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Additive ideas in demand: the AMable project promotes flexible AM solutions to fight the coronavirus

The coronavirus is currently paralyzing public and private life and in many places there is a lack of medical equipment and viable solutions to protect society against the spread of the virus. Together with institutions from all over Europe, the Fraunhofer Institute for Laser Technology ILT is supporting companies in the EU project AMable in implementing Additive Manufacturing ideas that will help overcome bottlenecks in this fight. Now that AMable has already successfully paved the way for SMEs to industrial 3D printing with metal and plastic, the partners are offering aid and public funding for COVID-19 projects. The AMable partners are calling for ideas to be submitted in a first step and applicable solutions for the additive manufacture of new products in a second step.

To protect people from the long-term effects of the pandemic, the partners of the EU project AMable want to break new ground. Within the framework of the EU's I4MS initiative (ICT Innovation for Manufacturing SMEs), they have promoted 3D printing with metal and plastic for small and medium-sized enterprises (SMEs). Now, they are looking at measures to quickly and reliably come up with solutions for the vital work of hospitals, medical practices and nursing staff. For production in SMEs and in industry and the skilled trades, they are also shifting their focus to solutions that support people in their daily work.

Call for ideas: What ideas can be implemented with 3D printing?

"There are already many ideas from SMEs for solving this pressing problem with the aid of additive processes," reports Ulrich Thombansen, project coordinator and scientist at Fraunhofer ILT. "We are investigating in which cases 3D printing can be used to produce components faster and more reliably than conventional processes and how current needs can be met as quickly as possible with new solutions."

AMable offers universal support in all phases of Additive Manufacturing. The platform's partners provide the necessary expertise for implementing reliable 3D printing processes with materials of all kinds – from plastic or metal to ceramics. However, currently there is a greater demand for small extruder 3D printers on site so that products can be produced locally and on demand, Thombansen says. Accordingly, the message is "Name ideas for 3D printing that can be used, for example, to do medical technology work better and easier than before. What we want to understand is where

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Additive Manufacturing can make a contribution to reduce the impact of the pandemic.”

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Call for solutions: Public suggestions for topics through all channels of the media

What matters to the AMable partners is the complete transparency of their work: They want to present the proposed topics directly to the AM community via all common social media channels, associations and the press as a “call for solutions” in order to find suitable partners that AMable actively supports with public funding and experts. A total of €350,000 is available for this purpose. Ideally, each solution will lead to a freely accessible design file including documentation with a precise description of the process. It should enable users to additively manufacture components reliably at the push of a button. But it should also provide a solution that can be further developed and adapted to specific applications by anyone on site.

Diving masks become simple ventilators

The chances are good because well-known European institutes are participating in the AMable platform, and Thombansen is coordinating their work as project manager. As an interesting idea, he describes, for example, a project at the University of Marburg, where a team has modified existing CPAP devices for the treatment of sleep apnea for use with COVID-19 patients. Similar ideas are being pursued by some projects in the community, where a few 3D printed parts make it possible to even use diving masks as respiratory aids. Thombansen explains, “We want to bring people with similar ideas together with experts from the AMable network so that they can implement their 3D printing idea both quickly and reliably. AMable acts as a turbocharger from idea to implementation.”

Ideas and solutions can be submitted to the following address:
www.amable.eu/covid-19

Project partners AMable

The following partners are participating in the AMable project launched in 2017:

- Atos (Spain)
 - International Data Spaces e.V. (Germany)
 - Keen Bull (Switzerland)
 - PwC Strategy& (Germany) GmbH (Germany)
 - zabala Innovation Consulting, S.A. (Belgium)
 - Fraunhofer Institute for Laser Technology ILT (Germany)
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- Fraunhofer Institute for Software and Systems Engineering ISST (Germany)
- AIMEN Technology Centre (Spain)
- DTI - Danish Technological Institute (Denmark)
- European Federation for Welding, Joining and Cutting (EWF) (Portugal)
- Frederick Research Center (FRC) (Cyprus)
- inspire AG (Switzerland)
- Laboratory for Manufacturing Systems & Automation (LMS) at the University of Patras (Greece)
- LORTEK (Spain)
- The Manufacturing Technology Centre (MTC) Limited (United Kingdom)
- Politecnico di Torino (Italy)
- Sirris (Belgium)
- University of Applied Sciences and Arts of Southern Switzerland (SUPSI) (Switzerland)
- The Netherlands Organization for Applied Scientific Research TNO (Netherlands)
- TWI Ltd. (Great Britain)
- VTT Technical Research Centre of Finland Ltd. (Finland)
- Center for Additive Manufacturing Technologies (CAMT) at the Wroclaw University of Science and Technology (PWR) (Poland)

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The European Commission is supporting the AMable consortium within the framework of the ICT Innovation for Manufacturing SMEs (I4MS) initiative with funds from the Horizon 2020 funding program.

www.amable.eu

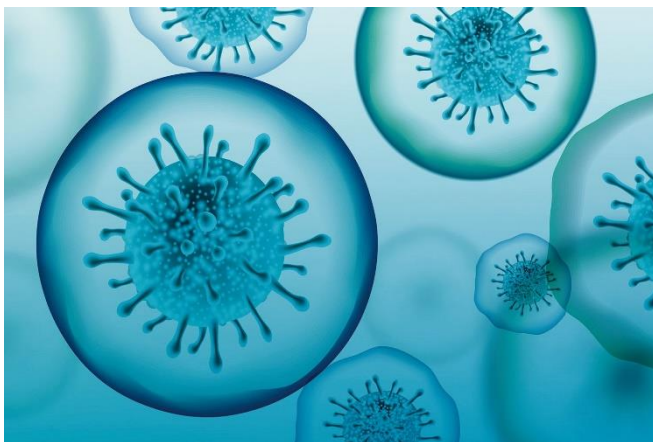


Image 1:
How can Additive Manufacturing help in the fight against coronavirus?
The EU project AMable calls for the submission of ideas in this area. In a second step, SMEs, for example, can submit solution concepts and receive funding.
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Image 2:
Thanks to Additive Manufacturing, products can be manufactured quickly and flexibly. The AMable partners support companies and contribute their expertise for reliable 3D printing processes with materials of all kinds.
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The **Fraunhofer-Gesellschaft**, headquartered in Germany, is the world's leading applied research organization. With its focus on developing key technologies that are vital for the future and enabling the commercial exploitation of this work by business and industry, Fraunhofer plays a central role in the innovation process. As a pioneer and catalyst for groundbreaking developments and scientific excellence, Fraunhofer helps shape society now and in the future. Founded in 1949, the Fraunhofer-Gesellschaft currently operates 74 institutes and research institutions throughout Germany. The majority of the organization's 28,000 employees are qualified scientists and engineers, who work with an annual research budget of 2.8 billion euros. Of this sum, 2.3 billion euros is generated through contract research.

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