El apoyo desde la industria química a las alternativas a la experimentación animal. Programa LRI

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Directora de Tutela de Producto
e Internacionalización

feiQue

LRI Long-Range Research Initiative | cefic

X Jornada alternativas experimentación animal Rema

Trabajamos colaborando en red

Miembro fundador

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RSE

RESPONSIBLE CARE

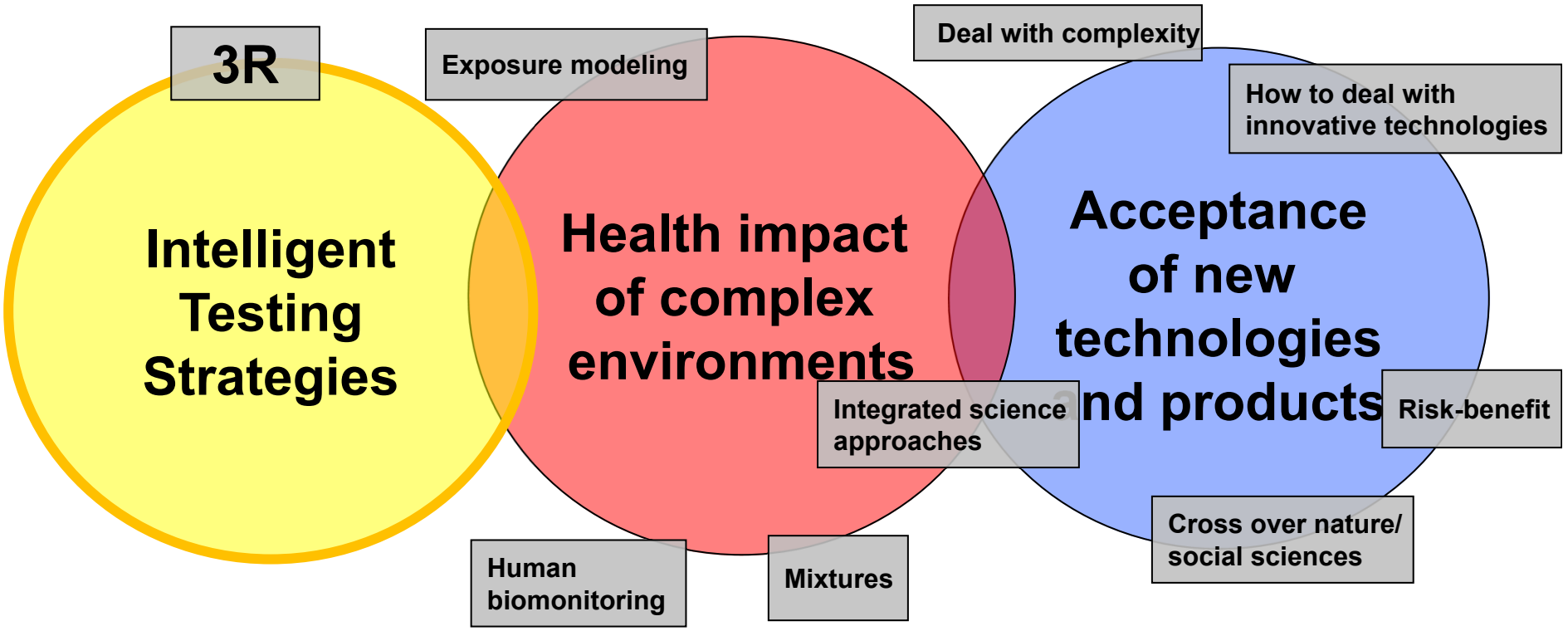
Agenda

- **Program Intelligent Testing**
- LRI Awards
- QSAR ToolBox OCDE

¿Que es el LRI?

- Programa de caracter Global de ICCA (Europa, USA, Japón)
- Investigación de alta calidad para mejorar la gestión de productos químicos.
- Aumentar las capacidades científicas para hacer frente a problemas emergentes.
- Colaboración de expertos de la industria, academia y gobiernos.
- Aportaciones al debate político basadas en el conocimiento (Pº de precaución) y el impacto esperado consecuencia de las decisiones políticas o regulatorias.

