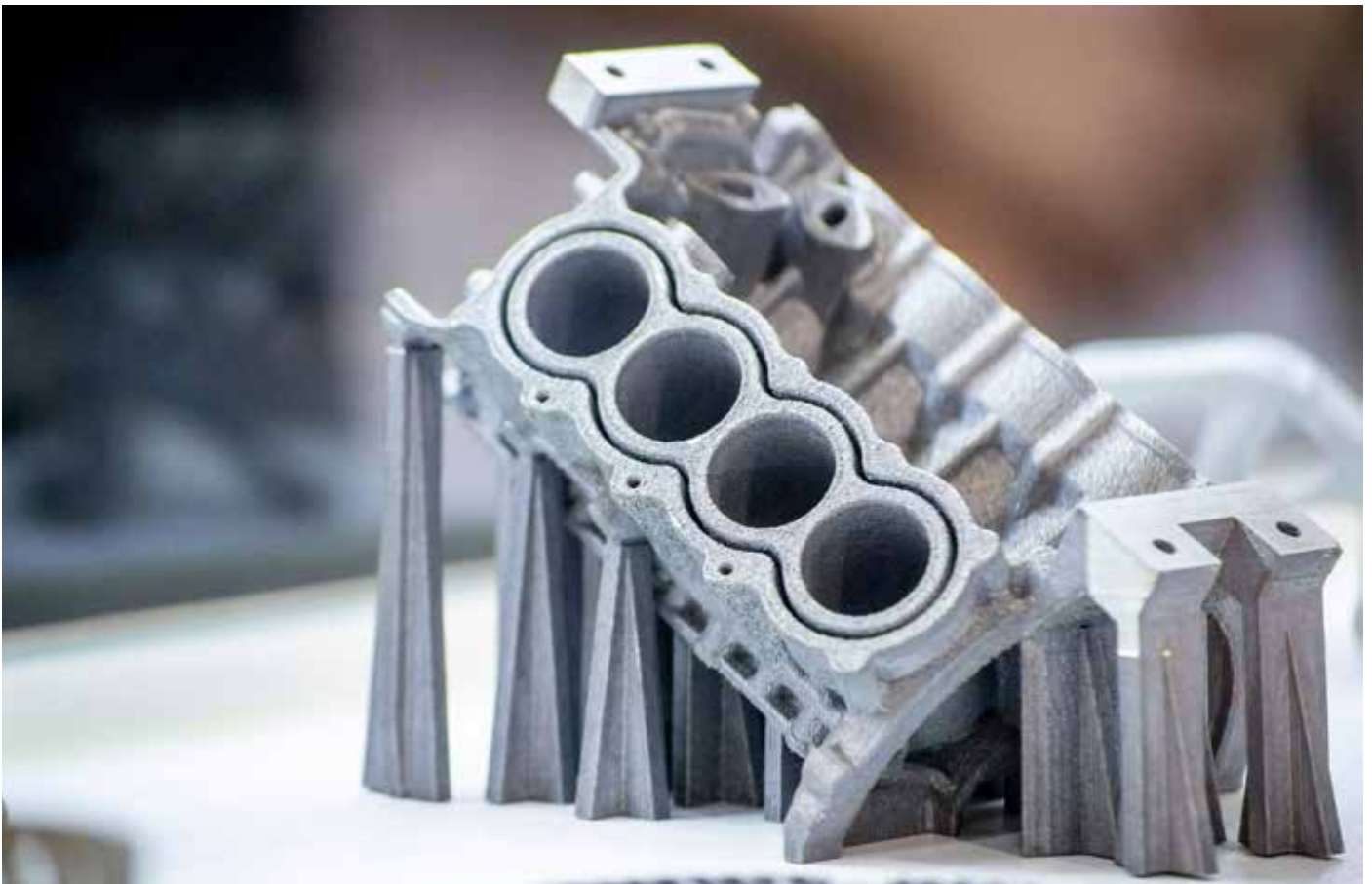
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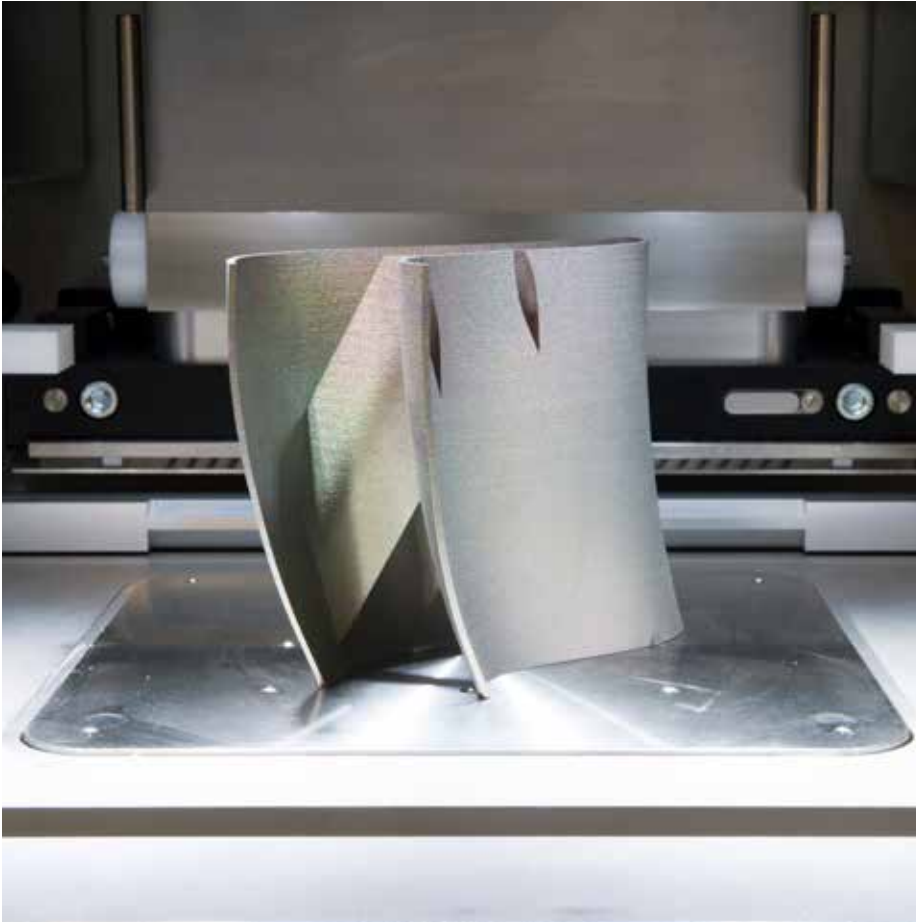
straight to work through analysing existing business practice to suggest a series of custom-tailored scenarios of how and where investment in AM can provide the best and most efficient returns. Through collaborative effort, the AMII team will then take away the top scenarios for development. A business case is produced around these highest opportunity scenarios with clear descriptions on how existing process chains will be impacted if implemented and where the core value will be realised.

