EuroPAT-MASIP project secures ECSEL funding to bring semiconductor packaging back to Europe

The current trends in automotive industry, consumer electronics, internet of things and big data set growing and diverse needs for electronics manufacturing. As a response to these needs the key players in European semiconductor and MEMS packaging industry have joined forces in an ambitious three-year project EuroPAT-MASIP funded by the Horizon 2020 programme within the "Electronics Components and Systems for European Leadership" (ECSEL). Involving 28 partners throughout the whole European Semiconductor packaging, assembly and testing value chain the project aims to reinforce European position in semiconductor value chain by focusing on semiconductor and MEMS packaging.

In today's world, extensive usage of electronic components is at the core of industrial products, ranging from the automotive all the way to the entertainment and defense industries. The specific needs and requirements from the industries have always been one of the strongest technology drivers for advanced electronics packaging. A persistent target is to find new solutions for increased performance, improved form factors and reduced costs. Even though research and development activities in electronics are still in major part done in Europe, the semiconductor packaging related part of the electronics value chain is strongly dominated by countries in Asia.

"EuroPAT-MASIP will consolidate and extend the European leadership in semiconductor processing know-how, by developing and fostering packaging related technological and manufacturing building blocks, serving various emerging industrial sectors", tells Steffen Kröhnert, R&D director of Nanium and the Coordinator of the project. "The emerging needs triggered e.g. by automotive sector trends and IoT provide an opportunity to pull back the specific highest added value parts of the electronics value chain back to Europe. The momentum to grasp this opportunity is now, thus it is absolutely great to have ECSEL support for it", says Kröhnert.

The project develops packages for six pilot products: WLAN front-end IC, silicon photomultiplier, automotive inertial sensor and a camera, 60 GHz radar sensor and a car tyre sensor. In addition, the project develops a wide portfolio of technological building blocks for integration concepts. These include modelling and simulation, 3D MtM and SiP, packaging technologies, materials as well as test strategy and methods. The new equipment include e.g. plasma dicing technology. "The project has the mission to build a key competitive edge to the electronics technology development; 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 shorten time-to-market" tells Johanna Anteroinen, project Manager at Spinverse.

The three-year project's total budget is about 30 M€, with roughly half of it from ECSEL and national funding. Partners from nine European countries cover the semiconductor packaging, assembly and test value chain all the way from foundry, packaging, component tests to system tests till the end user. *www.europat-masip.eu*.

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. It is a public-private partnership that will engage, from 2014 to 2020, up to 1.17 B€ funding from the European Union’s Horizon 2020 research and innovation programme, combining it with a commensurate amount of national/ regional funding and participants’ own contributions to leverage about 5 B€ Research and Innovation investments in nanoelectronics, embedded and cyber-physical systems, and system integration technologies. The R&D actors are represented by the associations AENEAS, ARTEMISIA and EPoSS. The ECSEL Joint Undertaking approved funding for 13 new projects totaling to 725 M€ R&D&I effort, receiving financial support from the EU and participating National authorities. The projects are to reinforce smart, sustainable, and inclusive economic growth for Europe, significantly contributing to European competitiveness and job creation. Read more about the ECSEL JU programme.

Project partners:

NANIUM S.A, BESI Austria GmbH, BESI Netherlands BV, EV Group (EVG), Murata Electronics Oy, Pac Tech - Packaging Technologies GmbH, SEMILAB FELVEZETO FIZIKAI LABORATORIUM RESZVENYTARSASAG, Valeo Vision Systems (Connaught Electronics Limited), 3DiS Technologies, RoodMicrotec, Sencio, Afore Oy, Micro Analog Systems Oy, Commissariat à l’Energie Atomique Et Aux Energies Alternatives, Fraunhofer Gesellschaft zur Förderung der angewandten Forschung e.V., VTT Technical Research Centre of Finland Ltd, Advanced Vacuum, Packaging SiP, NXP Semiconductors N.V. , Ketek GmbH, Spinverse Innovation Management, Nokian Tyres, InnoSenT, Berliner Nanotest und Design GmbH, AMIC Angewandte Micro-Messtechnik GmbH, Silicon Radar, TexEDA Design GmbH, Elmos Semiconductor AG

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