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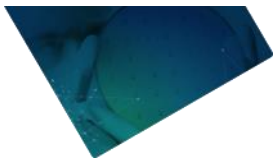


Trustable electronics for safe, reliable automotive, aviation and industrial applications

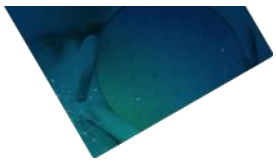
A project within the Eureka Euripides² and PENTA programmes

Paris, DATE – Autonomous (self-driving) vehicles and smart transport are set to make journeys easier and more efficient. These new technologies will also help achieve the goal of zero traffic fatalities. But as critical tasks are being given to vehicles and machines, it is vital that they can be trusted to operate safely and reliably at all times. Addressing these needs, the co-labelled Euripides²-PENTA TRUST-E project is creating methodologies and processes for trustable electronic components, modules, and systems that can be used in automotive, aviation, and industrial applications. It will prove their effectiveness in four 'Digital Eye' demonstrators which 'perceive' their surroundings/conditions: 1) environment perception in cars, 2) sensor networks for alternative mobility, 3) trustable systems of systems for industrial uses and 4) innovative metrology for trustable electronics.

Besides operating reliably and safely, electronic systems for future vehicles and industrial machines must function flawlessly in harsh conditions and have a long lifetime (from 10-30 years). Yet many of the necessary technologies still have critical limitations. For instance, smart sensors that 'see' the environment need further advances to fully support real-time decision-making. And electronic systems need predictive 'health management' so they can detect and act upon potential faults. To tackle these challenges TRUST-E is targeting a significant increase in the trustworthiness of complex systems, particularly advanced sensor systems. It will deliver innovations in hardware reliability, safety, and health/lifetime monitoring, as well as the use of embedded AI techniques for highly demanding applications in sensing and Edge computing (computing locally in the vehicle or machine)and collaborative industrial machines.

The TRUST-E demonstrators will show its innovative technologies integrated into systems, proving in particular, the dependability of the AI in areas such as real-time responsiveness, fault tolerance, risk management and safety. TRUST-E will also develop a sensor framework and common methods and guidelines for industry-wide standardization and certification of trustable electronics.

With partners ranging from OEMs, system, module and component suppliers to Research & Technology Organisations from across the European value chain, the consortium has the breadth of knowledge to deliver on the TRUST-E goals. The project will allow the European industry to maintain its competitiveness and lead in automotive, transport and industrial applications from semiconductor- to system-level. Among the market opportunities, the global sensor market is expected to grow to USD 346 billion by 2028, registering a CAGR of



8,9 % during the forecast period 2021 – 2028[1]. In addition, TRUST-E will be a key technology enabler for Industry 4.0 and cost-effective manufacturing. It will also have a large impact in medical / healthcare mobility, delivering improved quality of life for large numbers of people and further opportunities for European industry to serve social as well as economic needs.

About the PENTA programme

PENTA is a EUREKA cluster whose purpose is to catalyse research, development and innovation in areas of micro and nanoelectronics enabled systems and applications. Guided by the Electronic Components & Systems (ECS) Strategic Research and Innovation Agenda (SRIA) four technology layers, four cross-sectional technologies and six ECS key application areas, the PENTA programme enables the development of electronic solutions to help drive the digital economy through the formation of collaborative ecosystems along the ECS value chain. This creates the opportunity for rapid competitive exploitation and a strong impact on European societal challenges. PENTA supports SMEs, large corporations, research organisations and universities to work together in project consortia by facilitating access to funding, fostering collaborative work and creating consortia in areas of mutual industrial and National interest. PENTA is managed by the Industry Association AENEAS

More on PENTA: http://www.penta-eureka.eu
More on AENEAS: https://aeneas-office.org

About the Euripides programme

Euripides² is a Eureka Cluster promoting the generation of innovative, industry-driven, pre-competitive R&D projects in the area of Smart Electronic Systems. Guided by the Electronic Components & Systems (ECS) Strategic Research and Innovation Agenda (SRIA), EURIPIDES² is the innovation hub for smart sensors, smart power modules, electronic hardware platforms and more generally electronic product integration and embedded systems for automotive, aeronautics and space, security, medical electronics, smart everywhere (cities, home, wearable) and industrial electronics. EURIPIDES² facilitates access to national funding in Europe and beyond. As a EUREKA Cluster, the network is open to participants worldwide.

More on EURIPIDES²: https://www.euripides-eureka.eu

About the TRUST-E project:

TRUST-E is a RD&I project consortium involving 21 partners. The project partners are Aptiv Contract Services Sweden AB, Berliner Nanotest und Design GmbH, CWM - Chemnitzer Werkstoffmechanik GmbH, edacentrum e.V., Fraunhofer IIS/EAS, Fraunhofer Institute for Electronic Nano Systems, FRT GmbH, IMEC, KTH Royal Institute of Technology, Mercedes-Benz AG, Nexperia Germany, Qamcom Research and Technology AB, RISE IVF AB, Robert Bosch GmbH, Saab AB, SABCA, scalable minds GmbH, Siemens AG, Synective Labs, University of Siegen, XenomatiX.
TRUST-E is funded by Belgium, Germany and Sweden.

More on TRUST-E: https://penta-eureka.eu/project-overview/penta-call-5/trust-e/

[1] https://www.alliedmarketresearch.com/sensor-market