

EARTO INNOVATION AWARDS 2022

attributed to

HELMHOLTZ-INERATEC - A sustainable substitute for fossil crude oil: e-Fuels made by INERATEC

&

VTT - Carbonaide: An innovative technology to utilise carbon dioxide to manufacture CO₂ neutral concrete

Brussels, 12 October 2022

The EARTO Innovation Awards 2022 were given today to EARTO members **HELMHOLTZ** and **VTT Technical Research Centre of Finland** during a ceremony held in Brussels. HELMHOLTZ in collaboration with INERATEC, received the award in the Impact Delivered category for the development of **sustainable e-Fuels and chemicals as well as modular chemical plants for Power-to-X and Gasto-Liquid applications** which actively contribute to a more sustainable future with lower emissions by providing a sustainable solution for hard to defossilise sectors. VTT received the award in the Impact Expected category for the development of a **technology to reuse CO₂ in the precast concrete industry**, which transforms gaseous CO₂ into solid carbonates at the concrete hardening process, decreasing the carbon footprint of the products.



HELMHOLTZ-INERATEC – e-Fuels made by INERATEC



VTT – Carbonaide



A sustainable substitute for fossil crude oil

They are **fully compatible with global infrastructure and vehicle fleet** due to their drop-in compatibility.

The plants are **perfectly suitable for fluctuating renewable energy applications**, e.g. wind or solar.

Modular numbering-up and technology scale-up becomes possible, meaning that **standardised modules are multiplied to reach higher capacities**.

An innovative technology to utilise carbon dioxide to manufacture negative emissions concrete

With highly blended cements, **VTT's technology enables the production of CO₂ neutral concrete**.

When fully deployed worldwide, **the technology will be capable of annually bounding 0,82 gigatons of CO₂ permanently**.

The total anticipated climate impact is an approximately 1,4 gigaton reduction of CO₂ emissions.

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:



Anna Panagopoulou
Director,
DG Research &
Innovation,
European Commission



Simon Edmonds
Chief Business Officer,
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 2022 edition of its **Innovation Awards online brochure**, a collection of forty-two 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 - 2ND PRIZE

FRAUNHOFER - SEAM, a Screw Extrusion Additive Manufacturing 3D process for a cost-effective and resource-efficient production of large-size, load-bearing plastic components.



IMPACT DELIVERED - 3RD PRIZE

RISE - Holistic Cooling, an innovation to reduce the use of energy in data centres and achieve the same amount of digital services with less energy, while overcoming operation silos.



IMPACT EXPECTED - 2ND PRIZE

TNO - ZE H2-ICE, a ground-breaking technology that delivers cost-efficient conversion of existing power systems into a near zero emission engine without aftertreatment.



IMPACT EXPECTED - 3RD PRIZE

SINTEF - I Hear You2, a game-based tablet audiometry - an easy to use and cost-effective tool for community-based screening of children's hearing, enabling.

Full EARTO Innovation Awards 2022 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 32 countries. EARTO members represent 150.000 highly-skilled researchers and engineers managing a wide range of technology infrastructures.

HELMHOLTZ is Germany's largest scientific organisation. With more than 43.000 employees at 18 research centres, it contributes to solving major societal challenges.

VTT Technical Research Centre of Finland is a visionary research, development, and innovation partner. It is one of Europe's leading research institutions.