A scenario is not always limited to the narrow scope of an improved product offering. It can encompass a wider manufacturing process, machine optimisations, internal and external services, supply chains, and other aspects of the business that will benefit either directly or indirectly from AM. Participants will often be surprised at the interesting and novel ways value can be realised with Additive Manufacturing, such as in creating print on demand digital asset libraries for inventory.

After successful collaborative scenario development, the team provide a technical implementation plan and roadmap. A good road map provides a path to introducing change in the wider adoption of AM. The roadmap is broken down to highlight specific per-product or process scenario actions that are required. Short, medium, and long-term implementation and transition is considered with the critical path, challenges and goals clearly communicated and considered.

To support the transition to new technology, the final stage of the investigation involves assistance offerings and suggestions. The AMII can extend into a comprehensive offering of continuing assistance such as through additional project support, extended training, and organisational knowledge building.





A company that recently engaged in the initiative was Tembo. An AMII probed and investigated deep into the company culture. Behavioural characteristics and attitudes towards change and new technology were established through a series of workshops, interviews and online surveys with key decision makers and thought leaders at the company. The dedicated team of experts from FIP-AM@UT and IPT that partnered with Tembo during the AMII were able to provide comprehensive collaborative guidance on how AM could best be implemented. Through identifying key gaps in internal knowledge, learning and process within the organisation a focused roadmap to AM was developed.

The roadmap highlighted a clear way of realising near instant value in making some entry level product and machine changes through AM to see production processes much more efficient. Product and process steps that were traditionally

prone to high-cost assembly error due to part complexity were identified as prime candidates for the first steps. Alternative product models were suggested and developed that would see significant reduction in part counts of sub-assemblies making the assembly process faster and far less prone to expensive error. These tangible product scenario suggestions were also coupled with comprehensive guidance on change management and training in how to engage and involve wider stakeholders with AM technologies.

If a unique and relevant plan that offers your company tailored guidance to AM implementation and value add sound like something you need, feel free to reach out to the team at FIP-AM@UT. The expert team are there to help companies of all shapes and sizes from a variety of manufacturing industries build knowledge and get the best out of any AM investment. ■

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