OpenRiskNet

RISK ASSESSMENT E-INFRASTRUCTURE

EdelweissConnect

https://openrisknet.org/

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

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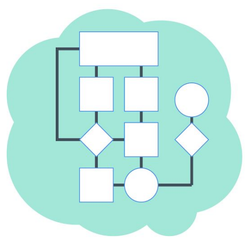
Introduction

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.**

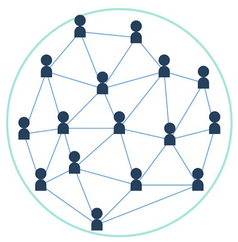
H2020-EINFRA Call
2016-2019 3 years project
3 mil Total funding
11 Partner Organisations
12 Associated Partners
7 Case studies

How?



Easily accessible, standardised, harmonised, scalable and robust infrastructure

For whom?



Researchers
Risk assessors
Regulators
Informed public

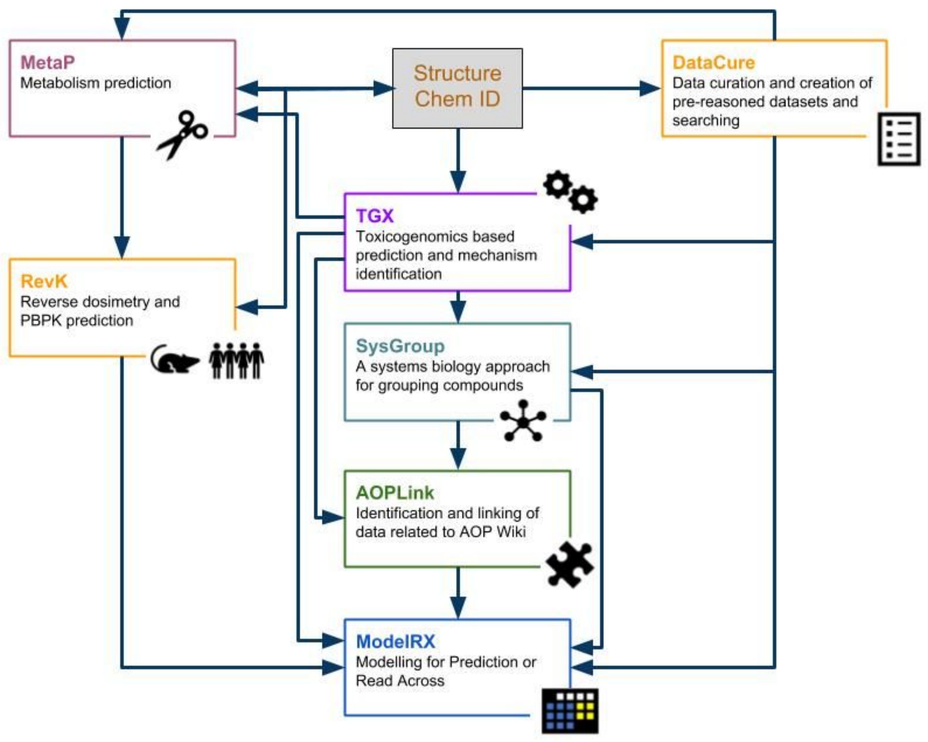
To what end?

Improvement of industrial risk assessments
Prototyping of new services and apps
Access to integrated resources
Complete and qualified system
Support for innovative product development

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.

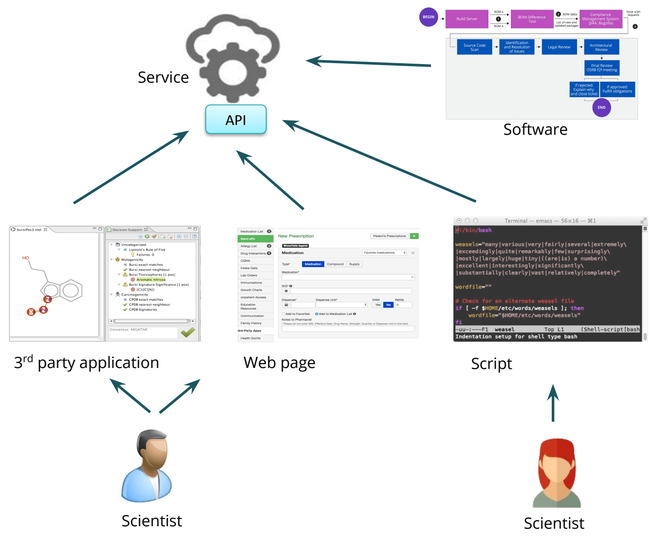
A workflow for the safety assessment of chemicals without animal testing developed within the SEURAT-1 project (*Berggren et al., 2017*) was selected to guide the definition of the case studies.
This workflow constructs a hypothesis based on existing data, computational modelling, biokinetic considerations,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

