OpenRiskNet, an open e-infrastructure to support data sharing, knowledge integration and \textit{in silico} analysis and modelling in predictive toxicology and risk assessment

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Introduction

OpenRiskNet is an e-infrastructure for predictive toxicology and chemical and nanomaterial risk assessment. It is:

- Harmonising access to data and facilitating interoperability of software.
- Easily deployable to single computers, public and in-house cloud solutions,
- Addressing the needs of industry and academic researchers, risk assessors and regulators.

Case studies

Case-study-driven development is used to:

- Test and evaluate the solutions provided,
- Demonstrate the ability to satisfy stakeholder groups requirements,
- Present real-world applications,
- Guide the prioritisation of data sources and tools.

A workflow for the safety assessment of chemicals without animal testing developed within the SEURAT-1 project (Berggren et al., 2017) was selected to guide the definition of the case studies. This workflow constructs a hypothesis based on existing data, computational modelling, biokinetic considerations, and then, targeted non-animal testing.

https://openrisknet.org/e-infrastructure/development/case-studies/

Service-oriented science, containerisation, deployment

- Uses modern and established tools and frameworks supported by broad scientific communities and industry
- Offers an agile and scalable environment to use, and a straightforward platform to extend
- Allows language-agnostic integration of diverse software
- Reduces extra work for integration
- Reduces risk and improve sustainability

Services Catalogue, dissemination & sustainability

- Categories of services
- Applicability domains

OpenRiskNet partners

1. Edelweiss Connect GmbH, Basel, Switzerland;
2. Johannes Gutenberg-Universitat Mainz, Germany;
3. Fundació Centre De Regulació Genòmica, Spain;
4. Maastricht University, Netherlands;
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