

## PRESS RELEASE

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New ERC project at the INM

ERC Proof of Concept Grant set to boost application of adhesive structures

INM has again succeeded in attracting an ERC Grant: With the Proof of Concept Grant awarded to Professor Arzt and his team, INM is going to bring its developments in the area of innovative adhesive structures closer to industrial application. In terms of content, SWITCH2MARKET will follow on from the ERC Advanced Grant SWITCH2STICK: The results of the research on adhesive structures for robotics have now been developed to the point that their commercial exploitation is tantalizingly close.

The primary purpose of the one-year SWITCH2MARKET project is to analyze potential markets, seek out new cooperation partners and develop an appropriate patent strategy. For the most part, this will involve analyzing the market for robotics and pick-and-place processes. In addition, a comprehensive range of data sheets will be drawn up for the various possible applications and properties of the new adhesive structures. These form an essential basis for providing potential customers with information in a quick and comprehensive manner.

“We are finally getting there. Following four years of research under the ERC Grant SWITCH2STICK, we are now able to reap the rewards by launching our developments for technology transfer,” explained Eduard Arzt, Scientific Director at the INM. Many international companies, with whom INM is already in intensive cooperation, have expressed their need for the new adhesive structures. Against the backdrop of Industry 4.0, new procedures for robotics and the individual handling of sensitive objects are becoming increasingly important. Arzt explains that “at the Leibniz Institute, it is our mission to carry out application-based research resting upon excellent fundamental research. We have made outstanding progress in this regard over the last few years in the field of adhesive structures”.

Switchable adhesive structures can be used for pick and place processes of sensitive components. One of their benefits is that, unlike conventional gripping systems, no damage or residue is caused during handling.

Background information regarding SWITCH2STICK and SWITCH2MARKET

In 2013, Eduard Arzt received an Advanced Grant of around 2.5 million euros from the European Research Council (ERC). During the last four years, Arzt and his team have been working on SWITCH2STICK (Engineering of

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biomimetic surfaces – Switchable micropatterns for controlled adhesion of bioinspired adhesive surfaces) to develop three-dimensional structures and surfaces, whose functions are activated and deactivated by external stimuli. The results have been published in 19 articles in renowned journals to date and are protected by three new patent families. With the ERC Proof of Concept SWITCH2MARKET project (Switchable adhesives for the robotics and handling market), the INM is now aiming to bring the most promising developments from SWITCH2STICK to application maturity. The grant amounts to about 150,000 euros.

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INM – Leibniz Institute for New Materials, situated in Saarbrücken, is an internationally leading center for materials research. INM conducts research and development to create new materials – for today, tomorrow and beyond. Research at INM is performed in three fields: Nanocomposite Technology, Interface Materials, and Bio Interfaces. INM is an institute of the Leibniz Association and has about 240 employees.