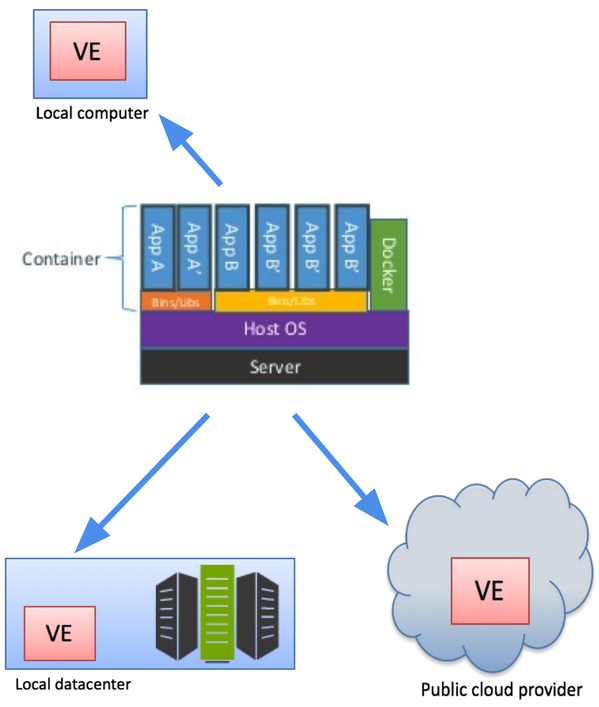


Service-oriented science, containerisation, deployment

- 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



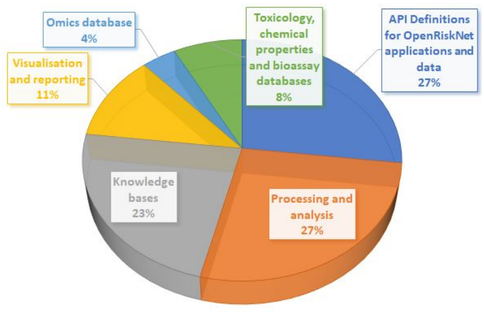


Main concepts:

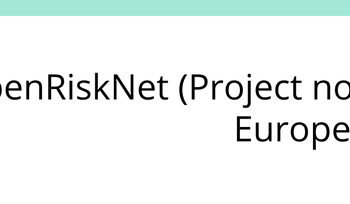
1. **REST services** providing data and processing/analysis/modelling tools (by OpenRiskNet and associated partners)
2. **Harmonize APIs** in an bottom-up approach
3. Microservice architecture based on **containerization and container orchestration** accompanied by a **discovery service**
4. **Virtual environments**, which can be deployed on public or in-house clouds - reference environment available at https://home.prod.openrisknet.org

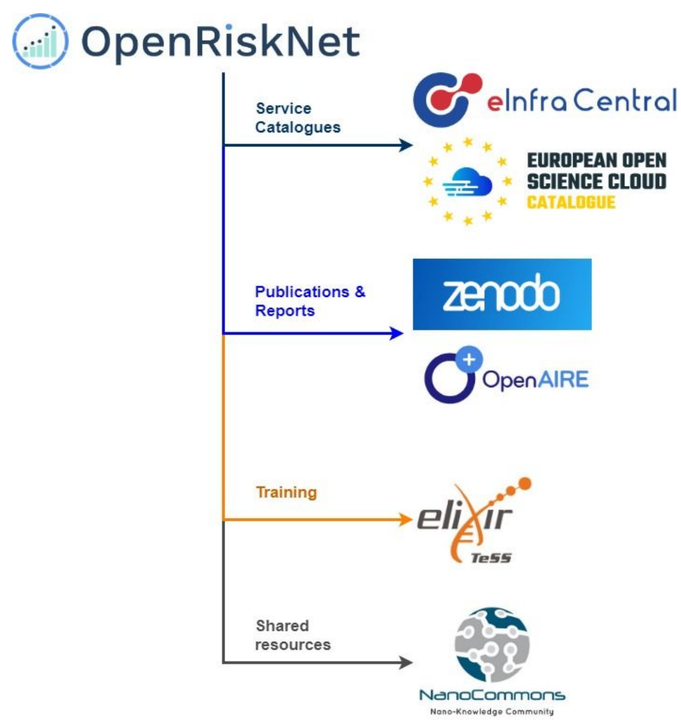
Services Catalogue, dissemination & sustainability

Categories of services



Applicability domains





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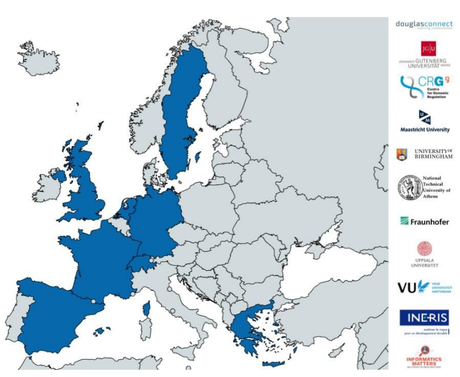
OpenRiskNet partners



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Other resources

Service Catalogue https://openrisknet.org/e-infrastructure/services/
Publications & Training Resources https://openrisknet.org/library/
Conferences and Events https://openrisknet.org/events/

Technical Documentation https://github.com/OpenRiskNet

Help Desk https://openrisknet.freshdesk.com/
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Resources for end-users
Resources for developers

Acknowledgements

OpenRiskNet (Project no. 731075) is funded by the European Commission within the Horizon 2020 Programme