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ADVANCED MANUFACTURING PROGRAM (AMP)

Powered by: Regio Deal Twente

The Fraunhofer Innovation Platform for Advanced Manufacturing (FIP-AM), together with the regional government and partners, has developed the Advanced Manufacturing Program (AMP) to create a transition framework to Manufacturing 4.0 and to strengthen the industry in the east of the Netherlands.

The Advanced Manufacturing Program (AMP) provides subsidies through the RegioDeal, supported by the Province of Overijssel and the Dutch State. The aim is to stimulate the rapid development of Twente and other regions in The Netherlands by creating an Advanced Manufacturing hub with an outward-looking, European image.

In this way, the AMP strengthens the reputation and climate of the region. Within the AMP, the Fraunhofer Innovation Platform is developing innovation projects in the field of production technology together with the University of Twente. Each AMP project is built around a solid industrial collaboration. During the project, the companies will have access to relevant knowledge and the latest technological and industrial methodologies. These can be shared with other high-tech manufacturing companies in the region via the hub.

The companies that are members of the AMP can solve their specific technological problems and answer market-oriented questions. This is done by developing and creating demonstrators with direct technological insight. FIP-AM then works through workshops and master classes on the dissemination of this newly acquired knowledge.

The Advanced Manufacturing Program (AMP) is a grant program that helps us businesses support your transformation to Industry 4.0. This is made possible by the RegioDeal, supported by the Province of Overijssel and the Dutch State.

Rijksoverheid

provincie Overijssel

regio Twente   Twente

✉ e.rouchou@utwente.nl   📞 +31 (0)6 4876 7414   *Elias Rouchou*

THEME 01_

PROJECT PARTNERS WANTED
For a research project on circularity of industrial metal scrap

Many manufacturers produce metal scrap during their processes, presenting a significant opportunity for achieving circularity in manufacturing. The journey of metal scrap from by-product to new product is crucial for fostering a resilient and eco-conscious manufacturing landscape. One industry showing promise in circular manufacturing is Additive Manufacturing (AM), also known as Industrial 3D Printing. With metal 3D printing, complex geometries can be achieved using less scrap material, making it increasingly attractive for manufacturers aiming for series AM production.

The focus of this project is to **investigate whether metal scrap can serve as a portion of raw materials used in powder-based AM processes**. This can be particularly relevant for manufacturing companies that rely on procuring expensive metals such as titanium alloys, nickel, cobalt, and molybdenum. Currently, we are assembling a consortium for a new AMP-subsidised project to explore the feasibility of closing the loop by incorporating discarded metal scrap back into the supply chain. This approach will not only aims to reduce costs, but also contributes to shorter lead times and

reduce emissions associated to supply chain procurement practices.

We invite interested companies, especially manufacturers utilising costly metals and seeking sustainable solutions, to join this consortium. Companies are welcome to bring their challenges that could be a use case for this project.

If you wish to learn more or express your interest in participating, please don't hesitate to contact us.

THEME 02_

MORE PROJECT PARTNERS WANTED
For a research project on battery degradation modelling

Electrification is gaining momentum in the majority of sectors worldwide to reach carbon-neutral goals. With increased battery production, greater efforts are needed in handling waste to create a sustainable solution. **A health status monitoring system of battery packs for industrial use would improve timely replacement of batteries,** preventing

machine or equipment downtime or other disruptions in the production process. Moreover, monitoring - the battery pack could extend its usage through active adaptation and optimisation of conditions before reaching its end of life.

Currently, we are forming a project consortium for this new AMP-subsidised

research project. Throughout this project, we will **apply a data-driven approach to model the battery pack degradation, improving the estimation of battery lifetime.** Companies involved in battery-driven industrial equipment, battery suppliers, or battery recycling companies are encouraged to join this consortium. *Please contact us for more information on how to participate.*

THEME 03_

NEW PROJECT LAUNCHES
With the Advanced Manufacturing Program

Several cool projects have recently been launched through the Advanced Manufacturing Program! **5GXR** explores the benefits of the industrial application of 5G on smart devices – in this case an XR device. Meanwhile **InsAlght** a human-centred, enabling AI assistant is created, that supports complex supply

chain planning. In **Transform**, a complete cartonnage production line is simulated and visualised for B2B customers, to provide insight into lead times and possibilities in the preliminary stages of an order or for inventory in case of product changes on the customer side. A new **AMII** project is investigating the benefits,

application and implications of using additive manufacturing in production environments. Another project, **Trendy**, focuses on sales forecasting for products without historical data, such as rapidly changing fashion items.
More information about our projects? Please contact us.