Tres grandes áreas de trabajo



	INNOVATING CHEMICAL TESTING	UNDERSTANDING EVERYDAY EXPOSURES	TRANSLATING RESEARCH OUTCOMES FOR PRODUCT SAFETY
CEFIC	▸ Link information at the molecular level to health and environmental impacts ▸ Support the 3Rs – replace, reduce, and refine – for animal testing	▸ Evaluate effects of cumulative and aggregate exposures in real life scenarios ▸ Develop predictive models that incorporate environmental stressors	▸ Apply new population-relevant concepts for ecosystems ▸ Reduce complexity and robustly predict health effects using pragmatic approaches
ACC	▸ Incorporate exposure and dose information to advance interpretation of data from high-throughput assays ▸ Advance application of cell-based testing systems for chemical safety assessments	▸ Develop predictive models for estimating consumer exposures ▸ Improve interpretation of biomonitoring data for environmentally-relevant exposures	▸ Advance new approaches to evaluate the scientific basis for epidemiological studies linking health effects to chemical exposures ▸ Develop an innovative framework that integrates multiple data streams and facilitates chemical safety assessment
JCIA	▸ Develop and evaluate new testing methods, such as those that use stem cells, to improve assessment of chemicals and products ▸ Innovate high-throughput methods to evaluate large numbers of chemicals	▸ Develop predictive and practical models for estimating worker exposures ▸ Research health impacts for groups with potential chemical sensitivities, such as the young and the elderly	▸ Evaluate the safety of new chemical substances, such as nanomaterials, for future technological developments ▸ Assess the effects of chemicals on ecosystems and the environment

LRI
Long-Range Research Initiative

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HOME ABOUT RESEARCH PROGRAMME FUNDING OPPORTUNITIES PROJECTS TOOLBOX NEWS & EVENTS

CEFIC-LRI TOOLBOX

Online solutions to chemical risk assessment!

READ MORE

Who we are, what we do

LRI's mission is to identify and fill gaps in our understanding of the hazards posed by chemicals and to improve the methods available for assessing the associated risks.

CEFIC-LRI TO INVEST €100,000 INTO BETTER TESTING METHODS FOR PERSISTENT CHEMICALS

LEARN MORE

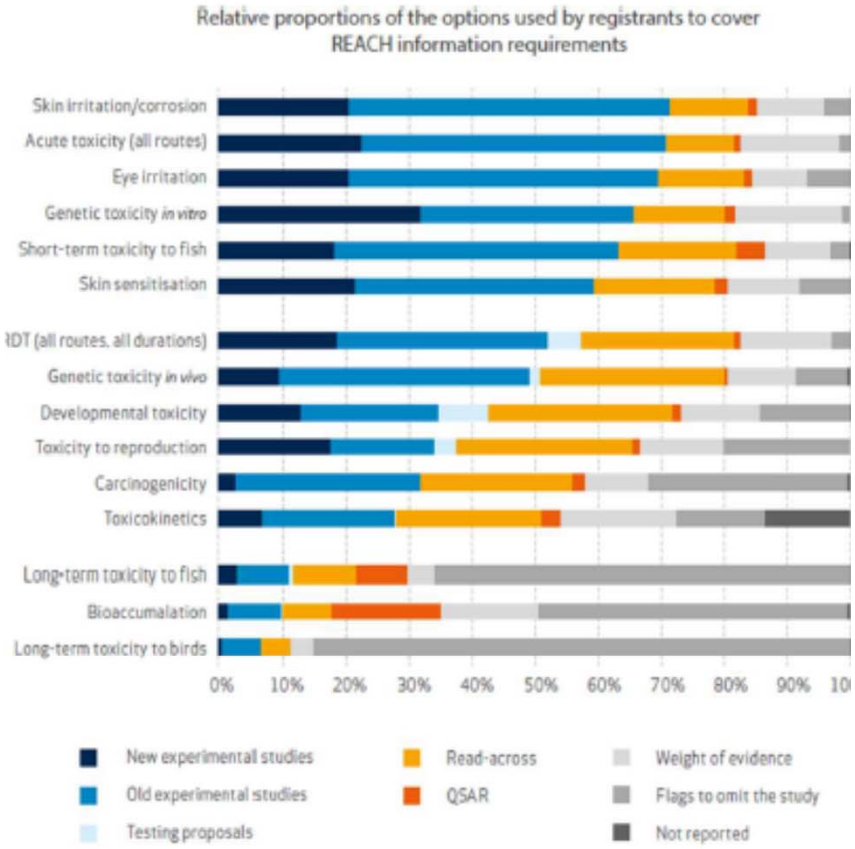
Register for updates

Sign up to receive updates on LRI Projects, News and Events.

