

EIRENE - Research Infrastructure for **EnvIR**onmental **Exposure** assessme**Nt** in **Euro**pe



prioritised in the new ESFRI Roadmap launched in 2021

RI for EnvIRonmental Exposure assessment in Europe

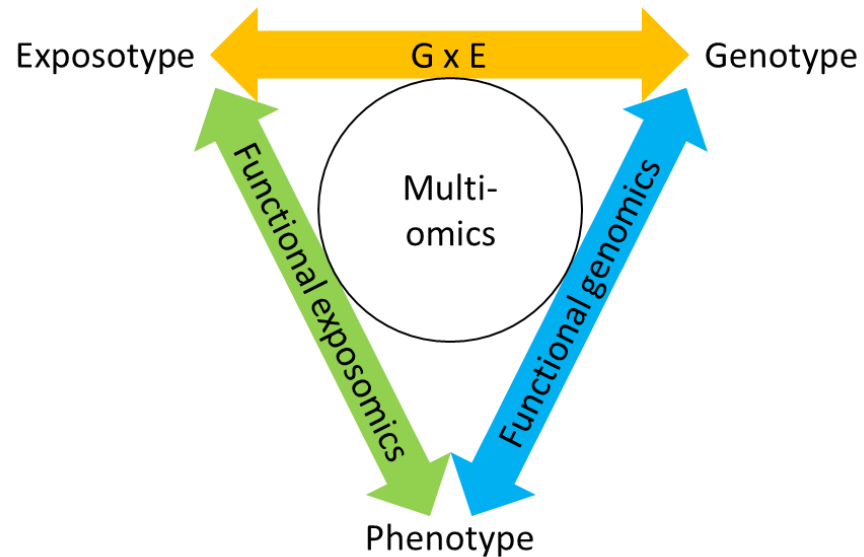
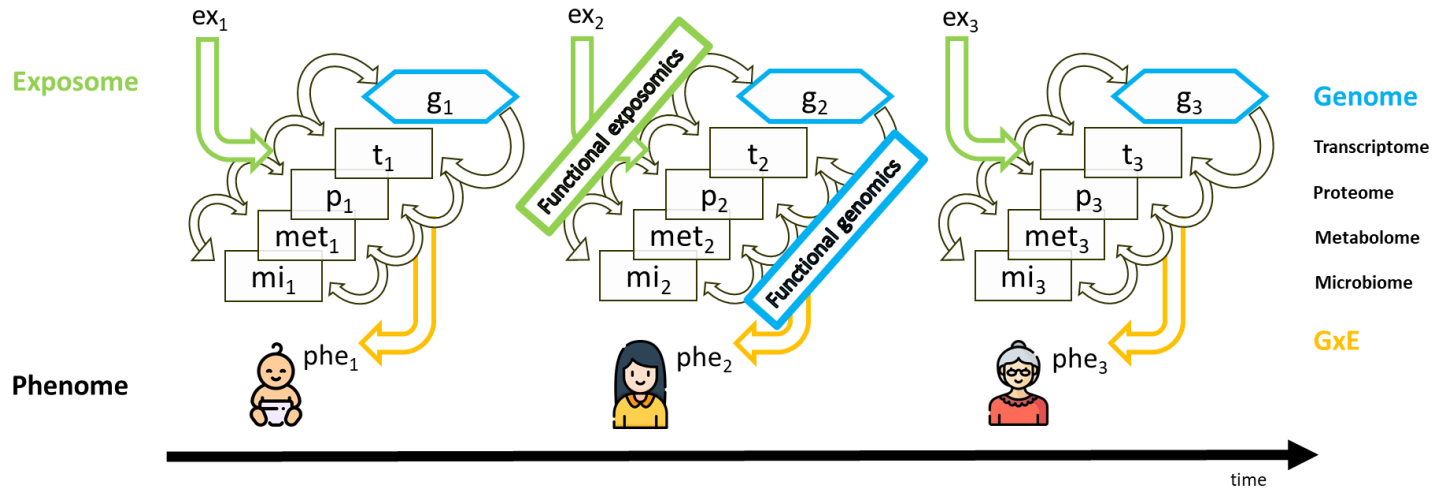
EIRENE RI

