

Energy ECS project develops smart and secure energy solutions for future mobility and green energy transition

A new project with 30 participants from eight European countries will pave the way for an emerging new European business and technology ecosystem aimed at tackling various energy-related challenges for the future of mobility. The project accelerates Europe's decarbonization goals for 2050.

The advancement of e-mobility is a key part of the green energy transition. Together with its direct role in reducing emissions, the adoption of e-mobility also has a crucial indirect role as a grid stability element. E-mobility accelerates the transition to wind and solar energy production, and thus reduces the use of fossil fuels in the energy mix.

The Energy ECS (Electronics, Components and Systems) project, launched in June 2021, responds to these needs by developing a set of ECS technologies to improve the digitalisation of e-mobility systems. The aim is to enable European know-how and business based on manufacturing capabilities combining hardware, software services and data. This combination enables interaction with other vehicles and smart mobility infrastructure: connection to the grid, intermodal transport, autonomous driving, data generation, and vehicles as service providers. This project is also working to mitigate the challenges that electric vehicles pose on the energy system.

The Energy ECS project will build on six use cases that represent different angles on future mobility and energy: enablers of new logistics modes, energy independent intermodal transport, charging technologies and opportunities, grid stability responding to bi-directional charging, and enablers of safe autonomous driving. By 2030, the new technologies developed in Energy ECS are expected to generate turnover for the participating companies. In addition, the project is aimed at enabling increased market share and market leadership for the 24 partners. The other expected impacts include dozens of new collaborations, hundreds of new jobs, and additional investments.

The partners represent a wide array of technologies including, for example, battery-charging electronics, grid and sensor power management, energy harvesting, real-time location controls and sensors. The R&D within the project will also apply artificial intelligence, machine learning, immersive technologies, IoT, ultra-low power technologies, advanced algorithms, and software. All the technologies will be designed with cyber-security and reliability in mind.

“We are proud to drive European innovation and technology ecosystems as a part of the Energy ECS project. Addressing problems in the now helps our society to transition towards a low-carbon economy. E-mobility is an excellent area to drive the transition in practice. Collaborating in ecosystems is the way towards innovation and joint benefits for all the partners involved,” says **Ari Järvelä**, Head of Operations at TietoEVRY, the overall project coordinator for Energy ECS.

Merus Power develops a microgrid control system that is able to improve power grid resilience, grid reliability and enable renewable energy integration in conjunction with electrical mobility using power quality systems, smart grid controls and battery energy storage technology.

Energy ECS is an extensive 3-year project with a total of 30 partners from eight European countries and an overall budget of 33 M€. It is co-financed via the ECSEL Joint Undertaking of the EU Horizon 2020, national funding agencies of the participating countries, and the consortium partners. The project consortium consists of 16 small and mid-sized enterprises, eight large enterprises and six research and technology organisations from Finland, Austria, Germany, Ireland, Iceland, Italy, Sweden and Switzerland. The consortium brings together all the players needed to realize the field testable solutions.

“The partners in the consortium complement each other very well in their skills and are well aligned along the value chain for all use cases. The new creative combination and cross pollination of technologies for the partners, who are often SMEs, allows faster innovation and knowledge generation that can be used to capture markets. This project has the potential to strengthen Europe’s position in the areas of smart grid and mobility, thereby contributing to the European Green Deal objectives,” says **Anton Chichkov**, Programme Officer at ECSEL JU.

Additional information

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Consortium project partners

Project coordinator: TietoEVRY Finland

Partner names in alphabetical order: aixACCT Systems, AixControl, ams AG, ams International AG, Applied Materials Italia, Aurora Powertrains, CISC Semiconductor, CSEM, DigitalTwin Technology, e-bility, Fraunhofer IMS, Fraunhofer IZM, Fixposition, Consorzio Nazionale Interuniversitario per la Nanoelettronica (IUNET, with Linked third parties UniBo, UniPg, PoliTO, UniUd), Lapland University of Applied Sciences, Luna Geber Engineering, Merus Power, Minima Processor, Net Feasa Limited, Nokian Tyres, RISE, RoTechnology, Swiss Airtainer, Scantinel Photonics, Strætó, Svarmi, TietoEVRY Sweden, Tyndall National Institute, Unieke, Xenergie.

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www.energyecs.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. 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 346 M€ European and national grants have been awarded to proposals with total eligible costs of about 748 M€ arising from the ECSEL JU, making another step forward in the 5 B€ programme to be supported by ECSEL JU. <https://ec.europa.eu/digital-single-market/en/ecsel>



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