

PRESS RELEASE

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Opening of the first Fraunhofer Innovation Platform FIP in Taiwan

Fraunhofer IST and Feng Chia University (FCU) develop surface and production technology for optical and electrical systems

As versatile as possible, consistently precise and reproducible but, at the same time, increasingly complex: The requirements for future coating and production systems are constantly increasing. The Fraunhofer Institute for Surface Engineering and Thin Films IST and Feng Chia University (FCU) are collaborating on the “Fraunhofer Innovation Platform for Surface and Production Engineering for Optical and Electrical Systems at Feng Chia University FIP-SPE@FCU” to fulfill this demand. The aim of the cooperation is the development of cross-sectoral technological solutions in the field of surface and production engineering, whereby the focus is being placed on optical and electrical systems. The official opening of FIP-SPE@FCU took place on 28th October 2024 in Taiwan.

With the signing of the cooperation agreement, the collaboration between the Fraunhofer IST and Feng Chia University – which has already been in existence since 2015 – has attained a new quality. “By consolidating the collaboration within the Fraunhofer Innovation Platform, we are creating an institutional framework to intensify and further strengthen the partnership between Feng Chia University and the Fraunhofer IST,” says Prof. Holger Hanselka, President of the Fraunhofer-Gesellschaft. “The close alliance with Feng Chia University creates an important interface for expanding mutual exchange between our two innovation ecosystems and markets to our mutual benefit.”

The President of Feng Chia University, Prof. Dr. Wei Wang, agreed: “We are absolutely delighted that the FIP-SPE@FCU will enable us to develop Taiwan’s first Fraunhofer-esque research unit into Feng Chia University in order to adapt the successful Fraunhofer model for Taiwan and to advance application-oriented research.”

Prof. Ju-Laing He, Director of the FIP-SPE@FCU, thanked his deputy Dr. Ralf Bandorf, Group Manager ‘Optical and Electrical Systems’ at the Fraunhofer IST, for his outstanding commitment, and explained the substantive priorities of the new Fraunhofer Innovation Platform: “We are focusing on the development of optical and electrical

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systems, for which there is a broad application potential and a great demand, also among Taiwanese companies. In order to achieve this, we are pooling our mutual excellence in plasma surface technology and our complementary expertise in the field of information and production technologies.”

The aim of the Fraunhofer Innovation Platform is the development of solution approaches for sustainable production systems for high-precision coatings. Simulation and modeling, as well as the monitoring, control and automation of processes – taking into account human-computer interaction – thereby play an important role. The range of services for industry is supplemented by a comprehensive program of further training in the field of surface technology and production.

The innovation potential of the FIP-SPE@FCU is illustrated through the example of the planned collaboration in the development of solutions for the production of high-precision interference filters. With the so-called “Enhanced Optical Sputtering System EOSS®”, the Fraunhofer IST has an innovative production platform for the manufacture of precision optical filters at its disposal. In conjunction with the MOCCA+® software for process monitoring and control (also developed at the IST), this system can produce highly complex filters with hundreds of layers. The technology has already been commercialized. As a result of the cooperation with the Laboratory for Production Automation of Feng Chia University, which has acquired particular expertise in the field of artificial intelligence and intelligent manufacturing systems, new possibilities are being created that will significantly improve the performance capability of the EOSS® through the integration of AI and enable additional markets to be developed.

Fraunhofer Innovation Platform FIP

A Fraunhofer Innovation Platform is a temporary Fraunhofer-esque research unit operated by a university or a non-commercial research institution in a foreign country in close cooperation with one or more Fraunhofer institutes in Germany and initially established for a period of five years. In order to exploit, transfer and commercialize scientific research results, the collaborating partners develop a common strategy and a unique business offering in which they synergistically combine their complementary expertise.

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