A gap identified in the H&F domain of 2018 ESFRI Roadmap

„There is a need to enable a research infrastructure that will **facilitate research on the human health and wellbeing at all stages in development, including ageing, nutrition and behavioural studies, and their connections to the social sciences and humanities.** There are geographic, economic and environmental drivers affecting human health and wellbeing. Climate change, extreme weather, dramatic changes in ecosystem services, environmental pollution and exposure to harmful chemicals represent a new combination of issues that **require an integrated approach at pan-European level.** At the heart of this approach is the **exposome, taking a holistic view throughout the human lifetime on the effect of exposures to diet, lifestyle, and the environment on human health and disease.** The EXPOSOME coupled with advanced genetic and medical approaches represents an opportunity to tackle this complex issue by connecting to the landscape of Health & Food RIs and other domains. Ongoing EU projects and networks on human biomonitoring (HBM4EU and EMEP) are important steps to bring together relevant parties.”

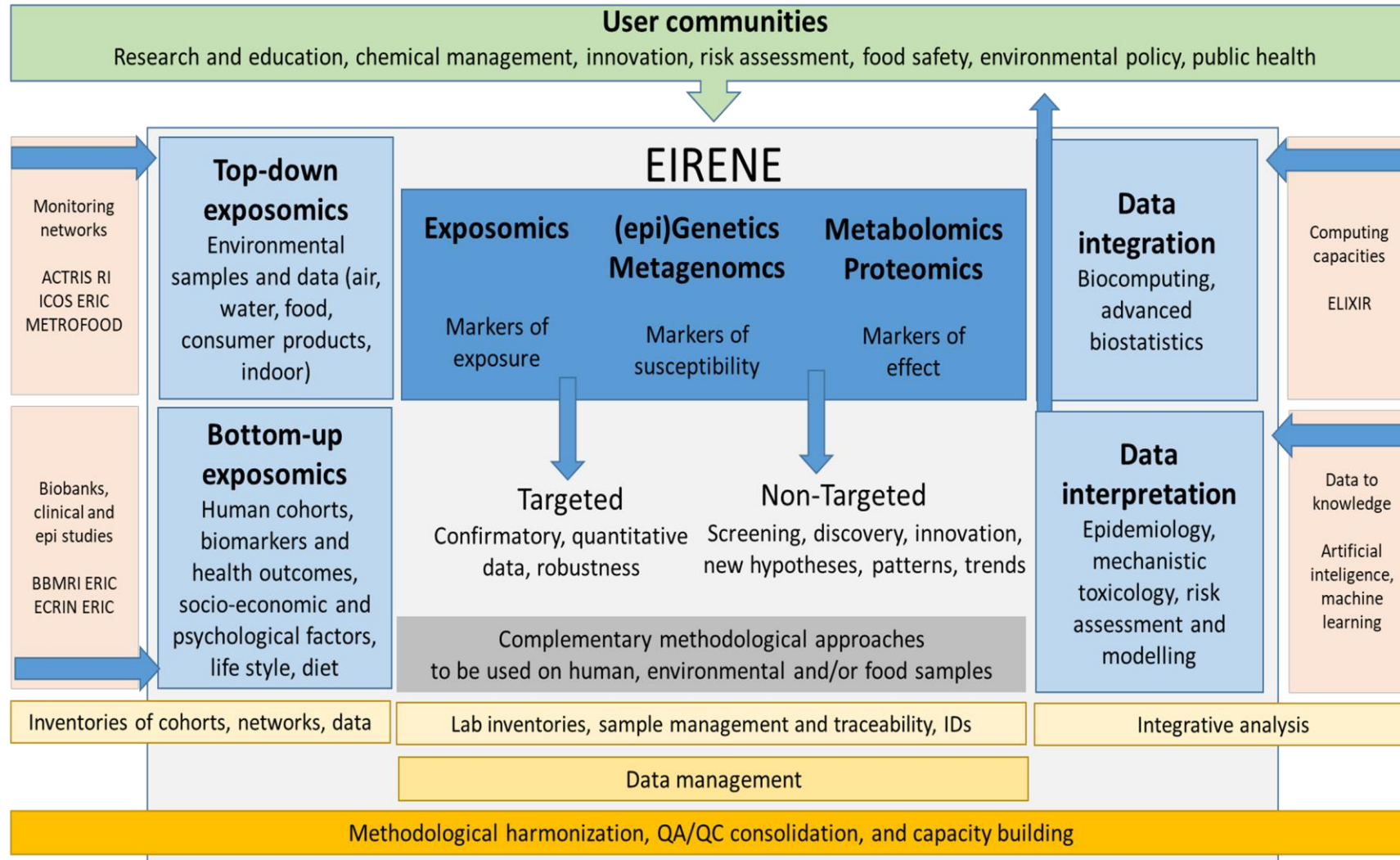
Prioritised in the ESFRI Roadmap in December 2021

