

EARTO INNOVATION AWARDS 2025

attributed to

CEA

**Revolutionising Vibration Sensing:
Wormsensing's Dragonfly®**

&

VTT

**Cryogenic CMOS: The next generation of chips for
quantum computing and beyond**

Brussels, 14 October 2025

The EARTO Innovation Awards 2025 were given today to EARTO members **CEA** and **VTT** during a ceremony held in Brussels. CEA received the award in the Impact Delivered category for the development of **Dragonfly, a groundbreaking universal sensor that surpasses traditional vibration sensors in sensitivity, versatility, and cost-efficiency.** VTT received the award in the Impact Expected category for the development of **Cryogenic CMOS, innovative chips designed to ensure minimal energy dissipation and operate in extremely cold environments.**



CEA – Dragonfly®



**Wormsensing's Dragonfly® sensor: A
universal sensor to empower Industry
4.0**

Dragonfly® vibration sensor is built with advanced semiconductor technology and features a 10µm piezoceramic layer, making it **1000 times more sensitive and 100 times more versatile than conventional sensors.** In the aerospace industry, the sensor has **improved detection accuracy by 20%**, enabling real-time monitoring and predictive maintenance. In critical industrial equipment health monitoring, Dragonfly has **reduced downtime by 15% and extended equipment lifespan by 20%.** In manufacturing, the sensor has **increased production efficiency by up to 30%.** With over 1,000 sensors deployed, **Dragonfly has a >95% customer satisfaction rate.**



VTT – Cryogenic CMOS



SemiQon™

**Cryogenic CMOS, a new generation of
chips for quantum, space and high-
performance computing applications**

Cryogenic CMOS chips are set to revolutionise multiple industries. Unlike standard CMOS (Complementary Metal-Oxide-Semiconductor) chips, which generate excessive heat, **Cryo-CMOS ensure minimal energy dissipation and are designed to operate in extremely cold environments (-270°C).**

This innovation has the potential to contribute to various UN SDGs by **enabling advancements in fields like quantum computing, energy-efficient electronics, space exploration, and environmental monitoring.** This innovation also **strengthens the EU semiconductor industry and supports Europe's strategic autonomy in key technologies.**

Created in 2009, the EARTO Innovation Awards highlight the various areas of RTOs' activities and illustrate RTOs' concrete contributions to innovation with high societal impact through the two categories: "Impact Delivered" and "Impact Expected". The Awards' independent jury chose the best innovations of the year. Our Jury Members this year were:



Christian Ehler
Member of the
European Parliament



Georg List
Vice President of Corporate
Strategy, AVL List GmbH &
WG R&I Chair,
BusinessEurope



Elisa Rivera
General Director of
Planning, Coordination &
Knowledge Transfer,
Ministry of Science and
Innovation of Spain



Michiel Scheffer
President of the Board of
the European Innovation
Council

On the same day, EARTO published the 2025 edition of its **Innovation Awards online brochure**, a collection of thirty-seven innovations featuring EARTO members, which gives a flavour of the wide range of RTOs' work. Such innovations demonstrate RTOs' capacity to support Europe's innovation performance and their focus on solving today's challenges and delivering impact. The brochure includes articles on all RTOs that took part in this year's competition, as well as articles on the RTOs International Network (RIN), with a special focus on the 6 finalists, which are, in addition to the two above-mentioned winners:



Fraunhofer Institute for Interfacial
Engineering and Biotechnology IGB

IMPACT DELIVERED – 2ND PRIZE

Fraunhofer-Gesellschaft – Next Generation Pathogen Diagnostics is an innovative approach to detect microbial pathogens in blood based on high-throughput DNA-sequencing of microbial cell-free DNA. This innovation, developed by Fraunhofer Institute for Interfacial Engineering and Biotechnology (IGB), has already been used to diagnose more than 15,000 patients, providing a chance for better outcomes.



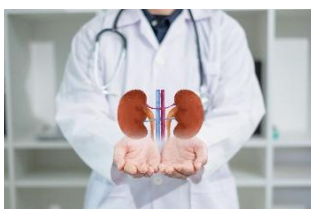
IMPACT DELIVERED – 3RD PRIZE

TNO – NESTore Newton Energy Solution, a new thermal battery designed to reduce energy losses by more than an order of magnitude, achieving standby losses of just ~1% per day. Thanks to its patented multi-layer vacuum insulation, integrated with smart meters and AI-driven algorithms, it charges during solar peaks and discharges during high-tariff periods, delivering over 95% energy efficiency.



IMPACT EXPECTED – 2ND PRIZE

ŁUKASIEWICZ-WIT – High Fire Resistance Board Ł-WIT is a breakthrough fire-retardant panel that features an eco-friendly core derived from only European raw materials. This innovation significantly cuts installation overhead and reduces carbon footprints, thus advancing both financial and environmental sustainability.



IMPACT EXPECTED – 3RD PRIZE

INESC TEC – Kidney Exchange Programme Software Tool - KEPsoft is the first pan-European software platform that uses optimisation algorithms to identify the best transplant matches, increasing the efficiency of national and international Kidney Exchange Programmes (KEPs). The adoption of KEPsoft is expected to increase the number of living donor kidney transplants and shorten waiting times.

Full EARTO Innovation Awards 2025 brochure available [here](#).

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EARTO Innovation Awards have been given since 2009 to illustrate RTOs' key contribution to innovation. Two categories have been created: Impact Delivered and Impact Expected. The Impact Delivered Award is given to an innovation already in the market and which has proven its impact on Europe's economy and/or society, while the Impact Expected category rewards an innovation which is not yet on the market but has great potential.

RTOs – Research and Technology Organisations:

From the lab to your everyday life. RTOs innovate to improve your health and well-being, your safety and security, your mobility and connectivity. RTOs' technologies cover all scientific fields. Their work ranges from basic research to new products and services' development. RTOs are non-profit organisations whose core mission is to produce, combine and bridge various types of knowledge, skills and infrastructures to deliver a range of research and development activities in collaboration with public and industrial partners of all sizes. These activities aim to result in technological and social innovations and system solutions that contribute to and mutually reinforce their economic, societal and policy impacts.

EARTO – European Association of Research and Technology Organisations: Founded in 1999, EARTO promotes RTOs and represents their interest in Europe. EARTO network counts over 350 RTOs in more than 32 countries. EARTO members represent 228,000 highly-skilled researchers and engineers managing a wide range of innovation infrastructures.

CEA is a French RTO, ranked as the world's most innovative research organisation (Clarivate 2025). Its institute, CEA-Leti, is a global leader in microelectronics and nanotechnologies.

VTT is a visionary research, development and innovation partner for companies and society, and one of the leading research organisations in Europe.