

OpenRiskNet

RISK ASSESSMENT E-INFRASTRUCTURE

WP3 Training, Support, Dissemination

Philip Doganis (NTUA)

General Assembly and 2nd annual meeting, Brussels (Belgium)

OpenRiskNet: Open e-Infrastructure to Support Data Sharing, Knowledge Integration and *in silico* Analysis and Modelling in Risk Assessment
Project Number 731075

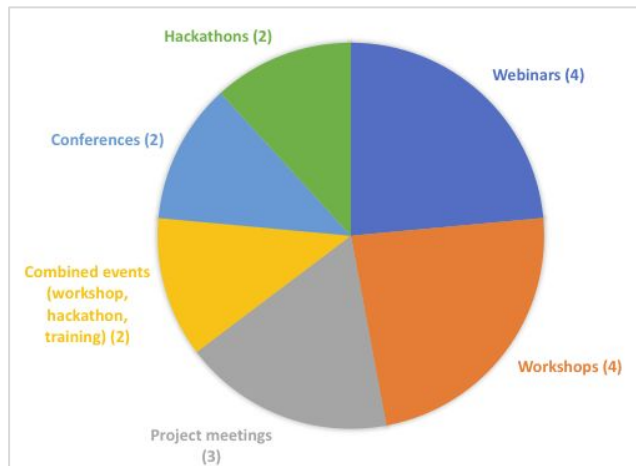


WP3 Objectives

Dissemination efforts to raise the awareness of the new e-infrastructure and to reach general acceptance:

- **Communicate** the scientific and technical background, capabilities and input specifications
- Produce detailed **documentation** of the implementation steps performed on the best-practice examples
- Provide **training** on implementation of databases and tools (workshops and and hackathons), on how to use e-infrastructure (schools and data hackathons)
- Provide technical **support** for implementations of services
- Produce **guidelines** and **templates**
- Collect **protocols**
- Supporting the generation of **reports** for **regulatory** purpose
- Plan for maintenance of the services, data management and the overall **sustainability** of OpenRiskNet.

Overall statistics

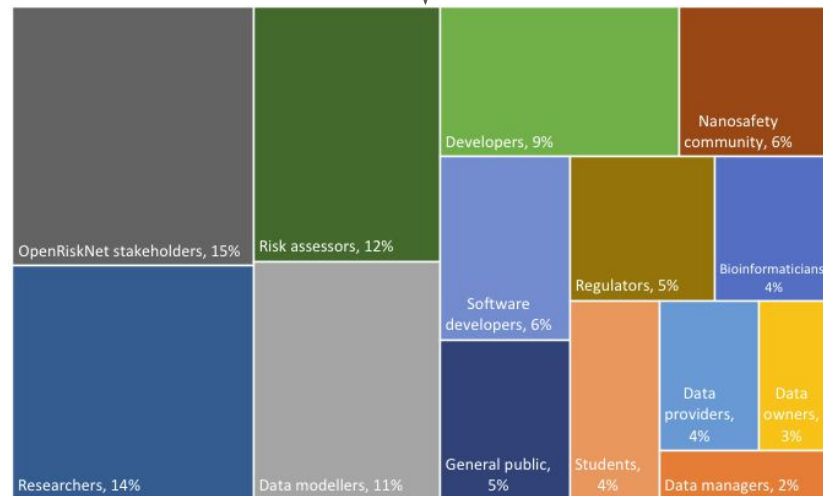


Events organised or co-organised by OpenRiskNet
(Total: 17 by M24)

Distribution of resources to different **target audiences**



Resources & training materials available in the OpenRiskNet library
(Total: 45 by M24)



Tracking and sharing of dissemination activities

- **Events:** <https://openrisknet.org/events/>
 - Conferences
 - Hackathons
 - Project meetings
 - Symposiums
 - Trainings
 - Webinars
 - Workshops
- **Resources & training:** <https://openrisknet.org/library/>
 - Peer-reviewed publications
 - Posters
 - Presentations
 - Public communications
 - Reports
 - Tutorials
 - Webinar recordings
- **News and communication:** <https://openrisknet.org/news/>

Try It out

Feel free to test out one or multiple of the available services. The list of available services is constantly updated.

- Have a look at the [currently available services](#).
- Use our [reference environment](#) or learn how to set up [your own VRE](#).
- To get familiar with the OpenRiskNet concept before you start using the services, consult our [case studies](#) that are used to test the usability of the integrated tools, services and data.
- You will need to login to access some of the services. Please check the [login instructions](#) for details.

Tutorials and feedback

- [Webinars](#) – Watch the recordings of the webinars introducing the infrastructure.
- [Resources & Training](#) – Consult the list of tutorials and other training materials.
- [Requirements survey](#) – Help us optimize the infrastructure according to your needs by filling in this short survey.
- [Help desk](#) – Report issues, give feedback and browse our knowledge base.

Resources for end-users

For scientists and members of academia, industry or regulatory agencies who would like to use the infrastructure for their predictive toxicology and risk assessment tasks.

[MORE →](#)

Resources for developers

For service developers, infrastructure providers or data managers who would like to integrate their databases and software tools into the OpenRiskNet infrastructure.