Register now

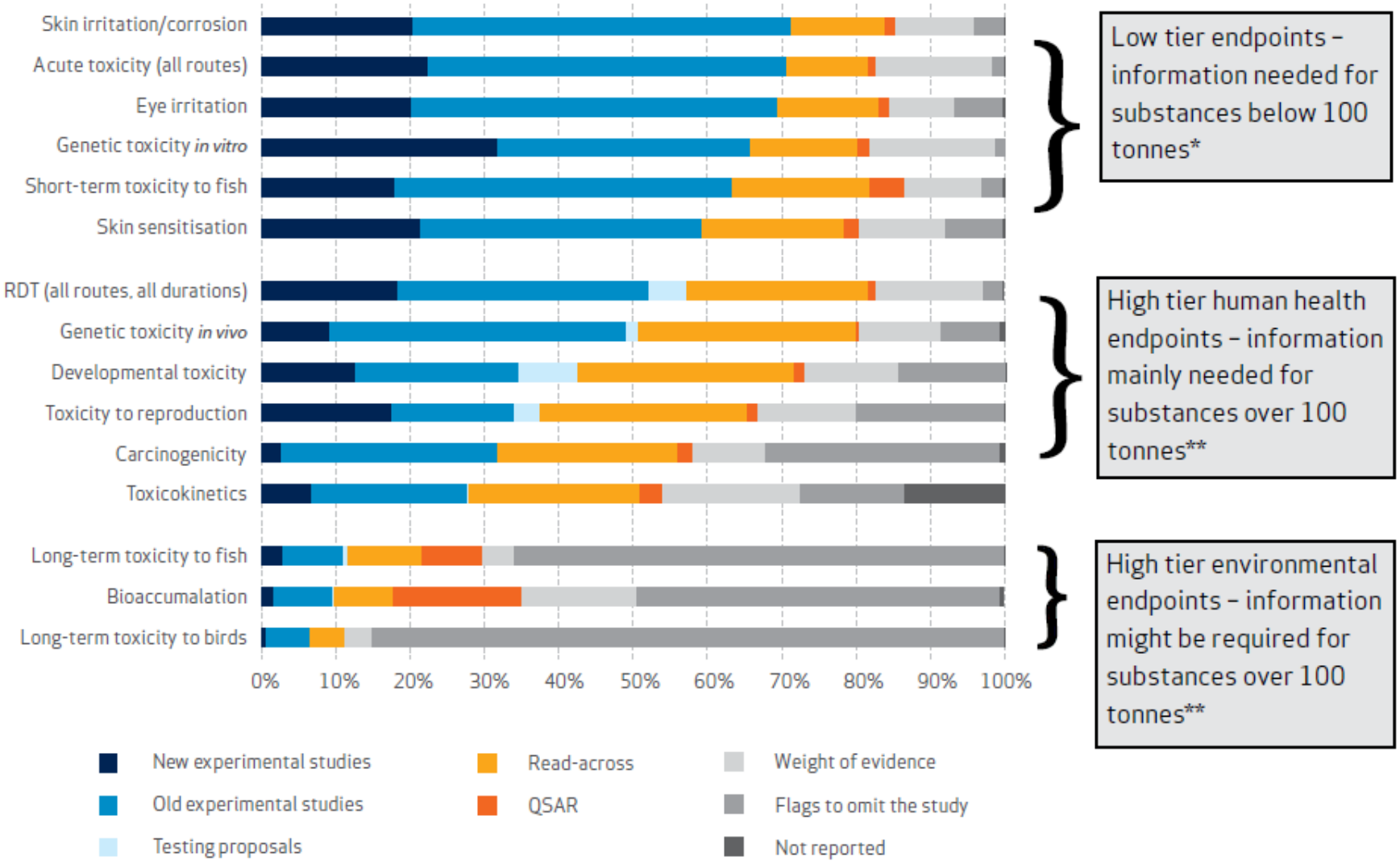
Issue overview

- Read-across is a well-established concept in regulatory science & a powerful tool for minimizing new animal testing (an Article 1 priority under REACH), particularly for complex endpoints
  - *Also an important tool to allow cosmetic manufacturers to innovate in an era of sectoral animal testing restrictions*
- According to ECHA*, among adaptations to information requirements for endpoints involving vertebrate animal testing:
  - *89% contain at least one endpoint in the dossiers where an adaptation or other argument was provided instead of a study result*
  - *63% contain at least one read-across adaptation*
  - *43% contain at least one weight-of-evidence argument*
  - *34% contain at least one QSAR prediction*



* The use of alternatives to testing on animals for the REACH Regulation - Third report under Article 117(3) of the REACH Regulation, ECHA 2017

