Fraunhofer IZFP

SENSOR AND DATA SYSTEMS FOR SAFETY, SUSTAINABILITY, AND EFFICIENCY

PRESS RELEASE

Fraunhofer IZFP and Tongji University launch international cooperation for high-speed trains

October 1, 2025, marked the launch of the "Fraunhofer Innovation Platform for Intelligent Transportation and Mobility Monitoring FIP-ITMM@TONGJI". The cooperation between the Fraunhofer Institute for Nondestructive Testing IZFP and Tongji University in Shanghai, China, is developing a range of services for smart predictive maintenance and intelligent monitoring systems in high-speed rail transport. The cooperation gives Fraunhofer IZFP access to the world's largest high-speed network and to the test infrastructure at the partner organization and will run for five years.

FIP-ITMM@TONGJI aims to strategically deepen the cooperation between the two partners and improve existing expertise through developments and the expansion of Fraunhofer IZFP's involvement in the Chinese transport sector. The Fraunhofer Innovation Platform (FIP) will combine the complementary strengths and resources of both partners and focus on key challenges in the intelligent inspection and maintenance of rail transport facilities and equipment. The aim is to intensify cooperation between industry, science, and research and to establish a high-quality framework for interdisciplinary networking, resource sharing, and promoting young talent. "One of the most important key points is promoting research in the field of condition monitoring and predictive maintenance with a focus on improved visibility on European markets. Our primary goal is to research sensor systems and communication technologies that can reliably generate and transmit real-time data at different speeds", explains Dipl.-Ing. Christian Conrad, Director of FIP-ITMM@TONGJI on behalf of Fraunhofer IZFP.

New impetus for high-speed rail

The cooperation is intended to provide new impetus for research in the areas of infrastructure, track monitoring, and maintenance, thereby ensuring greater safety in high-speed rail in the future. The participation of Fraunhofer IZFP as a renowned research institute in the Chinese market plays a central role in this and supports the overarching goal of further strengthening the brand Fraunhofer throughout the Asian region. In the future, both partners will combine the scientific excellence and talent pool of Tongji University with the long-standing application experience of Fraunhofer IZFP to build a

Communication Manager / Editorial Notes:
Oliver Sandmeyer, M. A. | Fraunhofer Institute for Nondestructive Testing IZFP | Phone +49 681 9302-3944 | Campus E3 1 | 66123 Saarbrücken, Germany | www.izfp.fraunhofer.de | oliver.sandmeyer@izfp.fraunhofer.de

Scientific Contact:
Dipl.-Ing. Christian Conrad | Fraunhofer Institute for Nondestructive Testing IZFP | Phone +49 681 9302-5302 | Mobile +49 172 8263993 | Campus E3 1 | 66123 Saarbrücken, Germany | www.izfp.fraunhofer.de | christian.conrad@izfp.fraunhofer.de

bridge between research and industrial implementation in China. In addition, Fraunhofer IZFP will apply the findings in Germany and Europe.

Pooling strengths

A Fraunhofer Innovation Platform is a temporary research unit at a university or research institution abroad, which is initially established for a period of five years in close cooperation with one or occasionally several Fraunhofer Institutes. The FIP-ITMM@TONGJI was approved by the Fraunhofer Society's Executive Board after almost three years of negotiations and preparatory work between Tongji University's College of Transportation and the Fraunhofer Institute for Nondestructive Testing IZFP.

Representatives of both partners at the inauguration ceremony. From left to right: Thorsten Müller, Prof. Bernd Valeske, Christian Conrad, Prof. Junhuan Xiao, Dr. Mengbo Liu. © Tongji University

To celebrate this success, an inauguration ceremony was held at Tongji University on October 21, 2025. In addition to Prof. Junhua Xiao (Deputy Dean of the Faculty of Transportation Engineering with a focus on railway infrastructure and FIP Director on behalf of Tongji University), Prof. Lun Zhang (signal processing specialist and Deputy Director of the FIP), and Dr. Mengbo Liu (railway infrastructure specialist and Secretary of the FIP), Fraunhofer IZFP was also represented at the event by Prof. Bernd Valeske (Managing Director), Christian Conrad, and Thorsten Müller (Deputy Director of the FIP).