[MORE →](#)

Training on Service Integration and Infrastructure Usage

- Develop **manuals, tutorials and training** material for the setup and usage of the virtual environment of e-infrastructure instances as well as integration of additional tools based on the documentation generated in Task 3.1.
- Organise **training workshops, schools and hackathons**. Types of hackathons:
 - **Implementation hackathons:** core developers and service integrators work on the integration of specific services and provide feedback for e-infrastructure optimisation
 - **Data hackathons:** end users will bring data and case studies and work together with the service providers and core developers to execute the case studies inside the e-infrastructure

Events organised or co-organised by OpenRiskNet

Categories	Name	Start date	End date	Location - city	Location - country	Audience reached	Website
Conference	OpenToxEURO	2017-11-22	2017-11-23	Basel	Switzerland	Researchers (18), Risk assessors (5), Developers (2), Regulators (1), Students (4), Modellers (1)	http://www.opentoxnet/events/opentox-euro-2017
Conference	OpenToxEURO	2018-10-10	2018-10-11	Athens	Greece		http://www.opentoxnet/events/opentox-euro-2018
Hackathon	OpenRiskNet Developer Workshop	2017-09-25	2017-09-26	Uppsala	Sweden	Developers (20)	https://pharmbio/blog/olm-workshop-2017/
Hackathon	1st NanoCommons Hackathon on "Ontological Annotation of Datasets"	2018-10-09		Athens	Greece	Mixed audience (scientists, regulatory, industry, developers, etc.) (20)	https://www.nanocommons.eu/1st-nanocommons-hackathon-ontological-annotations-of-datasets/
Project meeting	Kick-off meeting of OpenRiskNet project	2016-12-15	2016-12-16	Basel	Switzerland		
Project meeting	1st annual meeting of OpenRiskNet consortium	2017-11-20	2017-11-21	Basel	Switzerland		
Project meeting	2nd annual meeting of OpenRiskNet consortium	2018-12-12	2018-12-13	Brussels	Belgium		https://openrisknet.org/events/44/
Training, Hackathon	OpenRiskNet training	2017-11-21		Basel	Switzerland	Researchers (8), Developers (4), Risk assessors (3), Regulators (1), Modellers (2), Students (2)	http://www.opentoxnet/events/opentox-euro-2017-training-and-hackathon
Webinar	Introducing the OpenRiskNet e-in fastructure and demonstration	2018-09-24				Researchers (8), Industry (2), Risk assessors (2), Modellers (3), Developers (4), Mixed audience (scientists, regulatory, industry, developers, etc.) (10)	https://openrisknet.org/news/14/
Webinar	Introducing the OpenRiskNet e-in fastructure to US Nano WG	2018-09-27				Mixed audience (scientists, regulatory, industry, developers, etc.) (20)	https://openrisknet.org/news/14/
Webinar	OpenRiskNet e-in fastructure demonstration session	2018-10-04				Mixed audience (scientists, regulatory, industry, developers, etc.) (20)	
Webinar	Introducing the OpenRiskNet e-in fastructure	2018-10-30					
Workshop	First OpenRiskNet API workshop	2017-01-16	2017-01-17	Mainz	Germany	Developers (10)	
Workshop	Nextflow: Reproducible in silico Genomics	2017-09-14	2017-09-15	Barcelona	Spain		http://www.org.eu/en/event/coursesrg-nextflow-reproducible-silico-genomics
Workshop	Hands-on Workshop on Biokinetics Modelling	2018-10-10		Athens	Greece	Developers (2), Researchers (7), Regulators (2), Modellers (3), Mixed audience (scientists, regulatory, industry, developers, etc.) (5), Industry (3)	http://www.opentoxnet/events/opentox-euro-2018/program
Workshop	Building risk assessment workflows with OpenRiskNet - Hands-on Workshop	2018-10-11		Athens	Greece	Developers (4), Researchers (3), Regulators (2), Modellers (3), Mixed audience (scientists, regulatory, industry, developers, etc.) (5), Industry (3)	http://www.opentoxnet/events/opentox-euro-2018/s6
Workshop, Hackathon	OpenRiskNet NanoCommons ontology meeting	2018-12-13	2018-12-14	Brussels	Belgium		https://openrisknet.org/events/45/

Workshops and hackathons

Internal events:

- **Workshop on API specification and semantic interoperability and delivery of the initial API version**, Mainz, Germany (January 2017, DC, JGU, CRG, UM, UoB, NTUA, Fraunhofer, UU, IM, INERIS)
- **Hackathon on microservices development**, Uppsala, Sweden (September 2017, IM, CRG, UU, Fraunhofer, JGU, DC, NTUA, UM).
- **Internal deployment clinics** (x6) - hands-on training on critical skills to internal developers



Workshops and hackathons - 2018



External events:

- **Hands-on Workshop on Biokinetics Modelling**, October 2018, within **OpenTox Euro 2018**, Athens, Greece (NTUA)
<http://www.opentox.net/events/opentox-euro-2018/session-3-chair>
 - Biokinetics Modelling and Simulation (Aristeidis Dokoumetzidis)
 - Unknown parameter estimation using Bayesian statistics (Periklis Tsiros)
 - Introduction to PKSim modelling platform (Nicholas-Marios Katritsis)
 - Introduction to htk R package (Harry Sarimveis)
 - Reverse dosimetry using control theory (Harry Sarimveis)
 - Biokinetics modelling through the Jaqpot platform (Hands-on Exercise)
- **Building risk assessment workflows with OpenRiskNet** - Hands-on Workshop, October 2018, within **OpenTox Euro 2018**, Athens, Greece Philip Doganis (NTUA), Thomas Exner(DC)
<http://www.opentox.net/events/opentox-euro-2018/s6>
- **OpenRiskNet/NanoCommons ontology meeting**, December 2018, Brussels, Belgium (DC, Fraunhofer, IM, UM, UU, UoB)
- **1st NanoCommons Hackathon on “Ontological Annotation of Datasets”**, co-organised by OpenRiskNet & NanoCommons, Athens, within **OpenTox Euro 2018**, October 2018, Greece (DC, NTUA, UM, UoB)



Workshops and hackathons - 2017

External events:

- **Nextflow workshop**, September 2017, Barcelona, Spain. OpenRiskNet partners supported jointly with other initiatives.
- **OpenRiskNet sessions** organised within the **OpenTox Euro 2017** Conference in Basel Switzerland (November 2017):
 - NanoQSAR modelling training using the Jaqpot online platform (NTUA)
 - QSAR and conformal predictions with CPSign and modelling Web training (UU)
 - Biokinetics modelling training (INERIS, NTUA)
 - Biokinetics modelling workshop/hackathon (INERIS, NTUA)
 - Workflow management Systems training (Nextflow, Squonk) (IM, CRG, VU)
 - Estrogenic activity hackathon on data for endocrine disruption predictions (DC)



OpenTox 

nextflow

Training on Service Integration and Infrastructure Usage

Tutorials

Jupyter Notebook: Access TG-GATEs data for selected compounds, select differentially expressed genes and identifier relevant pathways (DC)

Webinars

Introducing OpenRiskNet project and the e-infrastructure to stakeholders and parties interested in becoming Associated Partners.

