

# PRESS RELEASE

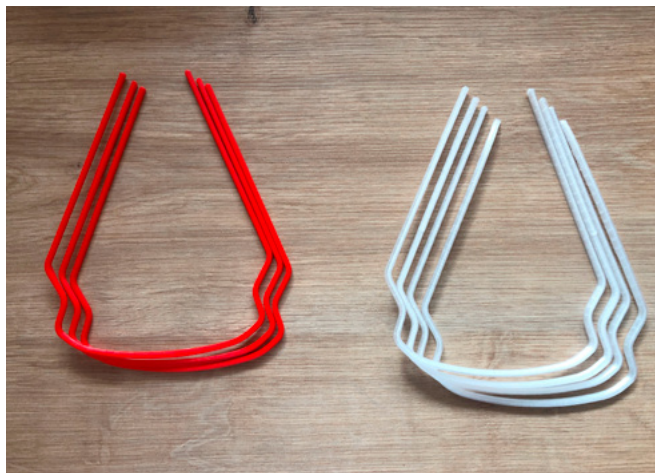
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## Rapid help for hospitals

**Medical safety eyewear, disinfectant dispensers and ventilators from 3D printers – experts from the Fraunhofer Institute for Manufacturing Engineering and Automation IPA are using their technological expertise in the fight against the coronavirus pandemic.**

Hospitals are currently facing shortages of many medical consumables, not just face masks. Rapid help is needed. These are problems with which the Project Group for Automation in Medicine and Biotechnology PAMB, Mannheim, a spin-off from Fraunhofer IPA, is well acquainted. After all, it engages with medical professionals on a daily basis. Its headquarters are located at the heart of the grounds that house Mannheim University Hospital and it has a coronavirus diagnosis station right outside its window. The project group's medical technicians have provided rapid, direct support to the doctors.



**3D print sample of side pieces for safety goggles made from PLA and PC.**

**Source: Fraunhofer IPA**

### Protective goggles in short supply

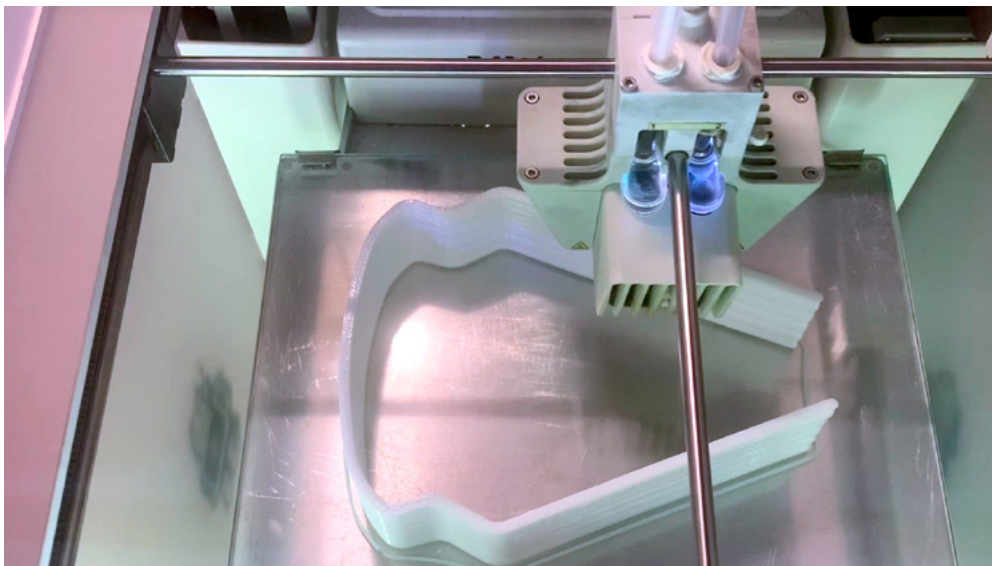
Protective goggles are above all in short supply – a mass product for single use. They are similar to welding goggles and consist of a frame and a transparent plastic screen. Although there is no shortage of screens in the hospital, there has been a lack of frames. Even though these plastic components are not high-tech products, they still need to comply with the quality specifications – familiar ground for IPA scientists as they are well acquainted with risk assessments and guidelines in medical technology.

**FRAUNHOFER INSTITUTE FOR MANUFACTURING ENGINEERING AND AUTOMATION IPA**

A prototype was quickly developed, manufactured and clinically tested for usability: The tests proved that it could be sterilized and did not cause skin irritation. It was not long before the Project Group was able to provide an initial sample to the doctors. These samples were highly successful and the hospital requested 500 units. But this was not so simple. Although the Project Group has its own 3D printer which can manufacture plastic components such as these, it is unable to make more than 20 frames per day, even when working around the clock. This is where the Mannheim-based company Hänssler Kunststoff- und Dichtungstechnik GmbH comes in. Over the weekend, it manufactured an initial batch, which has now been delivered and is being used in the university hospital. The Project Group will also be able to step in and help other hospitals if required.

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**3D print of the side pieces for safety goggles in a batch for a higher unit volume.**

Source: Hänssler GmbH

**Disinfectant dispensers from the printer**

And that is far from all. The Project Group is also helping to produce disinfectant dispensers. While the nearby chemicals group BASF is providing enough disinfectant, dispensers have come to be in short supply. The team at Fraunhofer have produced a prototype of this as well and are set to manufacture between 100 and 150 units.

**Own brand ventilators**

Many of the Project Group members are now working from home, but this has not stopped them tackling the coronavirus outbreak on yet another front. Coordinated by Fraunhofer, the Project Group is aiming to have developed an alternative emergency ventilator within a few weeks. It is likely to comprise suitable materials that will also be in good supply throughout the crisis in addition to components that can be easily manufactured, so that the solution can be rapidly used as an alternative in regions experiencing ventilator shortages. The aim is to have the documents for an operational device ready as soon as the end of April and then make these available alongside the training documents.

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With nearly 1000 employees, the **Fraunhofer Institute for Manufacturing Engineering and Automation IPA**, Fraunhofer IPA, is one of the largest institutes in the Fraunhofer-Gesellschaft. The total budget amounts to € 74 million. The institute's research focus is on organizational and technological aspects of production. We develop, test and implement not only components, devices and methods, but also entire machines and manufacturing plants. Our 15 departments are coordinated via six business units, which together conduct interdisciplinary work with the following industries: automotive, machinery and equipment industry, electronics and microsystems, energy, medical engineering and biotechnology as well as process industry. The research activities of Fraunhofer IPA aim at the economic production of sustainable and personalized products.