EIRENE RI

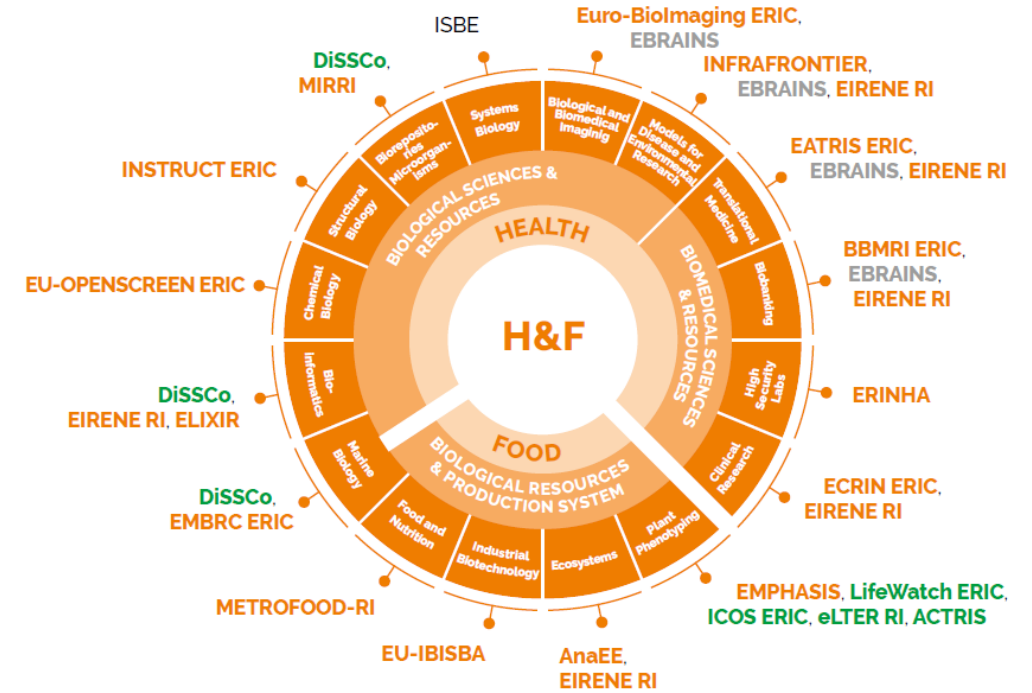
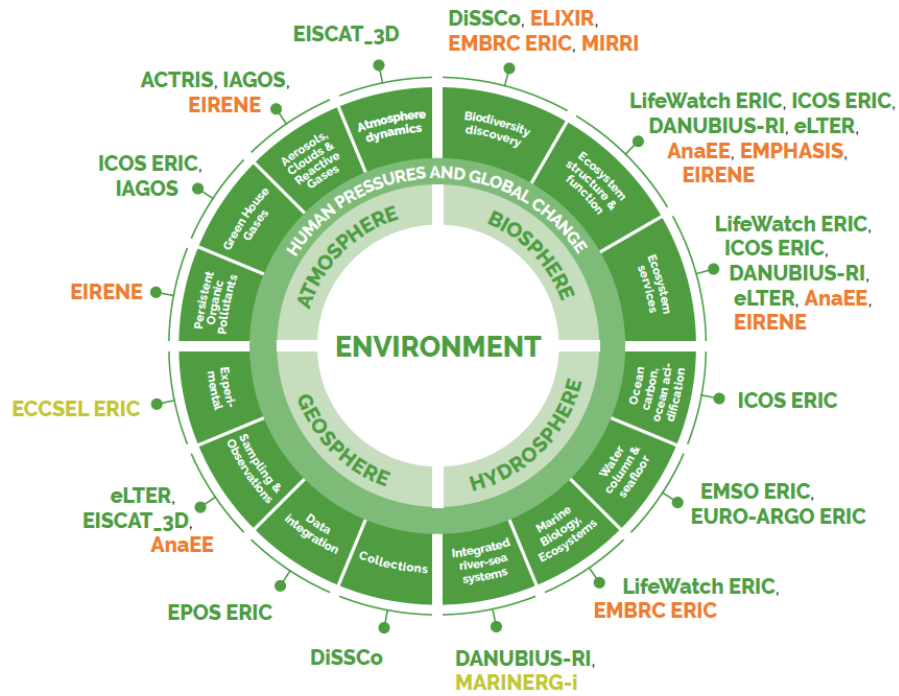