1. **Demonstration on several services** (e.g. Jaqpot, CPSign, Jupyter Notebooks and Squonk) were included in the webinar. September 2018. (CRG), (DC), (IM), (NTUA), (UM), (UU), (UoB), (VU)
2. **Introduction session addressed to OpenRiskNet stakeholders and hosted by US Nano Working Group.** September 2018. (DC), (IM), (NTUA)
3. **Demonstration session addressed to OpenRiskNet stakeholders and hosted by US Nano Working Group.** October 2018. (DC), (IM), (UU)
4. **General and technical introduction to OpenRiskNet e-infrastructure and the case studies.** October 2018. (DC), (IM)

Webinar recordings are publicly available <https://youtu.be/-SlodSpyOjI>



Training & Guidelines on Standard File Formats, Ontology Usage, Quality Control and Protocolling

Adoption of standards in data management, annotation, quality and reproducibility.

- Develop **guidelines for file formats, the usage of ontologies, quality control** for data and tools including measurements of uncertainty and protocolling of experimental and *in silico* procedures.
- Organise schools and workshops to **train users outside of the consortium** and foster a general acceptance and adoption of these guidelines.
- Make the **data schemata of the OpenRiskNet services openly available** (including data/metadata file templates), which can be used as starting points for the generation of new databases but also modelling tools.

Training & Guidelines on Standard File Formats, Ontology Usage, Quality Control and Protocolling

- **Semantic/ontologies training session** - OpenTox Euro 2017 Basel
 - Ontology browsing, the Jenkins build system, Slimmer and the eNanoMapper ontology (UM)
- **Joint OpenRiskNet-NanoCommons training session** - OpenTox Euro 2018 Athens
 - What is an Ontology? (UoB)
 - How eNM ontology works (UoB)
- **Ontology training session** - OpenRiskNet/NanoCommons ontology meeting, Brussels, December 2018
 - What ontologies are out there and can we combine them to a toxicology application ontology (UM, UoB, DC)
- **Semantic interoperability** <https://openrisknet.org/development/semantic-interoperability/>
- **Tutorials** (related also to previous and ongoing projects/initiatives (i.e. eNanoMapper)
 - Adding ontology terms
 - Browsing the eNM ontology with BioPortal, AberOWL and Protégé

Support Infrastructure - Elements

Helpdesk service: <https://openrisknet.freshdesk.com/>

- Frequently asked questions (FAQ),
- Getting Started guide
- Form to ask questions / filing support tickets, where specified OpenRiskNet staff are responsible for handling and delegating issues

Wiki: GitHub (key resource for supporting developers, both internal and external to the project) <https://github.com/OpenRiskNet/home/wiki>

Issue Tracker: GitHub <https://github.com/OpenRiskNet/home/issues>

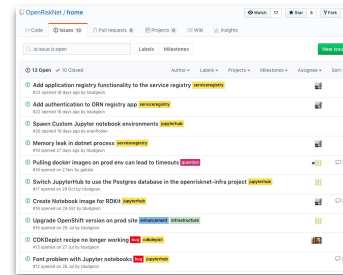
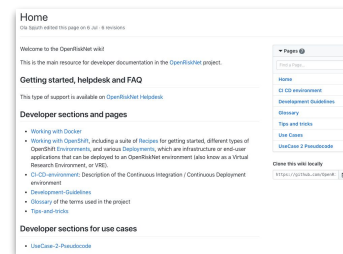
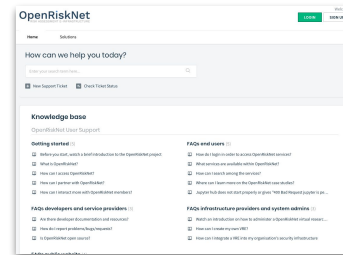
Automatic testing for the virtual **environments:** Jenkins

