



# PROTECTION against Endocrine Disruptors; Detection, mixtures, health effects, risk assessment and communication.

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## New Innovative Training Network

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## PROTECTED Consortium



## Background

Endocrine disruptors (EDs) and their mixtures are a modern day health concern leading to failing ecological systems, poor agricultural production and health effects such as obesity, cancer and infertility.

While analytical methods have advanced enormously, focus has been mainly on synthetic chemicals, overlooking emerging natural EDs, interaction with endogenous hormones and real-life multiple substance exposure.

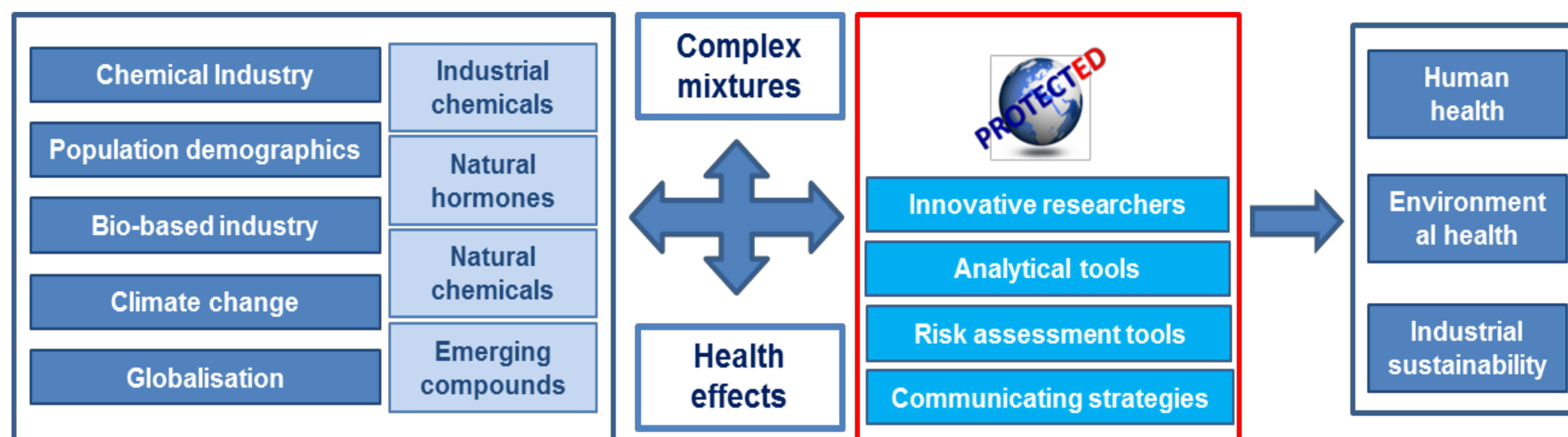


Figure: Overall concept and key issues of PROTECTED

**MISSION STATEMENT:** The expert consortium PROTECTED is constructed to promote the highest level of flexible training of a new generation of specialists and leaders in the field of EDs, an area which urgently needs research for knowledge to curtail the epidemic in endocrine related impacts and diseases.

## Objectives

**Objective 1:** to train a new generation of young researchers with multi-disciplinary skills needed in the emerging field of EDs, their mixtures and impacts on health

- Strengthening European collaboration for high quality training of ESRs.
- Training-through-research in personalised research projects and a strong collaborative network, providing a basis for long-lasting collaborations between consortium partners and bridge existing gaps between academia and industry in the emerging field of EDs, their mixtures and impacts.
- Specialised scientific skills training via network wide training schools and secondments.
- Complementary skills training to promote personal development, flexibility, entrepreneurship, science communication and enhanced career prospects.
- Extended training and exposure through inter- and intra-sectoral secondments to stimulate interaction between academia and non-academic sectors.

**Objective 2:** To develop innovative analysis capabilities for the risk assessment and communication of the impact of EDs and their mixtures on health and environment.

- Effective ED risk communication strategies for the consumer.
- Investigations which consider sex differences in the effects of EDs.
- Chemo-informatics QSAR and predictive statistical models of Adverse outcome Pathways.
- Whole organism assays for profiling disease effects and environmental monitoring.
- Investigations considering population level effects of EDs and environmental factors.
- Methods for assessing emerging EDs and farm animal exposure and correlation to health risk.
- Multi-analyte analytical chemical tools.
- Rapid multiplexed *in vitro* tools and Predictive Adverse outcome Pathway bioassays.
- In vitro* bioassays for the ED and toxicity risk assessment of EDs and their mixtures.

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