



RISK [] HUNT3R

RISK assessment of chemicals
integrating HUMAN centric Next
generation Testing strategies
promoting the 3Rs



www.risk-hunt3r.eu



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 964537.



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RISK-HUNT3R

The Consortium

The Netherlands (7)

- **Leiden University** (COOR)
- National Institute for Public Health and the Environment
- University Medical Center Utrecht
- Vrije Universiteit Amsterdam
- BioDetection Systems
- TNO
- Charles River Laboratories

Spain (3)

- University Pompeu Fabra
- Inditex
- MedBioinformatics Solutions

Switzerland (1)

- Edelweiss Connect

Austria (1)

- Vienna University

Germany (8)

- Fraunhofer ITEM
- Konstanz University
- Steinbeis CAAT-Europe
- BASF
- European Molecular Biology Laboratory
- Federal Institute for Risk Assessment
- Signatope
- TissUse

Sweden (4)

- Uppsala University
- Research Institutes of Sweden
- Karolinska Institute
- Lund University

Denmark (2)

- Technical University of Denmark
- University of Copenhagen

France (4)

- ARTTIC
- INSERM
- L'Oréal
- Bayer

Belgium (2)

- KU Leuven
- Cosmetics Europe

UK (4)

- Certara
- Unilever
- Liverpool John Moores University
- BioClavis

Latvia (1)

- Latvian Institute of Organic Synthesis

The challenge

Science and society are increasingly demanding a paradigm shift towards chemical safety and risk assessment without using animals. In addition to growing ethical concerns around the use of animal studies, there is the fundamental need to address all potential health effects relevant and specific to humans. Moreover, due to increasing regulatory demands, the limited laboratory capacity and high costs of animal-based testing is becoming a hurdle for the provision of all desired information requirements for chemicals safety assessment.

Factsheet

Start	June 2021
Duration	5 years
EU contribution	23 M €
Partners	37 partners from 11 countries

Building on the outcomes of the Horizon 2020 toxicological flagship project EU-ToxRisk (2016-2021).

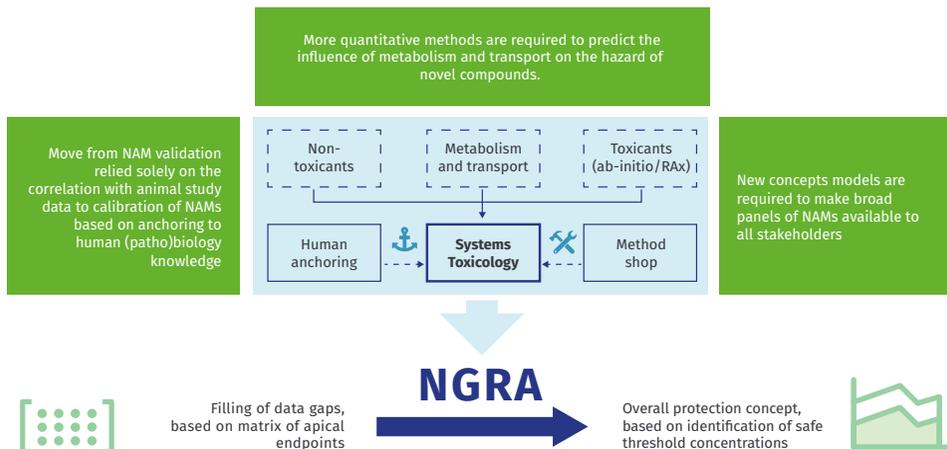
Member of the research cluster ASPIS (Animal-free Safety assessment of chemicals: Project cluster for Implementation of novel Strategies), together with the projects ONTOX and PrecisionTOX.

The vision

The RISK-HUNT3R vision is to combine human chemical exposure scenarios, *in vitro* hazard assessment, and NAM-based toxicokinetic and toxicodynamic testing, followed by integrative risk assessment via computational approaches and decision-making based on weight of evidence.

The project will develop, validate and implement integrated approaches to lead the way towards next-generation risk assessment (NGRA). Innovative mechanism-based new approach methods (NAMs) will exclusively be *in vitro* and *in silico* and relevant for human health. Through systematic and iterative evaluation of its NAM toolbox, the project will optimize a strategy to assess chemical exposure, toxicokinetics, and toxicodynamics.

RISK-HUNT3R will provide a full sustainable framework for NGRA that is human-relevant, fully based on non-animal approaches, and fit for implementation through engagement with chemical safety regulators.



The approach

RISK-HUNT3R proposes an NGRA framework composed of logical assessment elements (modules) that are essential for chemical risk assessment to ensure human protection against systemic health effects. Each module is an independent and self-informative element producing output that can be handed over to the next module using information interfaces.

The different modules address ADME assessment, from problem formulation to the exploration of exposure and bioavailability scenarios (modules 1 and 2), hazard characterization (modules 3 and 4) and fully integrated risk assessment (module 5).

A systematic evaluation, iterative optimization, and alignment of essential *in silico* and *in vitro* tests will be implemented in these five modules to establish an animal-free, human-relevant chemical risk assessment strategy.

