

# EARTO INNOVATION AWARDS 2023

attributed to

**UAR - LCM**

**Full speed to zero emissions: eVSP**

**&**

**Fraunhofer-Gesellschaft - UMSICHT**

**Revolutionary manufacturing process for superinsulating aerogels: AEROPlaster**

**Brussels, 11 October 2023**

The EARTO Innovation Awards 2023 were given today to EARTO members **Upper Austrian Research (UAR) – Linz Centre of Mechatronics (LCM)** and **Fraunhofer-Gesellschaft - UMSICHT** during a ceremony held in Brussels. UAR – Linz Centre of Mechatronics received the award in the Impact Delivered category for the development of **eVSP, an electric propulsion solution with remarkable results to decarbonise the shipping industry** towards a zero-emission model. Fraunhofer-Gesellschaft - Institute for Environmental, Safety and Energy Technology (Fraunhofer UMSICHT) received the award in the Impact Expected category for the development of **AEROPlaster, a revolutionary manufacturing process for super-insulating aerogels**, which paves the way for the best insulation material to be made available to the mass market.



**UAR – LCM – eVSP**

**UAR**  
Upper Austrian Research GmbH

**LCM** LINZ  
CENTER OF  
MECHATRONICS

**Full speed to zero emissions**

eVSP **boosts efficiency** in all load scenarios, **reduces lubrication oil**, and **drastically lowers noises emissions**.

The first ships with eVSPs took to the sea in 2021, achieving **remarkable performances**: The 80m service vessels for offshore wind platforms operate silently, with fuel savings of **370t of marine diesel per year**.

In the long run, fuel cells or other renewable energy sources shall **replace the current diesel generators**, leading to **true zero-emission-shiping**.



**Fraunhofer UMSICHT - AEROPlaster**

**Fraunhofer**

**Fraunhofer**  
UMSICHT

**A revolutionary manufacturing process for super-insulating aerogels**

With AEROPlaster, Fraunhofer UMSICHT **has revolutionised a 90-year-old production process** for aerogels, considered to be the best insulating material.

The process time is **reduced by the factor of three**, the **usage of critical chemicals is eliminated**. This innovation can **overcome the high cost and insufficient quantities of aerogels**.

This **major innovation** is particularly **crucial** at a time when the **fight against climate change and energy poverty** is at.

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:



**Salla Saastamoinen**  
Deputy Director General,  
DG Joint Research Centre,  
European Commission



**Dave Wilkes**  
Director,  
Innovate UK



**Christian Ehler**  
Member of the  
European Parliament



**Jana Kolar**  
Executive Director,  
CERIC-ERIC & Chair,  
ESFRI



**Juan Antonio Tébar**  
Director,  
CDTI

On the same day, EARTO has published the 2023 edition of its **Innovation Awards online brochure**, a collection of thirty-three 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 RTOs International Network (RIN), with a special focus on the 6 finalists which are, in addition to the two above-mentioned winners:



**IMPACT DELIVERED - 2<sup>ND</sup> PRIZE**

**TNO - INFRA-TWINS** provides an innovative prognostic digital twin system which performs structural health assessment of civil and industrial infrastructures. Suitable for large-scale assets, widespread application of this technology will have significant positive social, environmental, and economic impact.



**IMPACT DELIVERED - 3<sup>RD</sup> PRIZE**

**CEA - DIABELOOP** is an automated type 1 diabetes treatment enabling patients to maintain a normal life. Continuously calculating the insulin dose by constantly monitoring the patient's blood sugar levels, Diabeloop is a life-changer for patients.



**IMPACT EXPECTED - 2<sup>ND</sup> PRIZE**

**VTT - The Human Thermal Model (HTM)**, an innovative deep-tech software algorithm that performs calculations and estimations of the physiological parameters of an individual. Used by the application Cee° (HTM Solutions Oy), it calculates parameters individually based on a person's body composition and gives alarms if the safety limits are triggered.



**IMPACT EXPECTED - 3<sup>RD</sup> PRIZE**

**INESCTEC - My NPK** is an intelligent photonics technology that can quantify NPK in liquid fertilisers in situ and in real-time using UV-Vis spectroscopy and proprietary AI. The goal is to make food production efficient, resilient, and sustainable, reducing impact on the environment.

Full EARTO Innovation Awards 2023 brochure available [here](#).

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**EARTO Innovation Awards** are 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 interests in Europe. The EARTO network counts over 350 RTOs in more than 31 countries. EARTO members represent 150,000 highly-skilled researchers and engineers managing a wide range of technology infrastructures.

The **Fraunhofer-Gesellschaft**, is a German RTO, which has a clearly defined mission of application-oriented research, with a focus on key technologies of relevance to the future. The **Fraunhofer UMSICHT** is one of the 76 institutes/research units of Fraunhofer, experimental development and technology transfer.

**Linz Center of Mechatronics (LCM)** EARTO member through **UAR** is an Austrian Research and Technology Organisation in mechatronic technology, supporting its industrial partners up to the product implementation.