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iCare

Integrated Assessment and
Advanced Characterisation
of Neuro-Nanotoxicity

iCare

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Predict nanomaterial toxicity on brain health and prevent it

iCare aims to develop a model system to characterize and predict how nanomaterials affect brain health and offers advanced imaging technologies and procedures to assess the physical-chemistry characteristics of advanced characterisation of neuro-nanotoxicity in complex matrices.

The primary aim is to develop an integrated model system that can characterize and predict the potential impact of nanomaterials on brain health, thereby preventing nanomaterial toxicity.

The project provides industry-relevant tools and procedures for evaluating changes in the shape, chemical composition, and reactivity of nanomaterials.

Using high-resolution imaging methods to evaluate changes in the morphology, chemical composition, and reactivity of nanomaterials when exposed to complex homogeneous matrices that mimic relevant environmental and biological exposures.

Partners

The consortium includes 11 partners from diverse backgrounds, including RTOs, SMEs, industries, and universities from different EU and non-EU countries, with expertise in nanotechnology, toxicology, advanced materials, and imaging.

INL
INTERNATIONAL IBERIAN NANOTECHNOLOGY LABORATORY

ADVANCED MATERIAL DEVELOPMENT

avanzare
inventing the future

Gaiker
MEMBER OF BASQUE RESEARCH & TECHNOLOGY ALLIANCE

INSTITUTE OF BIOORGANIC CHEMISTRY
Polish Academy of Sciences

iit SB-I
ISTITUTO ITALIANO DI TECNOLOGIA
SMART BIO-INTERFACES

NIA
Nanotechnology Industries Association

OPTICS11 life

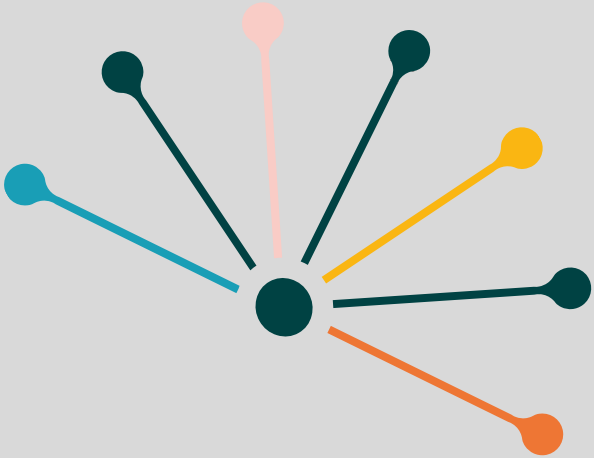
TEMAS Solutions
Safe & Sustainable Innovations

THE UNIVERSITY OF SYDNEY

Versarien®
PLC

The consortium will establish several initiatives during the 48-month project to accomplish the following goals:

- Novel imaging procedures that result in new high-resolution approaches and new super-resolution imaging procedures.
- Creating guidelines for toxicological testing and filling the present gaps in nanotoxicology.
- Creation of instruments and procedures that bridge the gap between *in vitro* and *in vivo* testing.
- Product and material development efficiency.
- The provision of reliable data, enhanced data reporting, and, eventually, the creation of standardised, harmonised test procedures for use in regulatory frameworks.



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