General aspects on non-testing approaches



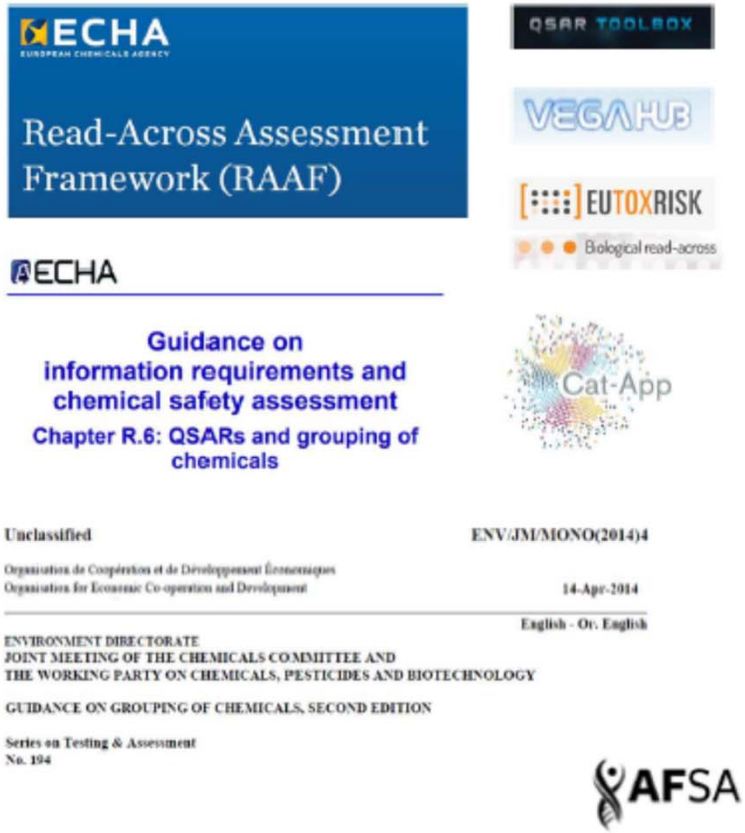
Options that registrants use to cover REACH information requirements for different data endpoints

Extract from "The use of alternatives to testing on animals for the REACH Regulation" Third Report under Article 117(3) of the REACH Regulation **(2015)**

Overview, cont'd

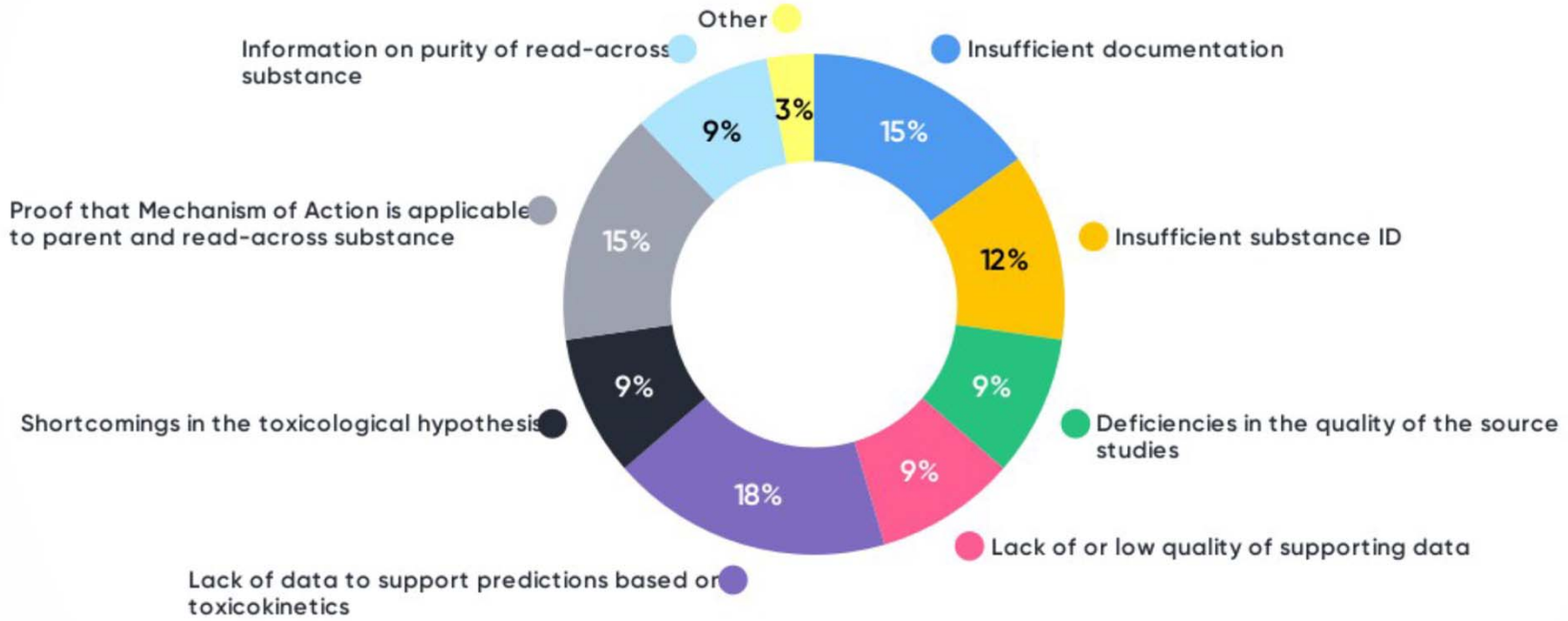
- Despite the wealth of existing guidance, support tools & related work over many years, read-across proposals often face resistance from regulators
- Reported quality deficiencies*:
  - Poor documentation
  - Insufficient substance identification
  - Significant deficiencies in the quality of the source studies
  - Lack of or low quality of supporting data,
  - Lack of qualitative and quantitative data to support predictions based on toxicokinetics
  - Shortcomings in the toxicological hypothesis