<https://github.com/OpenRiskNet/home/tree/master/openshift/deployments/jenkins>

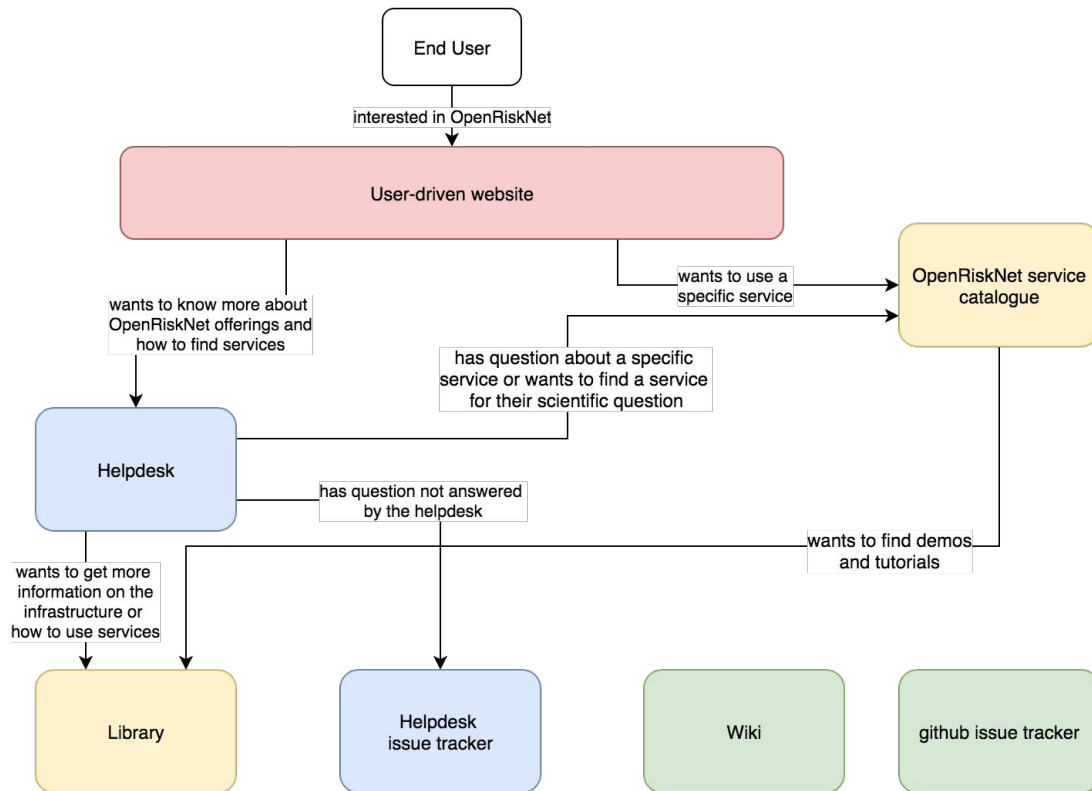
OpenRiskNet Services catalogue

<https://openrisknet.org/e-infrastructure/services/>

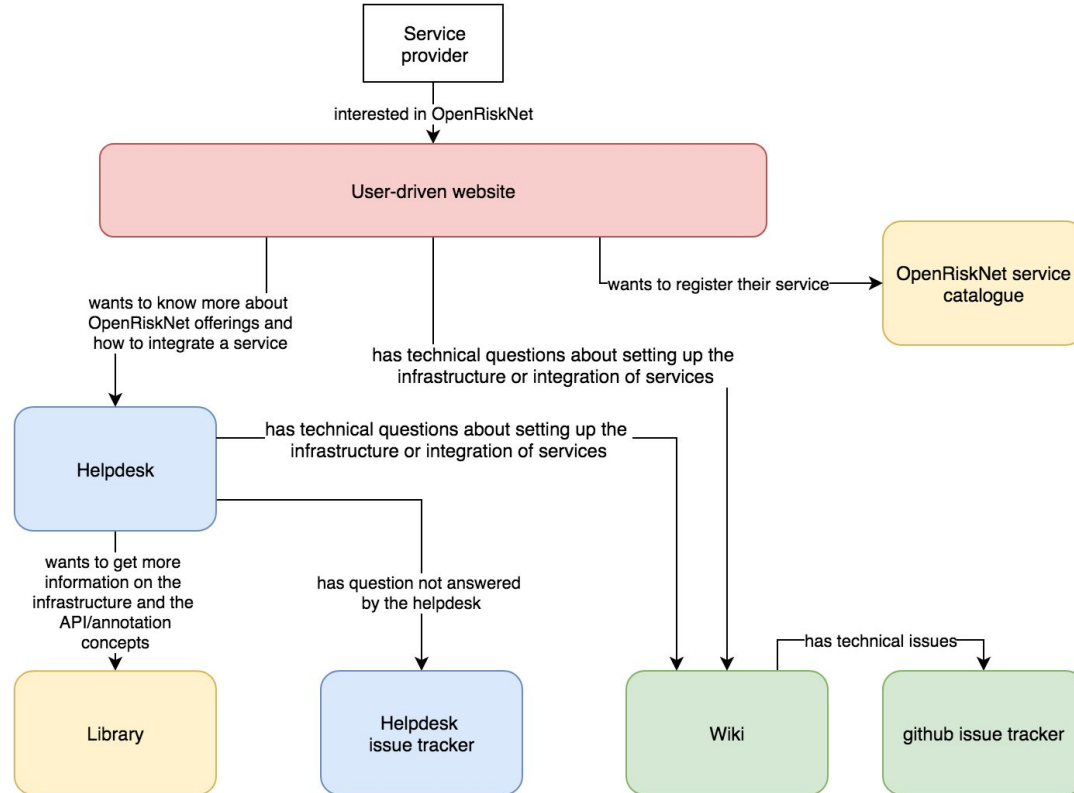
OpenRiskNet Library: <https://openrisknet.org/library/>



