

Network description

Status: 06/01/2021



Name	MN3D – Network for 3D-Printing in the maritime industry
Aim	<p>The Maritime 3D Network (MN3D) aims to develop improved, additive manufacturing methods and products for the maritime sector and want to market them.</p> <p>The Network is dedicated to addressing the specific needs and requirements of the maritime industry in 3D printing. The specific challenges of the maritime industry concern the size of components and their exposure to low-frequency vibrations and seawater, their accessibility, durability and associated reliability. Finally, they must meet environmental requirements to a high degree and prove their economic efficiency.</p>
Background	<p>Global sales in additive manufacturing with software, hardware and materials rose by 18 percent in 2018 to over 8 billion euros. The 3D printing market is expected to continue to grow rapidly in the upcoming years.</p> <p>Additive manufacturing in the maritime industry is still at the beginning of its possibilities but gain momentum. The largely conservative maritime sector is hence a new market for 3D printing.</p> <p>The technology has the potential to change global flows of goods and open up new possibilities for shipping, e.g. through the fast and local production of spare parts.</p>
R&D Projects	<p>All activities of the network partners are aimed at jointly developing concrete R&D projects to advance innovations in 3D printing for the maritime industry. To this end, applications are developed and submitted to ZIM or another suitable funding programme for further support.</p> <p>Currently, R&D projects are being planned on: surface quality, materials, integration of sensor technology, component sizes and tool life.</p>
Benefits for the companies	<p>The network increases knowledge and innovation, especially among small and medium-sized enterprises (SMEs). With the network, the SMEs pursue the goal of reacting more flexibly to customer wishes in the future and thus increasing the competitiveness of their companies. Just like the larger companies involved, SMEs are expanding their know-how and range of services and tapping new economic potential. All partners want to establish their developments on the market for additive manufacturing.</p>
Partner structure	<p>The MN3D network currently comprises a total of 20 network partners, including four research institutions.</p>
Companies	<ul style="list-style-type: none">▪ A. Winter 3D Konstruktions GmbH▪ DNV GL SE▪ FEM-Composites▪ Gebr. Friedrich Industrie- und Elektrotechnik GmbH▪ Gebr. Potthast Kunststoffspritzguss GmbH & Co KG▪ GEFERTEC GmbH▪ JBS System GmbH▪ Mecklenburger Metallguss GmbH▪ REINTJES GmbH

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- Rolf Lenk Werkzeug- und Maschinenbau GmbH
- SLM Solutions Group AG
- S.M.I.L.E-FEM GmbH
- thyssenkrupp Marine Systems GmbH
- Treo – Labor für Umweltsimulation GmbH
- Weihe GmbH

Research institutions

- Fraunhofer Research Institution for Additive Manufacturing Technologies IAPT
- Flensburg University of Applied Sciences
- Hamburg University of Applied Sciences (HAW Hamburg)
- Helmholtz-Zentrum Geesthacht Centre for Materials and Coastal Research

Cluster organisation

- Maritimes Cluster Norddeutschland e.V.
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