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FRAUNHOFER INSTITUTE FOR MICROELECTRONIC CIRCUITS AND SYSTEMS IMS

PRESS RELEASE

APPLAUSE – an ECSEL Joint Undertaking project

The Fraunhofer Institute for Microelectronic Circuits and Systems (IMS) has launched a new project, "Advanced packaging for photonics, optics and electronics for low-cost manufacturing in Europe" simply called APPLAUSE. The consortium has got 31 European partners from 11 countries, represented by key players in the fields of electronics packaging, optics and photonics, equipment supply and testing. APPLAUSE will enhance European expertise in advanced packaging and assembly to develop new tools, methods and processes for high volume manufacturing.

The APPLAUSE project is coordinated by ICOS Vision Systems N.V. (Belgium), a division of KLA Corporation. The 34 million euros total budget for the three-year project is co-funded by Horizon 2020 and national funding agencies and industries, as a part of the Electronics Components and Systems for European Leadership Joint Undertaking (ECSEL JU). The consortium includes 12 large enterprises, 11 small and medium-sized enterprises (SMEs) and 8 research and technology organisations. The project focuses on advanced optics, photonics and electronics packaging for multimodal sensing systems. High volume manufacturing is enabled by strong contribution of testing, process control and manufacturing equipment.

The technologies gained feed to six industrial application cases which include a substantially smaller 3D integrated ambient light sensor for mobile and wearable applications (ams AG, Austria); a high performance, low cost, uncooled thermal IR sensor for automotive and surveillance applications (IDEAS, Norway); high speed datacom transceivers with reduced manufacturing costs (DustPhotonics, Israel); a flexible cardiac monitoring patch (Precordior, Finland); miniaturized cardiac implants

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with advanced monitoring capabilities (Cardiaccs, Norway); and an optical water measurement module with cost-effective packaging of components (Vaisala, Finland).

Fraunhofer IMS is participating in two use cases:

- Post-CMOS processing of microbolometers for low-cost and high-performance thermal infrared sensors, used in automotive, safety and security.
- Development of biocompatible and hermetic chip-scale encapsulation for miniaturized cardiac implants.

"This collaborative project builds the competitive edge of component and system development in Europe. We develop new capabilities and demonstrate their match to the future needs of European industries. This accelerates the manufacturing uptake of the new technologies and shortens time-to-market" per Paula Pennanen, project manager at Spinverse.

The expected project impacts targets to increase revenues for the project partners exceeding 300M€, by 2025. The new technologies developed in the project have the potential to increase the market share with additional access to new market segments for the industrial partners. The strategic, high level objectives of APPLAUSE include (1) developing new tools, methods, and processes for automated mass manufacturing and advanced packaging for the semiconductor, optics and photonics industries, (2) bringing advanced packaging and high volume manufacturing concepts to optics and photonics via six industrial use cases, and (3) increasing the competitiveness and global market share of European semiconductor industry, especially the manufacturing equipment, packaging and assembly industries.

More information:

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Project partners:

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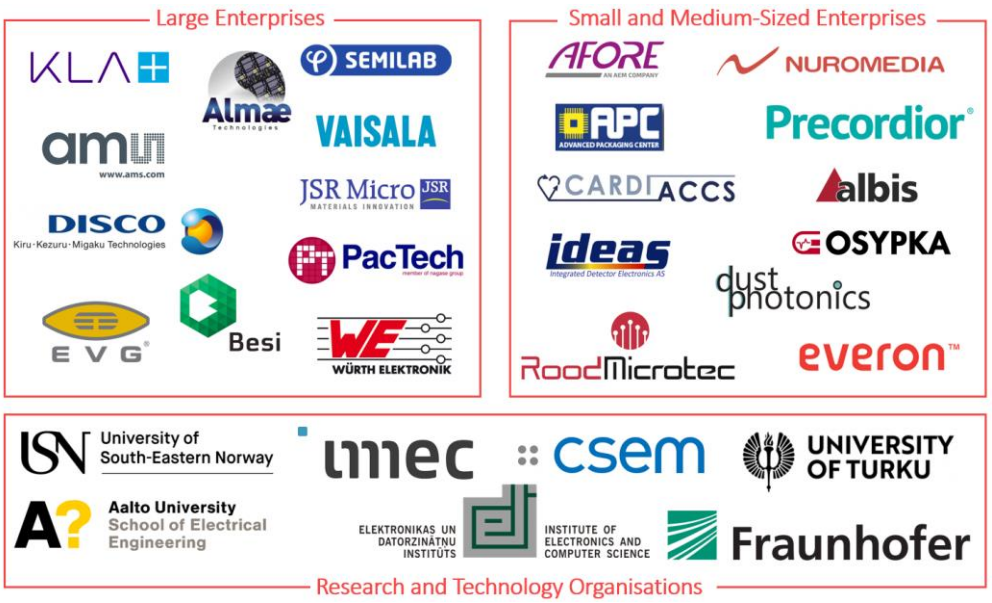

APPLAUSE has received funding from the ECSEL JU under grant agreement No 826588. The JU receives support from the European Union's Horizon 2020 research and innovation programme as well as Belgium, Germany, Netherlands, Finland, Austria, France, Hungary, Latvia, Norway, Switzerland and Israel.

About ECSEL JU

The "Electronic Components and Systems for European Leadership" (ECSEL) is a Joint Undertaking established in June 2014 by the European Union Council Regulation No 561/2014. The ECSEL Joint Undertaking - the Public-Private Partnership for Electronic Components and Systems – funds Research, Development and Innovation projects for world-class expertise in these key enabling technologies, essential for Europe's

competitive leadership in the era of the digital economy. Through the ECSEL JU, the European industry, SMEs and Research and Technology Organisations are supported and co-financed by 30 ECSEL Participating States and the European Union. A total of approximately 346M€ European and national grants have been awarded to proposals with total eligible costs of about 748M€ arising from the ECSEL JU, making another step forward in the 5B€ programme to be supported by ECSEL JU.
Read more about the ECSEL JU programme.

Fraunhofer IMS

For over 30 years scientists at Fraunhofer IMS in Duisburg have been dealing with the development of microelectronic circuits, electronic systems, microsystems and sensors. Because of its comprehensive know-how, the access to technology and the high-quality development work the Institute is a worldwide recognized partner for the industry. In eight business units Fraunhofer IMS is dedicated to applied research, advance development for products and their applications. High-quality, efficient and marketable technologies and procedures that are used in extremely many branches take center stage in contract work.
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Pictures and captions

Logo of the APPLAUSE-Project
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