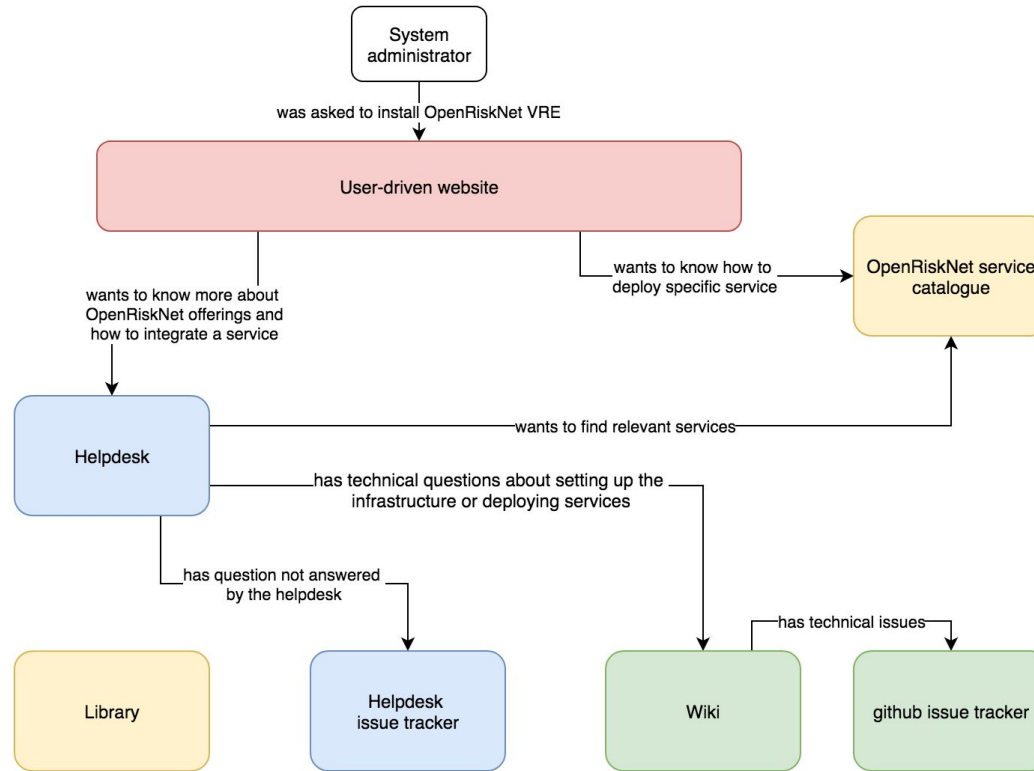
Support Infrastructure: end users



Support Infrastructure: service providers



Support Infrastructure: systems administrators



Data Management Plan: updated at M24

General and specific information for diXa, BridgeDb, WikiPathways, AOP-Wiki and ToxCast are provided on the following areas:

- Data summary
 - Purpose of the data collection
 - Relation to the objectives of the project
 - Types and formats of data
 - Reuse of data
 - Origin of the data
 - Expected size of the data
 - Utility of data and models
- FAIR data
 - Making data findable, including provisions for metadata
 - Making data openly accessible
 - Making data interoperable
 - Increase data re-use (through clarifying licenses)
- Allocation of resources
- Data security
- Ethical aspects

OpenRiskNet (Horizon 2020 DMP)

7/9
approx. 45% of available space used (max 10 pages)

Plan details	Initial DMP	Detailed DMP	Final review DMP	Share	Export
1. Data summary	(1 question, 1 answered)				+
2. FAIR data	(4 questions, 4 answered)				+
3. Allocation of resources	(1 question, 0 answered)				+
4. Data security	(1 question, 1 answered)				+
5. Ethical aspects	(1 question, 1 answered)				+
6. Other	(1 question, 0 answered)				+

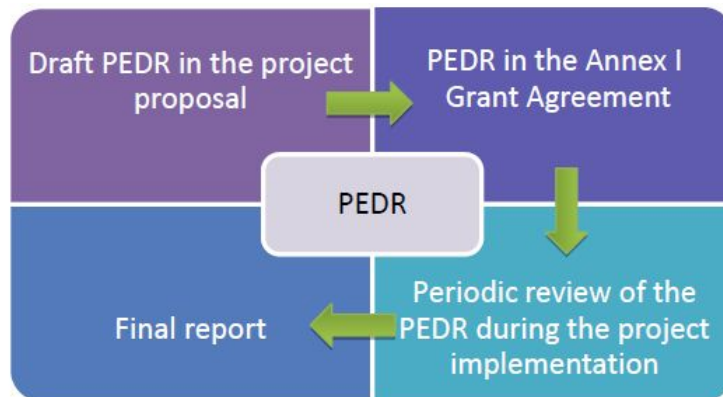
Plan for the Exploitation and Dissemination of Results (PEDR)

OpenRiskNet dissemination plan

- Dissemination and communication activities
- Dissemination performance metrics
- Reporting, tracking and sharing of dissemination activities
- Funding allocated for Dissemination and Communication activities

OpenRiskNet exploitation plan

- Virtual Organisation
- Sustainability plan



Submitted peer-reviewed publications

- Tsiros P, Bois F Y, Dokoumetzidis A, Sarimveis H, Population Pharmacokinetic Reanalysis of a Diazepam PBPK Model A Comparison of Stan and GNU MCSim, 2018, Journal of Pharmacokinetics and Pharmacodynamics
- Spjuth O et al., 2018, Improving Site-of-Metabolism Predictions by Defining Reaction Centers using Reaction SMARTS Patterns
- Spjuth O, Capuccini M, Carone M, Larsson A, Schaal W, Novella J, Di Tommaso P, Notredame C, Moreno P, Khoonsari PE, Herman S, Kultima K, Lampa S, Approaches for containerized scientific workflows in cloud environments with applications in life science, PeerJ Preprints. 6, e27141v1 (2018). DOI: [10.7287/peerj.preprints.27141v1](https://doi.org/10.7287/peerj.preprints.27141v1)

Peer-reviewed publications

- Lapins M, Arvidsson S, Lampa S, Berg A, Schaal W, Alvarsson J, Spjuth O, A confidence predictor for logD using conformal regression and a support-vector machine, Journal of Cheminformatics, 2018, 10:17 doi: [10.1186/s13321-018-0271-1](https://doi.org/10.1186/s13321-018-0271-1)
- Boudellioua I, Mahamad Razali RB, Kulmanov M, Hashish Y, Bajic VB, Goncalves-Serra E, Schoenmakers N, Gkoutos GV, Schofield PN, Hoehndorf R, Semantic prioritization of novel causative genomic variants, PLoS Comput Biol. 2017, 13(4):e1005500. doi: [10.1371/journal.pcbi.1005500](https://doi.org/10.1371/journal.pcbi.1005500)
- Lampa S, Alvarsson S, Arvidsson Mc Shane S, Berg A, Ahlberg E, Spjuth O, Predicting off-target binding profiles with confidence using Conformal Prediction, Frontiers in Pharmacology, November 2018, doi: [10.3389/fphar.2018.01256](https://doi.org/10.3389/fphar.2018.01256)
- Martens M, Verbruggen T, Nymark P, Grafström R, Burgoon L D, Aladjov H, Andón F T, Evelo C T, Willighagen E W, Introducing WikiPathways as a data-source to support Adverse Outcome Pathways for regulatory risk assessment of chemicals and nanomaterials, Provisionally accepted Dec 2018, Frontiers in Genetics, doi: [10.3389/fgene.2018.00661](https://doi.org/10.3389/fgene.2018.00661)

