

# PRESS RELEASE

---

**PRESS RELEASE**4 May, 2021 || page 1 | 3

---

## Sustainable Corrosion Protection Through Digitization

### Fraunhofer ITWM Involved in EU Project for Innovative Corrosion Protection Technologies

**The Fraunhofer Institute for Industrial Mathematics ITWM, located in Kaiserslautern, is active as one of twelve partners from seven countries in the EU research project VIPCOAT. The objective is to make the development and production of technologies for corrosion protection more sustainable, more cost-effective, and faster.**

Corrosion, i.e. the electro-chemical reaction of base metals with oxygen or other environmental components, causes damage to the material. To prevent corrosion processes, the aircraft and automotive industries used chromates, for example, for many years. However, these are extremely toxic, environmentally hazardous and carcinogenic. For this reason, the use of chromates in automotive and aircraft construction was banned by European law. Since then, industry and research have been searching for chromate-free substitutes.

This is precisely where VIPCOAT (Virtual Open Innovation Platform for Active Protective Coatings Guided by Modelling and Optimization) comes in: With the help of modeling and an innovation platform, the development of environmentally friendly alternatives is being driven forward. »Our aim is to create an open innovation platform that can be used by the research, industrial, political and public sectors alike«, explains Dr. Natalia Konchakova, project coordinator and scientist at the Hereon's Institute of Surface Science.

#### 12 Partners From Seven Countries Involved

Together with researchers from Germany, Belgium, Luxembourg, Norway, Portugal, Great Britain, and the Netherlands, the Helmholtz Center Hereon has initiated the project. The two German research institutions involved, Hereon and Fraunhofer ITWM, will expand their expertise in the field of protective coatings with corrosion inhibitors and anti-corrosion pigments, respectively, and create models for material development and optimization within the framework of VIPCOAT. Here the focus lies in sustainable infrastructures for offshore wind energy turbines and green marine energy technologies. This is how VIPCOAT results should directly support the aims of the European Green Deal.

**FRAUNHOFER INSTITUTE FOR INDUSTRIAL MATHEMATICS ITWM**

»Subsequently, the platform will also be applicable to other industrial sectors, such as the automotive and maritime sectors, energy production infrastructures and to medical technology and civil engineering«, says Dr. Peter Klein, scientist at Fraunhofer ITWM. The open innovation approach should thereby contribute to a decisive competitive advantage for the sectors and strengthen the technology transfer.

-----  
**PRESS RELEASE**

4 May, 2021 || page 2 | 3  
-----

**Project Details**

The European Union is funding VIPCOAT with around 5.5 million euros for four years as part of the Horizon 2020 program. The start date is May 1, 2021.

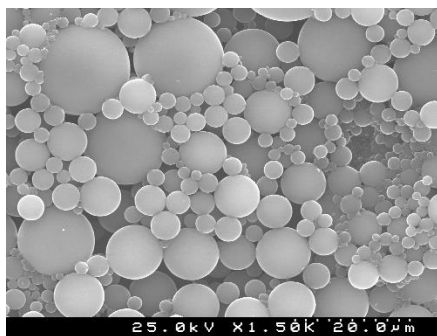
The consortium of the project consists of the following partners: Helmholtz-Zentrum Hereon (project management), Airbus Operations GmbH, Airbus Defence and Space GmbH, Akzo Nobel Car Refinishes BV, ELYSCA NV, Wkki Limited, Fraunhofer Institute for Industrial Mathematics ITWM, Smallmatek – Small Materials and Technologies, Norwegian University of Science and Technology, Luxembourg Institute of Science and Technology, SINTEF, Vrije Universiteit Brussels and Delft University of Technology.

More Information about the project at [www.vipcoat.eu](http://www.vipcoat.eu).

**Visuals**



**Logo VIPCOAT**



SEM picture of polymeric microcapsules loaded with corrosion inhibitor produced by Smallmatek at pilot scale. ©Smallmatek

**FRAUNHOFER INSTITUTE FOR INDUSTRIAL MATHEMATICS ITWM**

---

**PRESS RELEASE**4 May, 2021 || page 3 | 3

---

**Press contact**

**Eva Fröhlich**  
Fraunhofer Institute Industrial Mathematics ITWM  
Fraunhofer-Platz 1  
D-67663 Kaiserslautern  
Telephone +49 631 31600-4074  
presse@itwm.fraunhofer.de  
www.itwm.fraunhofer.de

**About the Fraunhofer Institute for Industrial Mathematics ITWM**

The Fraunhofer Institute for Industrial Mathematics ITWM in Kaiserslautern is one of the largest research institutes for industrial mathematics worldwide. We see our task in further developing mathematics as a key technology and providing innovative impetus. Our focus is on the implementation of mathematical methods and technology in application projects and their further development in research projects. The close cooperation with partners from industry guarantees the high practical relevance of our work.

Their integral components are consulting, implementation and support in the application of high-performance computer technology and the provision of tailor-made software solutions. Our various competencies address a wide range of customers: automotive industry, mechanical engineering, textile industry, energy and finance. This also benefits from our good networking, for example in the High performance center "Simulation- and software-based innovation".