*The use of alternatives to testing on animals for the REACH Regulation - Third report under Article 117(3) of the REACH Regulation, ECHA 2017



➢ **Accepted by most Regulatory Bodies if the approach taken is sufficiently justified and documented (RAAF-ECHA)**

If your company has submitted read-across proposals for regulatory purposes, have you ever had any of the following issues pointed out?



Global trends

US EPA moves to end animal testing by 2035

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

September 10, 2019

THE ADMINISTRATOR

MEMORANDUM

SUBJECT: Directive to Prioritize Efforts to Reduce Animal Testing

FROM: Andrew R. Wheeler
Administrator

I am pleased today to establish the following commitments that will ensure our work in this area makes a real and significant difference. The EPA will reduce its requests for, and our funding of, mammal studies[1] by 30 percent by 2025 and eliminate all mammal study requests and funding by 2035. Any mammal studies requested or funded by the EPA after 2035 will require Administrator approval on a case-by-case basis. The EPA also will come as close as possible to excluding from its approval processes any reliance on mammal studies conducted after January 1, 2035, including those performed by third parties, subject to applicable legal requirements, including the *Administrative Procedure Act*.

Dutch government plans to stop animal testing by 2025

National Committee on animal testing policy > Documents >

NCad opinion Transition to non-animal research

World leader in innovations without laboratory animals by 2025. That is the aim of the Dutch Minister of Agriculture, Martijn van Dam. In March 2016, the Minister asked the Netherlands National Committee for the protection of animals used for scientific purposes (NCad) to draw up a schedule for phasing out animal procedures.

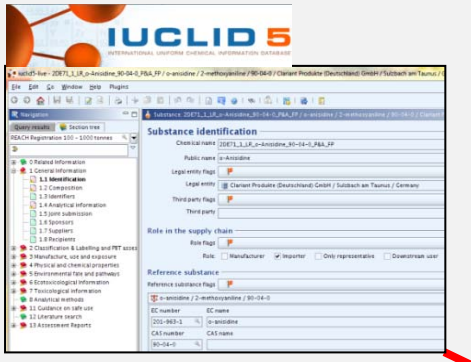
EU REACH promotes the use of alternative methods

Article 1

Aim and scope

1. The purpose of this Regulation is to ensure a high level of protection of human health and the environment, including the promotion of alternative methods for assessment of hazards of substances, as well as the free circulation of substances on the internal market while enhancing competitiveness and innovation.

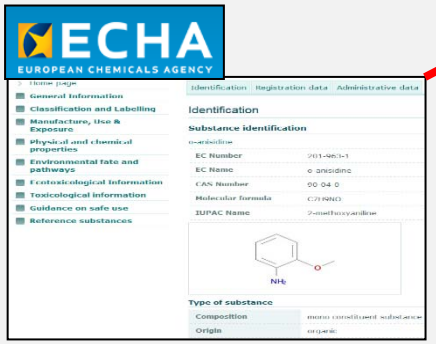
LRI AMBIT2 Chemoinformatics System (Substances)



Company IUCLID DB & ECHA IUCLID DB

as

Major Data Sources



Transfer of **14570** Dossiers

ambit

LRI AMBIT Supporting Read across & Category formation

Data transfer

Other Quality Databases (EFSA Open Food Tox DB,..)