Presentations

1. Integration and interoperability, Conference Session at OpenTox Euro, Chaired by Chris Evelo, November 2017 [Session details](#)
2. OpenRiskNet Training & Hackathon Session at OpenTox Euro, November 2017 [Session details](#)
3. Data-intensive applications on cloud computing resources: Applications in life sciences, Ola Spjuth, 2nd international de. NBI symposium, October 2017 [Slideshare](#)
4. Data-intensive bioinformatics on HPC and Cloud, Ola Spjuth, Big Data Training School for Life Sciences, September 2017 [Slideshare](#)
5. Nextflow for chemistry - crossing the divide, Tim Dudgeon, Nextflow workshop, September 2017 [Presentation](#)
6. Towards Semantic Interoperability of Publicly Available Data, Thomas Exner, OpenTox USA, July 2017 doi: [10.5281/zenodo.831444](https://doi.org/10.5281/zenodo.831444)
7. Introduction to OpenRiskNet, Thomas Exner, November 2018, Presentation targeting OpenRiskNet stakeholders, [link](#)
8. Introduction to OpenRiskNet e-infrastructure, Tim Dudgeon, November 2018, Presentation targeting Developers & OpenRiskNet stakeholders, [link](#)
9. OpenRiskNet Case Studies, Thomas Exner, November 2018, Presentation targeting Risk assessors & OpenRiskNet stakeholders, [link](#)
10. Big Data in Toxicogenomics: Towards FAIR predictions, Danyel Jennen, [link](#)

Events attended by OpenRiskNet members in 2018

- 11th International SWAT4HCLS (UM) 3 – 6 Dec 2018 / Antwerp, BE
- American College of Toxicology Annual Meeting (ACT) (DC) 4 – 7 Nov 2018 / West Palm Beach, US
- 20th International Congress on In Vitro Toxicology (ESTIV) (DC) (INERIS) (VU) 15 – 18 Oct 2018 / Berlin, DE
- OpenTox EURO (DC) (co-organized by OpenRiskNet) (NTUA) 10 – 11 Oct 2018 / Athens, GR
- 21st European Congress on Alternatives to Animal Testing and 18th Annual Congress of EUSAAT (DC) 23 – 26 Sep 2018 / Linz, AT
- 9th International on Nanotoxicology (NanoTox) (UM) 20 – 21 Sep 2018 / Neuss, DE
- 22nd European Symposium on Quantitative Structure-Activity Relationships (EuroQSAR) (VU) 16 – 20 Sep 2018 / Thessaloniki, GR
- SETAC Asia-Pacific (DC) (VU) 16 – 18 Sep 2018 / Daegu, KR
- 7th Annual Meeting of the ASCCT (DC) 10 – 11 Sep 2018 / Bethesda, US
- 3rd NanoSafety Forum for Young Scientists (DC) (UoB) 10 – 12 Sep 2018 / Valletta, MT
- European on Computational Biology (ECCB) (CRG) 8 – 12 Sep 2018 / Athens, GR
- 54th Congress of the European Societies of Toxicology (EUROTOX) (DC) (UM) 2 – 5 Sep 2018 / Brussels, BE
- Nano Korea (DC) 10 – 13 Jul 2018 / Kintex, KR
- SOT 57th Annual Meeting and ToxExpo (DC) 11 – 15 Mar 2018 / San Antonio, US

Library

Posters

- Exner T, Dokler J, Bachler D, Farcal L, Evelo C, Willighagen E, Jennen D, Jacobs M, Doganis P, Sarimveis H, Lynch I, Gkoutos G, Kramer S, Notredame C, Spjuth S, Jennings P, Dudgeon T, Bois F, Hardy B, **OpenRiskNet, an open e-infrastructure to support data sharing, knowledge integration and in silico analysis and modelling in risk assessment**, *EUROTOX 2018*, October 2018, doi: [10.1016/j.toxlet.2018.06.617](https://doi.org/10.1016/j.toxlet.2018.06.617)
- Exner T, Dokler J, Bachler D, Farcal L, Evelo C, Willighagen E, Jacobs M, Doganis P, Sarimveis H, Lynch I, Kramer S, Notredame C, Jennen D, Gkoutos G, Spjuth S, Jennings P, Dudgeon T, Bois F, Hardy B, **OpenRiskNet - an open e-infrastructure to support data sharing, knowledge integration and in silico analysis and modelling in risk assessment**, *SOT 2018* (Society of Toxicology 57th Annual Meeting and ToxExpo), March 2018 doi: [10.5281/zenodo.1199287](https://doi.org/10.5281/zenodo.1199287)
- **Meta-analysis for genotoxicity prediction using data from multiple human in vitro cell models**, Bayjanov J.R., Kleinjans, J., Jennen, D. September 2018, doi: [10.1016/j.toxlet.2018.06.60](https://doi.org/10.1016/j.toxlet.2018.06.60).
- Martens M, Verbruggen T, Nymark P, Grafström R, Burgoon L, Aladjov H, Torres Andón F, Evelo C T, Willighagen E, **Introducing WikiPathways to support Adverse Outcome Pathways for regulatory risk assessment**, September 2018, doi: [10.6084/m9.figshare.7038800.v1](https://doi.org/10.6084/m9.figshare.7038800.v1)
- Doganis P, Tsiliki G, Chomenidis C, Valsamis A, Anagnostopoulou E, Sarimveis H, **Jaqpot: an open source web platform for modelling and model publishing integrated into a safety assessment e-infrastructure**, *Open Science FAIR*, F1000Research 2017, 6:1865, doi: [10.7490/f1000research.1114990.1](https://doi.org/10.7490/f1000research.1114990.1)
- Martens M, Evelo C, Willighagen E, **The future of regulatory toxicity assessment: Adverse Outcome Pathways**, *ByteMAL* (Bioinformatics for Young inTernational researchers Expo: Maastricht-Aachen-Liège), June 2017, doi: [10.6084/m9.figshare.5331517.v1](https://doi.org/10.6084/m9.figshare.5331517.v1)