Prioritised in the ESFRI Roadmap in December 2021

EIRENE RI



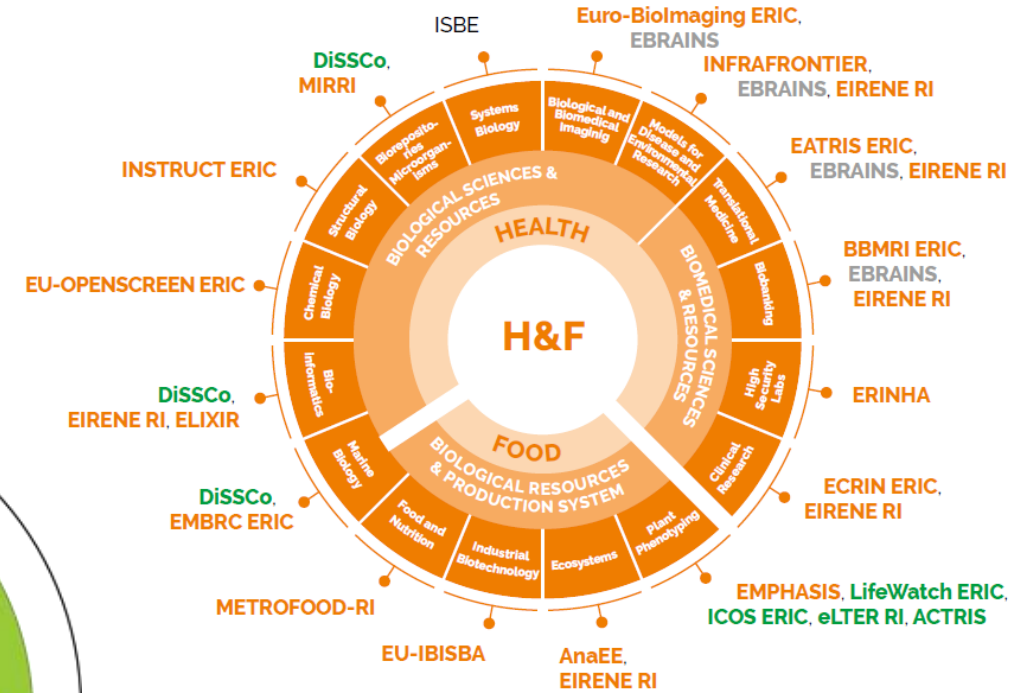
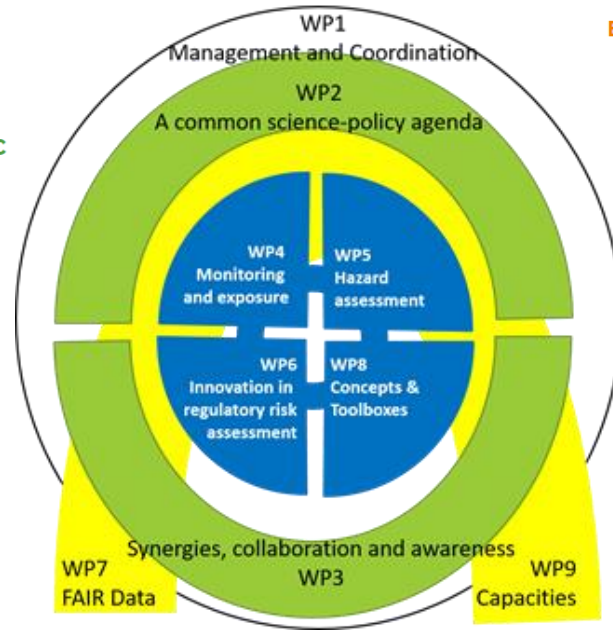
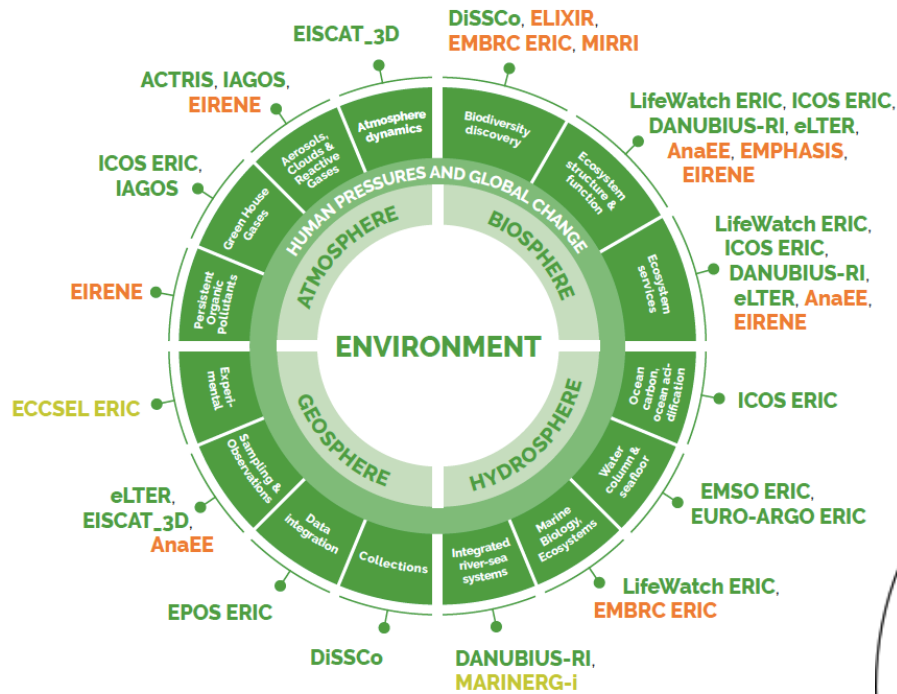
Integration of EIRENE RI into the EU RI Landscape, HE Partnerhips



