

# PRESS RELEASE

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## **Digitalization and surface technology – The Fraunhofer IST at the Hanover Trade Fair 2018**

**Digitalization is a topic that affects and moves all industries. Thus, at this year's Hanover Trade Fair from April 23 to 27, 2018 the Fraunhofer Institute for Surface Technology IST appears for the first time in the area of "Digital Factory" at the joint Fraunhofer booth "Digital Solutions & New Materials" (hall 6, booth A30).**

With its work on process simulation in the area of thin-film technology the Fraunhofer IST demonstrates to what extent digital solutions can facilitate and accelerate the development of innovative materials and surfaces. Another focal point of the institute's presentation is the interface between physical and digital system components: In the field of Industry 4.0 thin-film sensors play an important role and find a variety of applications. Several examples are not only shown in hall 6, but also at the main Fraunhofer booth "Factory of the Future" in hall 2 (booth C22).

### **The focal points of the Fraunhofer IST at the Hanover Fair at a glance**

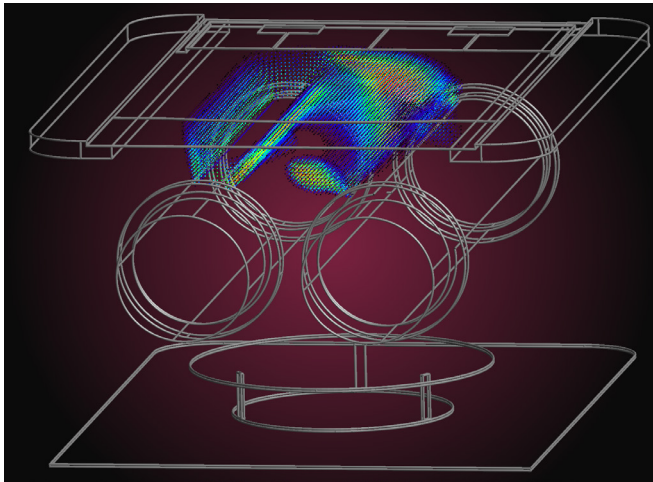
#### **Multifunctional thin-film sensor systems**

In the age of Industry 4.0 the production of the future should be able to meet ever increasing demands: processes should be flexible, intelligently networked and sustainable, the production facilities must work safely, intuitively and at the same time resource efficiently. Thin-film sensors developed at the Fraunhofer IST provide solutions that generate measurement data where measuring systems are difficult to integrate, e.g. in main load zones in direct contact between the workpiece and tool.

#### **Simulation of coating processes in thin film technology**

The development of precise and efficient processes in thin film technology demands a process simulation in order to obtain the required insights into process dynamics and relevant parameter correlations. At the Hannover Messe the Fraunhofer IST presents visualized results for gas and plasma simulation by means of the "Direct Simulation Monte Carlo" and the "Particle-in-Cell-Monte Carlo" software, which has been developed for the optimization of vacuum coating processes and systems.

FRAUNHOFER INSTITUTE FOR SURFACE ENGINEERING AND THIN FILMS IST



**Simulated distribution of electron density in a compartment of the EOSS® coating plant for the production of optical functional layers.**

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**Deep-drawing die with complete sensor system.**

© Fraunhofer IST, Manuela Lingnau.

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As an industry-oriented R&D service center the Fraunhofer Institute for Surface Engineering and Thin Films IST bundles skills and expertise in the fields of coating production, coating application, coating characterization and surface analysis. The aim is to provide the surfaces of the most diverse substrate materials with new or improved functions so as to create innovative products in line with market requirements. The Fraunhofer IST is one of the seventy-two institutes of the Fraunhofer Society, Europe's leading research organization, and with its about 120 employees has an operating budget of 12 million euros.