Library

Public communications

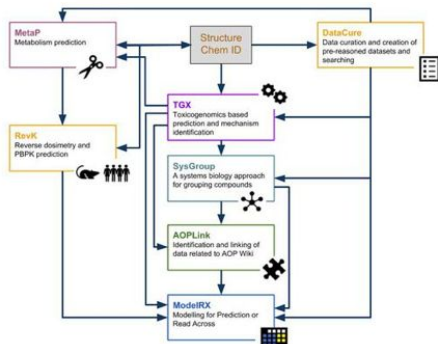
1. OpenRiskNet e-infrastructure available to end-users, Lucian Farcas, October 2018, NSC Newsletter
2. The OpenRiskNet Approach towards a Semantic Interoperability Layer - Part One: Problem Definition for Datasets, January 2018 [Blog post](#)
3. OpenRiskNet reveals concepts of harmonised APIs and semantic interoperability, provides first training units, and launches Associate Partner Program, December 2017 [Press release](#)
4. OpenRiskNet case studies to support data and tools integration from NanoSafety Cluster, Lucian Farcas, EU NanoSafety Cluster, November 2017 [Newsletter Issue 10](#) (pg. 7)
5. Horizon 2020 Research Success Story - A global harmonized basis for testing chemical safety, Barry Hardy, Euresearch, August 2017 [PDF](#) | [Video](#)
6. Introduction to OpenRiskNet, Lucian Farcas, EU NanoSafety Cluster, April 2017 [Newsletter Issue 9](#) (pg. 15)
7. OpenRiskNet Kicked off, Thomas Exner, January 2017 [Blog post](#)
8. OpenRiskNet roll-up banner, [ORN-roll-up.pdf](#)
9. OpenRiskNet flyer, [link](#)
10. A global harmonized basis for testing chemical safety, Barry Hardy, August 2017, [Article](#)

News, communication and blog posts

1 October 2018

OpenRiskNet e-infrastructure available to end-users

The **e-infrastructure project OpenRiskNet** developing a platform providing data and modelling tools for predictive toxicology and risk assessment, is entering its second stage, in which the platform is made accessible to everyone. In the first phase, we developed advanced concepts and implemented these into the first version of the platform including building and deploying of **virtual research environments (VREs)** and integrating the first services for different task in risk assessment accessible by everyone for testing. The platform includes harmonised and partly semantically annotated data and modelling services, corresponding training material as well as seven risk assessment case studies, which are used to evaluate and optimize the infrastructure.



<https://openrisknet.org/news/>

15 August 2018

Implementation challenge announced

The Implementation Challenge was created to select external tools especially in areas of risk assessment not completely covered by the OpenRiskNet consortium to be prioritized for their integration into the e-infrastructure. Third parties can apply for partial financially and strongly technically support by researchers and developers of OpenRiskNet partners. If you want to make your tool visible to a large community and make it interoperable with other OpenRiskNet services, please apply at <https://goo.gl/forms/D90Uxa7ZhvKGeBV72> before one of the three deadlines. More information on the selection criteria and the available funding can be found at <https://openrisknet.org/associated-partner-programme/implementation-challenge/>.

17 September 2018

OpenRiskNet webinar series

A series of **webinars** are organised by OpenRiskNet in order to introduce the project and demonstrate on the e-infrastructure services and case studies.

First sessions are scheduled for **24 Sep 2018** (4 pm CEST) and **27 Sep 2018** (4 pm CEST). Additional dates will be selected based on the registrants preference.

Please sign up for these meeting using the [doodle poll](#). The registrants will receive the login information by email.

All presentations and webinars recordings will be available in the [Resources & Training](#) page.

23 November 2018

Ontology meeting by OpenRiskNet and NanoCommons

OpenRiskNet and **NanoCommons** are organizing a joint ontology hackathon on 13-14 Dec 2018 (Brussels, Belgium).

The goal of this meeting is to get a picture of the ongoing ontology activities in the toxicology area, harmonize these efforts and the developed ontologies therein, and extend the existing toxicology ontology to support OpenRiskNet and NanoCommons tasks. Part of this will be the ontological annotation of OpenRiskNet Application Programming Interfaces (APIs) as used on their [cloud](#).

Consult the [additional information](#) and [register](#) to the meeting.



Success Story - OpenRiskNet

Our world is awash with chemicals, many of which still need risk and safety testing. The Horizon 2020 project "OpenRiskNet" (Open e-Infrastructure to Support Data Sharing, Knowledge Integration and in silico Analysis and Modelling in Risk Assessment) aims to provide a global infrastructure and network to integrate and harmonise data from experiments and computer models of toxicology. It is coordinated by Douglas Connect GmbH in Basel.

[More](#) ▶



Interactions with other EU e-infrastructure initiatives

eInfraCentral: disseminate OpenRiskNet platform (or individual services) to a larger audience and be able to compare and connect with very similar services: *OpenRiskNet e-infrastructure and Jaqpot services (NTUA) integration in progress*



[OpenRiskNet e-infrastructure description](#)

[Jaqpot services \(NTUA\) description](#)



OpenAIRE: common philosophy on open source, open access and open data.

ELIXIR: 1. Project page at TESS:

https://tess.elixir-europe.org/content_providers/openrisknet

2. Toxicology and risk assessment were recently accepted as an candidate ELIXIR community due to an application almost completely driven by OpenRiskNet partners.



EU NanoSafety Cluster / NanoCommons: nanosafety community is envisioned as one of the main beneficiaries of the OpenRiskNet services. Participation to NSC newsletters.