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European Human Exposome *NETWORK*



EU centre of excellence for human exposome research

RECETOX



MUNI



UCL

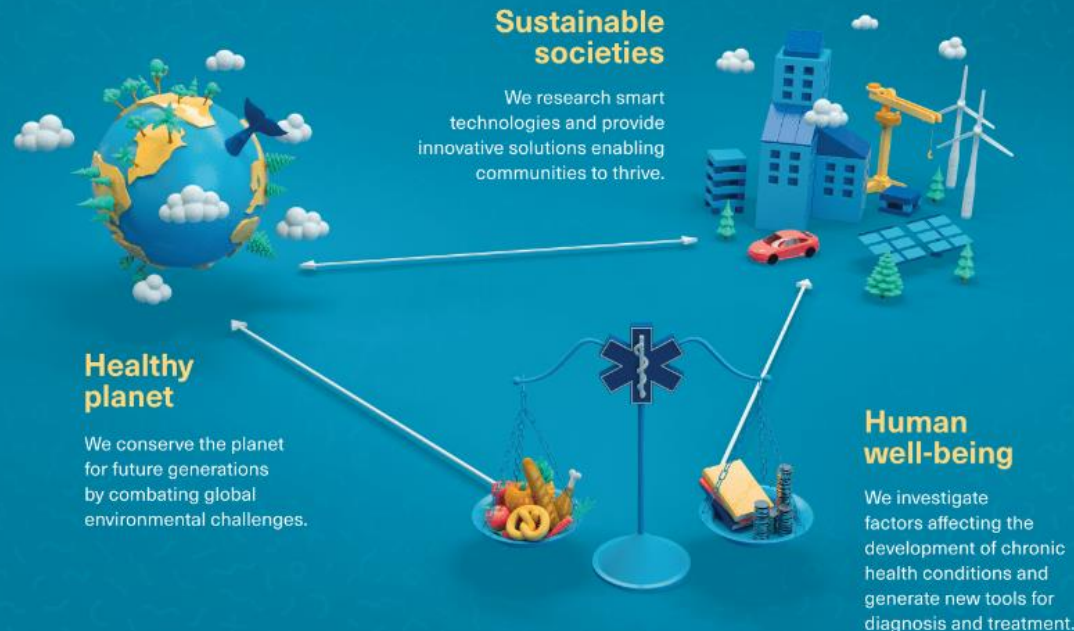
ETH zürich



Teaming for a healthy future

Mission

Building a healthy future with environmental, economic and social sustainability and improved well-being.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 857560

