

How do seals and sealing technology benefit from 3D printing with silicone?

When it comes to custom production of seals in small quantities, such as batch sizes of one or prototypes of new seal geometries, creating the necessary tooling can be very costly.

Join our feasibility study today to discover whether additively manufactured seals and silicones provide a cost-effective alternative!

[Join the feasibility study now!](#)

AM and challenges in sealing technology

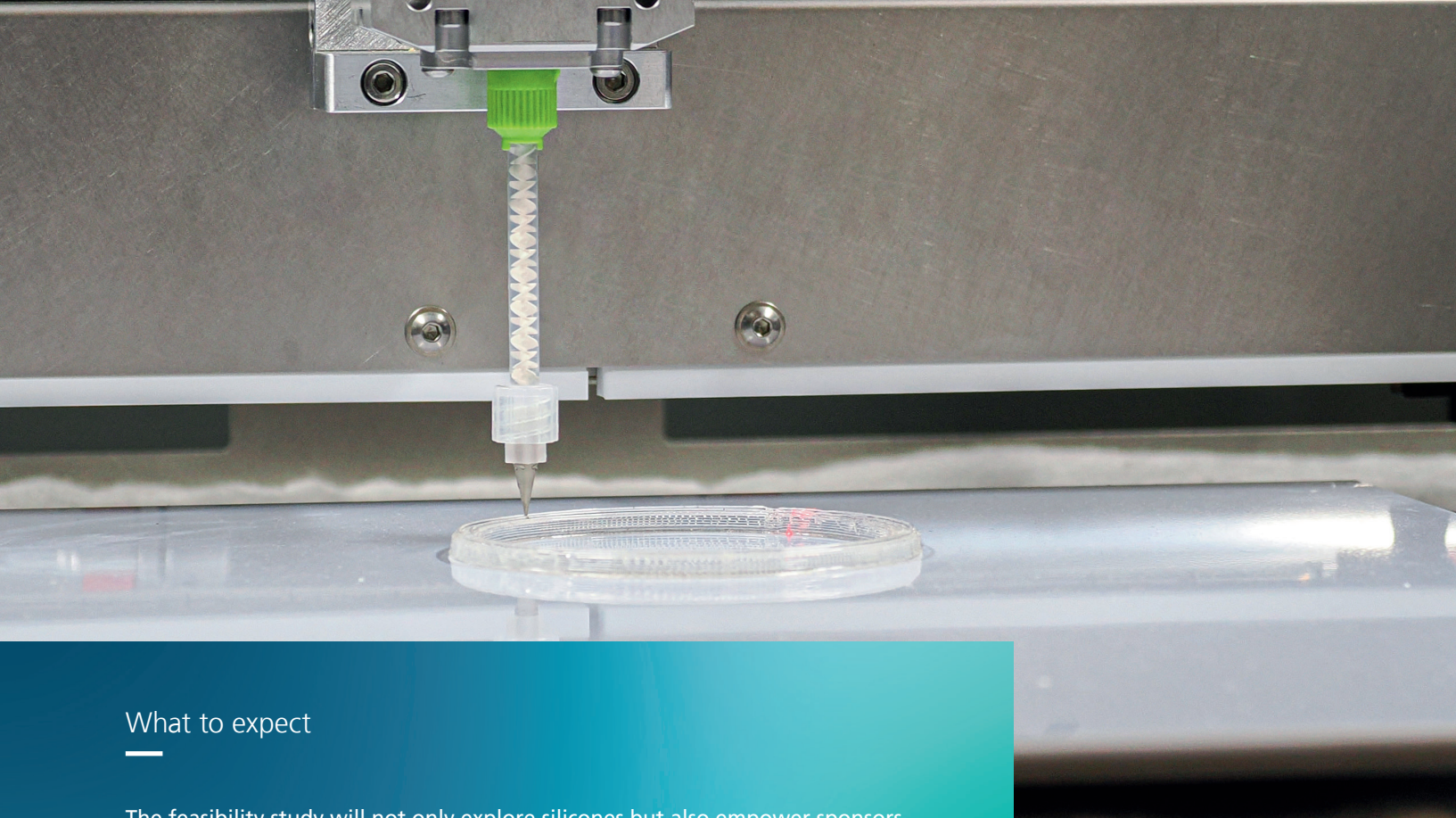
Fraunhofer IAPT is planning a research study to investigate whether additively manufactured seals can meet the diverse requirements for mechanical properties and chemical resistance in sealing technology. Through industry partnerships, we will gather specific material property requirements, identify suitable materials and manufacturing technologies, and validate their suitability through a series of tests.

Feasibility Study At a Glance

- Three inquiry levels starting from three participants and upwards
- Study duration: 10 months
- Scheduled to begin in February 2025

The study will

- portray the opportunities and limitations of AM for processing silicones
- provide an overview of the available technologies and materials
- align the requirements of sealing technology with the capabilities of 3D printing
- evaluate the processability of traditional materials from sealing technology



What to expect

The feasibility study will not only explore silicones but also empower sponsors to influence the specific requirements and materials that Fraunhofer IAPT will investigate. For a detailed overview of the study's scope, please refer to the three inquiry levels outlined below.



Level 1: Three Sponsors and Upwards

Analysis and evaluation of AM technologies and materials for use in sealing technology:

- Examination of three technologies
- Investigation of at least four materials



Level 2: Six Sponsors and Upwards

Examination of the processability of classic materials from sealing technology using extrusion-based 3D printing:

- Tests of up to three materials



Level 3: Ten Sponsors and Upwards

Development of material models for simulation and prediction of component properties and behavior under various conditions:

- Development of up to 3 material models



To sign up or to obtain further information please contact:

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