NanoCommons
Nano-Knowledge Community



ELIXIR


<https://github.com/egonw/ELIXIR-Tox>


A community proposal to integrate toxicology activities in ELIXIR

 **Egon Willighagen** (Dept of Bioinformatics - BiGCaT, NUTRIM, Maastricht University)


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 **Marvin Martens** (Dept of Bioinformatics - BiGCaT, NUTRIM, Maastricht University)

 **Ola Spjuth** (Uppsala University)

 **Nina Jeliaskova** (IdeaConsult Ltd, Bulgaria)

 **Thomas Exner** (Douglas Connect)

 **Chris Evelo** (Dept of Bioinformatics - BiGCaT, NUTRIM, Maastricht University)

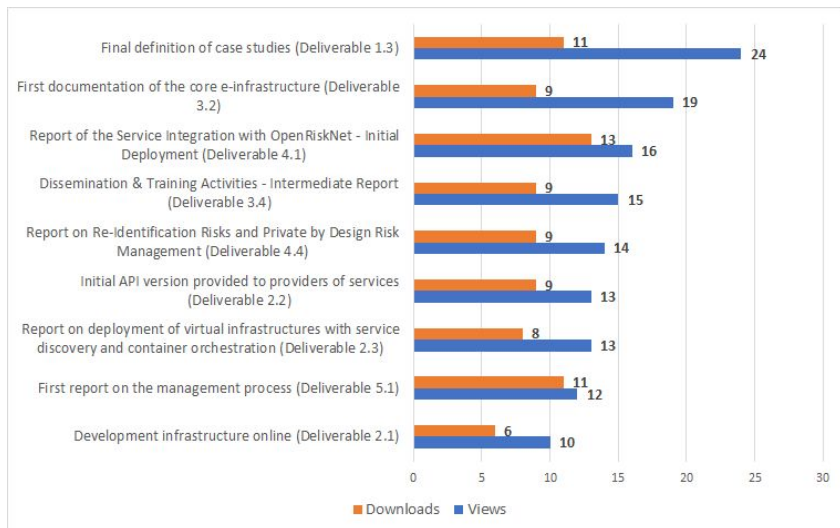
 Add Collaborator  Manage

Introduction - User Community

[SKETCH OF COMMUNITY] (about 1 A4 page)

Europe has a strong toxicology research community. Recent changes in European law with respect to animal testing and new demands for testing of lower-volume chemicals and especially nanomaterials has triggered large-scale research into alternative testing approaches. These activities not only produce large amounts of new data, but also new microbiological insights. The research is essential to ensure safety. For example, combination of data will support (ultimately personalized) risk/benefit health analysis, improved and faster drug innovation, fact-based perception on chemical safety, safe-by-design nanomaterials and sustainable and safe economies.

Zenodo



OpenAIRE



OpenRiskNet

OpenRiskNet: Open e-Infrastructure to Support Data Sharing, Knowledge Integration and in silico Analysis and Modelling in Risk Assessment (731075)

Project | EC | [Open Access mandate for Publications and Research Data](#)

Funding: H2020 | RIA

Start Date: 2016-12-01

End Date: 2019-11-30

Organization: [IM](#) | [VU](#) | [UU](#) | [UoB](#) | [Johannes Gutenberg-Universität Mainz](#) | [UM-MERIT](#)
[Fraunhofer](#) | [CRG](#) | [NTUA](#) | [MUI](#) | [DC](#) | [INERIS](#)

[Detailed project information \(CORDIS\)](#) →

Publications (11)	+
Research Data (1)	+
Software (0)	+
Other Research Products (3)	+
Statistics	+
Metrics	+



Social media



YouTube

The video player shows a video titled "Introduction to OpenRiskNet Project" by Dr. Thomas Exner, Douglas Connect, Switzerland. The video is at 0:02 / 11:41. The video content includes the OpenRiskNet logo and the text "Introduction to OpenRiskNet Project".

A YouTube playlist titled "OpenRiskNet" by Douglas Connect GmbH, containing 5 videos:

- 1. Introduction to OpenRiskNet project (11:42)
- 2. Introduction to OpenRiskNet e-Infrastructure (30:14)
- 3. OpenRiskNet case studies and the implementation challenge (50:26)
- 4. OpenRiskNet webinar: Introduction, case studies and demo (Part 1) (46:23)
- 5. OpenRiskNet webinar: demonstrations on services (Part 2) (44:09)



LinkedIn

LinkedIn profile for OpenRiskNet, RISK ASSESSMENT E-INFRASTRUCTURE. The profile includes a header with the company name and tagline, a bio, and a section for updates. The updates section shows a post from OpenRiskNet with a map of Europe and a list of similar pages including NTUA Researchers' Night, ThinkCode, and IEEE NTUA Student Branch.



Twitter

Twitter profile for OpenRiskNet, RISK ASSESSMENT E-INFRASTRUCTURE. The profile includes a header with the company name and tagline, a bio, and a section for tweets. The tweets section shows a tweet from OpenRiskNet with a map of Europe and a list of who to follow including Samuel Lampa, in3 Giridin, and Steve Lemberth.

OpenRiskNet

RISK ASSESSMENT E-INFRASTRUCTURE

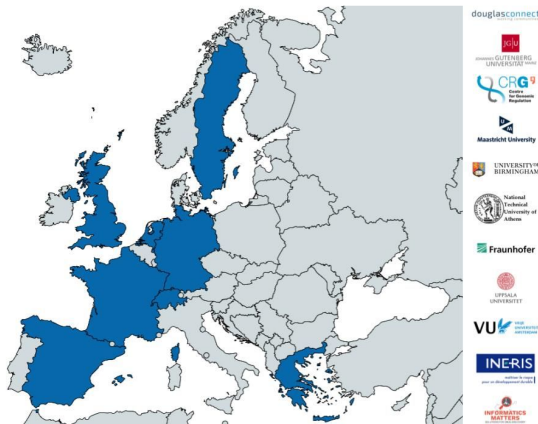


www.openrisknet.org

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Project partners:



- P1 Douglas Connect GmbH, Switzerland (DC)
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- P6 National Technical University Of Athens, Greece (NTUA)
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- P8 Uppsala Universitet, Sweden (UU)
- P9 Medizinische Universität Innsbruck, Austria (MUI)
- P10 Informatics Matters Limited, United Kingdom (IM)
- P11 Institut National De L'environnement Et Des Risques INERIS, France (INERIS)
- P12 Vrije Universiteit Amsterdam, Netherlands (VU)