Press Release

German-Japanese alliance for semiconductor technologies

Fraunhofer IZM strengthens research bridge with Japan

The Fraunhofer Institute for Reliability and Microintegration IZM, the Fraunhofer Institute for Electronic Microsystems and Solid State Technologies EMFT, Kumamoto University, and Yamagata University are pooling their expertise. On September 15, 2026, the four institutions signed a memorandum of understanding in Kumamoto to promote international cooperation in research, education, and workforce development. The partnership focuses on semiconductor packaging, system integration, and printed electronics.

For Fraunhofer IZM, the agreement creates an opportunity to combine its expertise in electronic packaging and heterogeneous system integration with the capabilities of partners in Japanese research and the regional industrial ecosystem. The aim is to initiate joint projects, translate scientific findings into applications, and strengthen the international exchange of skilled professionals.

The cooperation encompasses exchanges of researchers, staff, and students, joint projects, and the sharing of information in research and education. Previous activities supporting German-Japanese cooperation in the semiconductor sector received assistance from the Japan External Trade Organization JETRO.

Application-oriented research for the semiconductor industry

The four institutions intend to combine their respective strengths in semiconductor packaging, integration, and printed electronics. From Fraunhofer IZM's perspective, this offers an opportunity to connect fundamental university research more closely with application-oriented technology development and pave the way for new solutions for high-performance, reliable, and highly integrated electronic systems.

The German-Japanese workshop "Semiconductor Packaging: Toward Integration with Printed Electronics", held at Kumamoto University on September 14, 2026, focused on semiconductor packaging and its integration with printed electronics. The German representatives also highlighted the expertise of companies in the Kumamoto region, particularly small and medium-sized enterprises specializing in semiconductor equipment and materials.

The agreement establishes a framework for expanding cooperation between the research institutions and developing additional opportunities for joint activities with industry. The partners expect this to lead to further research projects, industrial collaborations, and practical applications of research findings.

Knowledge transfer and international skills development

Alongside research, the partnership places particular emphasis on knowledge sharing and personnel exchange. Mobility between the institutions, joint project work, and exchanges on research and teaching are intended to give researchers and students insight into different innovation systems and establish the cooperation on a long-term basis.

For Fraunhofer IZM, the cooperation expands its international network in a strategically important field of technology. The exchange with the two Japanese universities and Fraunhofer EMFT is intended to pool expertise, create new project constellations, and accelerate the transfer of research into industrial applications.

Cooperation at a glance

Partners:

- **Fraunhofer IZM, Fraunhofer EMFT**
- **Kumamoto University**
- **Yamagata University**

Key areas:

- **Semiconductor packaging**
- **System integration**
- **Printed electronics**

Signing of the memorandum of understanding in Kumamoto on September 15, 2026.
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The Fraunhofer Institute for Reliability and Microintegration IZM is one of the world's premier research institutions for electronics packaging. With its dedication to developing miniaturized, high-reliability electronics in cutting-edge lab facilities, the institute works to maintain the competitive edge of Germany and Europe.

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