

## **New Study on Sealing Technology with Participation Options for Industry**

*The Fraunhofer IAPT is planning a study on additive manufacturing with silicones for applications in sealing technology. Participating companies can contribute their own questions.*

Hamburg / Bergedorf, February 11, 2025 – The Fraunhofer Institute for Additive Production Technologies IAPT is planning a feasibility study on innovative approaches for the production of silicone seals using additive manufacturing (also known as AM). The project aims to exploit the advantages of AM, such as the cost-effective production of small batches or complex shapes for sealing technology. Specific industrial questions will be incorporated through participation in a crowdfunding model.

From mechanical engineering to chemistry and the automotive industry – seals are essential components in numerous sectors. Their production is typically carried out using conventional manufacturing methods. However, specific requirements could be implemented more flexibly, quickly, and economically with additive manufacturing.

### **Questions and Methodology of the Study**

The announced study by the Fraunhofer IAPT investigates whether additively manufactured silicone seals meet the high demands of industry regarding mechanical properties and chemical resistance. The focus of the study is on tests to identify suitable materials and technologies and their validation.

Together with industry partners, the experts at Fraunhofer IAPT plan to analyze materials for identifying suitable AM materials. The investigations will also include surface quality concerning roughness and functionality, as well as surface finish, design freedoms, and hard-soft connections. Based on this, an evaluation of the benefits of AM as a complement to conventional manufacturing methods will take place.

## **Goals and Benefits for Industry**

The study promises valuable insights for the future of sealing technology. With additive manufacturing, the costly production of tools for prototypes or complex seal geometries becomes unnecessary. Participation in the study is particularly worthwhile for companies looking to respond quickly to market changes with small quantities or to meet individual customer demands. Additionally, AM supports decentralized production, thereby enhancing independence from supply chains.

Interested parties can find more information about this and other crowdfunding studies by the Fraunhofer IAPT at Additive Studies - Fraunhofer IAPT

## **About Fraunhofer IAPT**

The Fraunhofer IAPT stands for sustainable innovations in the field of additive manufacturing. Its portfolio includes research and development along the entire AM manufacturing route – from unique component designs and system solutions, including process and material levels, to factory planning and virtualization. All aspects of the additive manufacturing process are comprehensively considered from the initial idea and feasibility to industrial implementation in new or existing production environments. A particular focus is placed on socially relevant future topics in the fields of life sciences, energy, mobility, as well as security and defense. Our overarching goal is to ensure that additive manufacturing technologies are industrially applied, significantly contributing to increased productivity, resource conservation, resilience, and prosperity.

## **Press Contact**

M.A. Carola Dellmann  
Head of Marketing & Communication  
Fraunhofer Institute for Additive Production Technologies IAPT  
Am Schleusengraben 14  
21029 Hamburg

Email: [marketing@iapt.fraunhofer.de](mailto:marketing@iapt.fraunhofer.de)  
Phone: +49 40 484010-500