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In the National Roadmap since 2012

RECETOX RI



- RECETOX accredited laboratories
- MONET monitoring networks
- CELSPAC population studies
- GENASIS information platforms

163 Environmental sciences

RECETOX Research Infrastructure

Acronym:
RECETOX RI

Hosting Institution:
Masaryk University

Phase/construction:
Characteristics: single-site

Responsible person:
Prof. Jana Klánová, Ph.D.
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Website:
old.recetox.muni.cz/index-en.php

Year of inclusion on the Czech Roadmap: 2010

Meta:
Science for a healthy future

► 10

MONET | RECETOX

Characteristics

RECETOX RI enables research on both environmental and human health risks related to environmental contamination, and supports the safe management of chemicals. The existing and newly built capacities of the RECETOX RI site facilities offer a wide range of expertise needed for making environmental impact assessments for a variety of users. They provide access to analytical, chemical, biological, and toxicological laboratories, the environmental monitoring network **MONET** (Monitoring Networks), population studies **CELSPAC** (Czech European Longitudinal Study of Parents and Children), and related data sources. They allow for the presentation of national data through the **GENASIS** (Global Genomewide/Geneset and Information System) information platform. The capacities for data analysis, interpretation and modelling are also available together with advanced facilities and bioinformatics offering a portfolio of services to users from both the academic and private sectors in the Czech Republic and abroad. The comprehensive interdisciplinary approach taken by RECETOX RI is unique in the European context. RECETOX RI offers capacities for the assessment of environmental impacts on human health, a platform for the development of innovative methods, know-how and technology transfer, teaching and consulting. The education and training activities of RECETOX RI at all levels of higher education improve the quality and professional readiness of its graduates. The training courses, workshops, and the international summer schools are also organized for attendees from universities, research institutions, health facilities, industrial enterprises, regional and local authorities, ministries, government and international organisations. RECETOX RI is accredited with the Czech nodes of the ALTRIS (Austria, Czechia and France Cases Research Infrastructure), **CELSPAC** (European Life-Cohort Infrastructure for Biological Information), and **GENASIS** (Global Genomewide/Geneset and Information System) European research infrastructures. It coordinates the EREN (European Environmental Research Network) project for the updated CSRI Roadmap, and the **GEN** (Global Earth Observation) initiative **GENASIS** (Global Observation System for Persistent Organic Pollutants). It also contributes to the implementation and management of European programmes such as **GENIE** (Human Genomewide for Europe) and **GEN PLANT** (European Network for Observing our Changing Planet).

Socio-economic benefits

RECETOX RI develops new approaches to assess the causal links between human exposure to toxic substances and the development of chronic diseases, and improves our understanding of the mechanisms of such interactions. It identifies toxic substances in the environment (air, water, consumer products and human tissues), as well as sources of such chemical mixtures, their health effects and disease-susceptible populations. It explores the links between these environmental exposures and socio-economic factors that affect the human health, and allows for the prioritization and better targeting of the relevant legislation. It contributes to the better management of toxic chemicals, the safe production of food and consumer products, and safe waste processing. It enhances the protection of human health, the development of preventive measures, and the availability of healthcare. It collaborates with **GENIE** (Global Genomewide/Geneset and Information System) (Global Health Organization), and supports the implementation of the concepts of a circular economy and healthy societies. It also provides university education and builds international capacities for assessing environmental exposures.



#brnoregion as an innovation laboratory of the future

Brno Living Lab

Brno Living Lab

MUNI

FAKULTNÍ
NEMOCNICE
BRNO

FNUSA
ICRC

B | R | N | O |

jihočeský kraj

Partnership for a healthy future

We collaborate to build a community that works together towards a healthy future. We form research partnerships with academic institutions and university hospitals and reach out to local businesses, regional and state authorities to share knowledge. We engage with citizens and welcome them to join our community to co-create positive change.



This project has received funding
from the European Union's Horizon 2020
research and innovation programme under
grant agreement No 897580

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Thank you for your kind attention

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