Data transfer

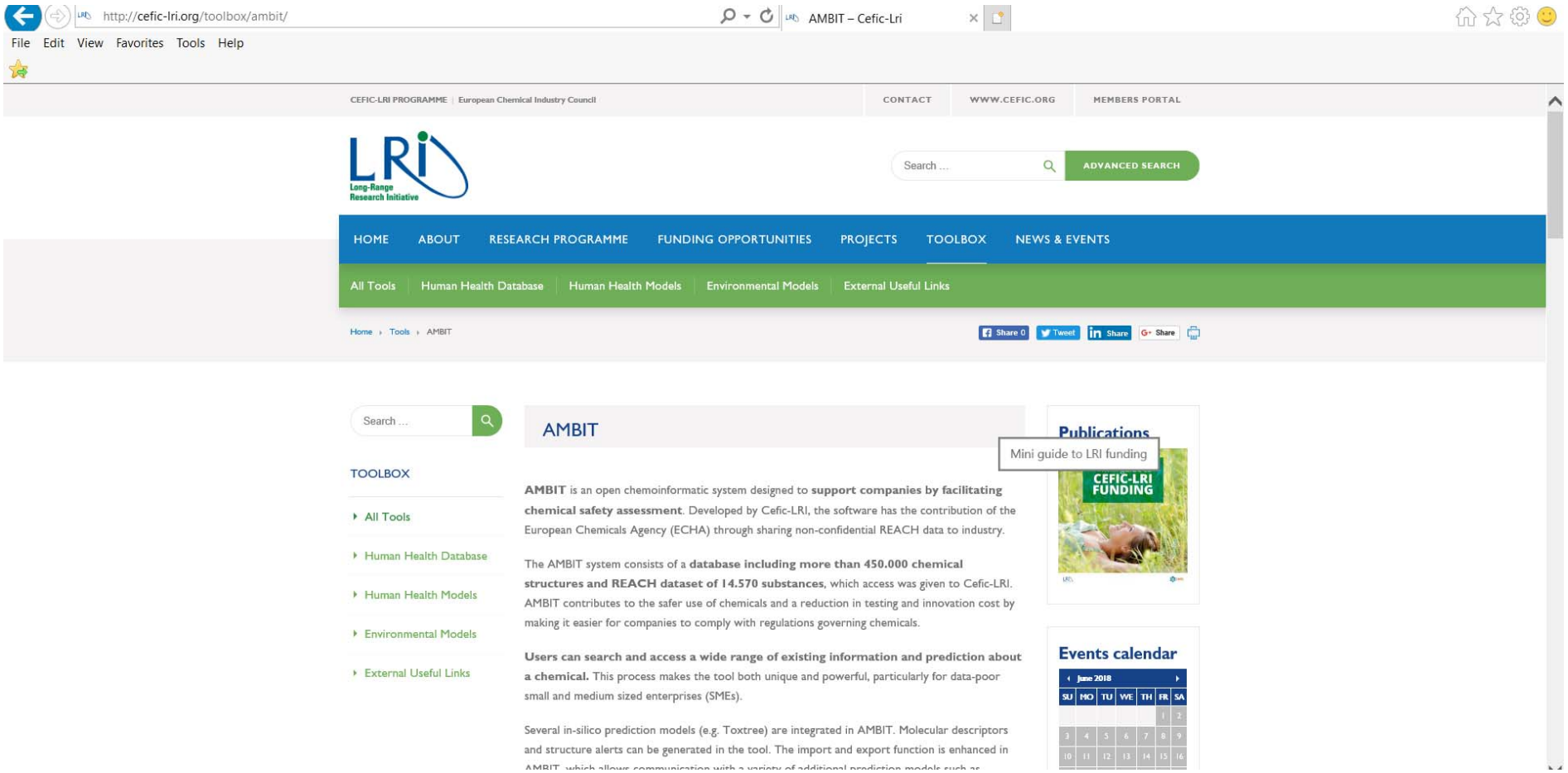
Data transfer

Other Predictive Tools

VEGA inside

Key advantage of AMBIT: large and structured database

Formación
Videos, demos, y mas…

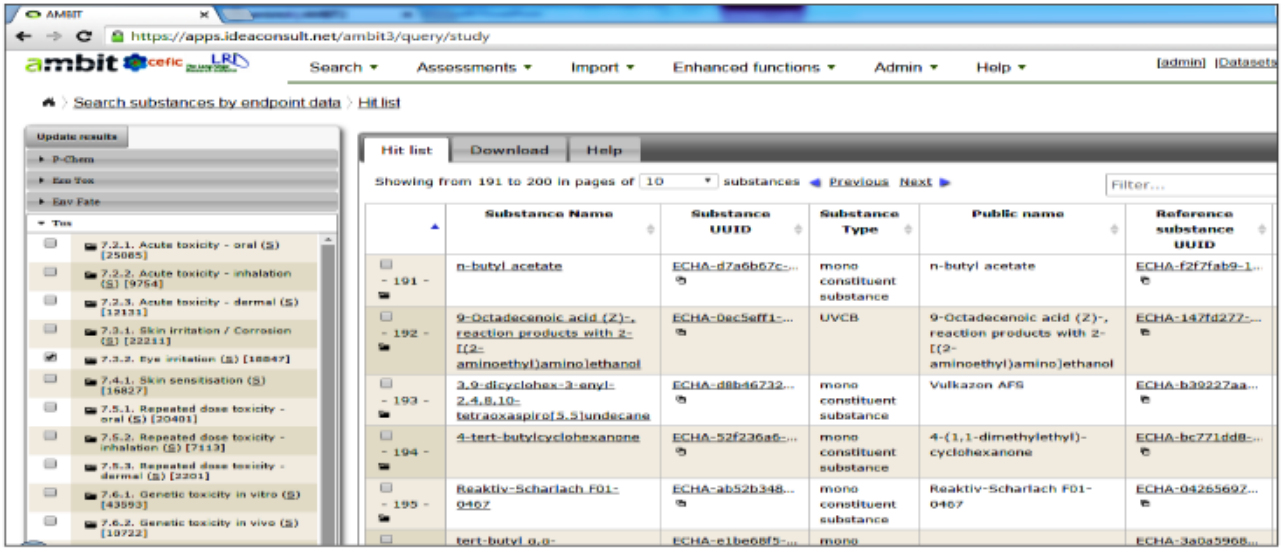


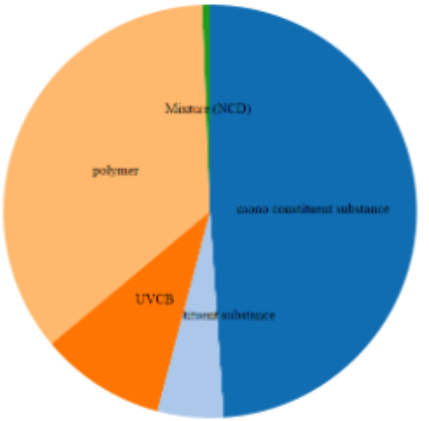
AMBIT 3: A READ-ACROSS FREE TOOL TO FACILITATE CHEMICAL SAFETY ASSESSMENT

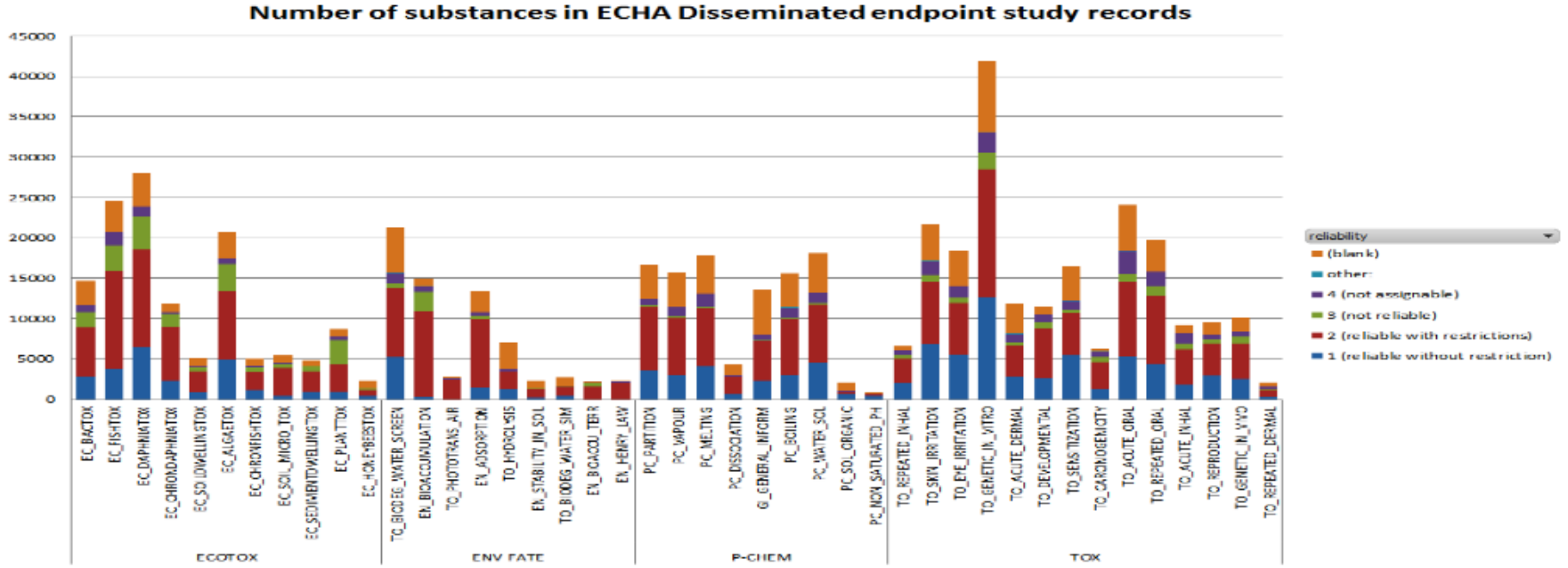
- **Purpose:** make it easier for companies to comply with regulations governing chemicals
- Contains information on more than **450 000 chemical structures from:**
  - **ECHA database** (20.000 REACH dossiers)
  - **EFSA OpenFoodTox** database
  - **US EPA CompTox Dashboard (700.000 chemicals)**
- Accessed in more than **60 countries** around the world

The LRI AMBIT- IUCLID tool is loaded with non-confidential REACH data supplied by ECHA

http://echa.europa.eu/view-article/-/journal_content/title/echa-gives-out-registration-data-to-support-development-of-non-test-methods







The legal notice from the ECHA dissemination website http://echa.europa.eu/web/guest/legal-notice#registration applies to the AMBIT users. In addition, Cefic disclaims any liability of whatsoever nature either direct or indirect regarding the use of the AMBIT IUCLID tool or information / data contained in it

Agenda

- Programa Intelligent Testing
- **LRI Awards**
- QSAR ToolBox OCDE

Desde 2004 apoyando a los jovenes investigadores en este campo

-

- **100.000 €**
- **Estimulando investigaciones “out of the box”**:
  - Nuevos enfoques en el desarrollo y aplicación de la evaluación del riesgo de los productos quimicos.

PREMIADOS HASTA 2018


Roger Godschalk


Paul van den Brink


Ellen Fritsche


Roman Ashauer


Emma Taylor


Hector Keun


Maria Saborit


Thomas Preuss

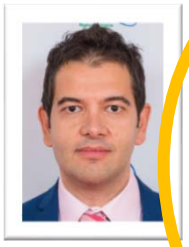

Andreas Bender


Sabine Langie


Alexandra Antunes


Alice Limonciel


Wibke Busch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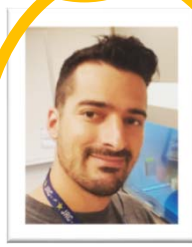
David Pamies

2018 CEFIC-LRI INNOVATIVE SCIENCE AWARDEE: Dr DAVID PAMIES

- MSc in Bioengineering, Miguel Hernandez University, Spain
- PhD in Bioengineering, Miguel Hernandez University, Spain
- JRC-IHCP Trainee, Ispra, Italy
- Research Associate, Center for Alternatives to Animal Testing
- PDF in the Department of Physiology, Lausanne University, Switzerland

Agenda

- Programa Intelligent Testing
- LRI Awards
- **QSAR ToolBox OCDE**

The OECD QSAR Toolbox

To increase the regulatory acceptance of (Q)SAR methods, the OECD is developing a QSAR Toolbox to make (Q)SAR technology readily accessible, transparent, and less demanding in terms of infrastructure costs.

Download the Toolbox | Guidance Documents and Training Materials | Webinar | Help Desk | Public Discussion Forum

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WHAT'S NEW?

18 February – OECD launches QSAR Toolbox version 4.3. along with an updated website: https://qsartoolbox.org/.

New features of the QSAR Toolbox version 4.3 include:

- 2 new Databases (pKa OASIS and ADME database)
- 5 New Profilers (Acute Oral Toxicity, Blood brain barrier (beta), Oral absorption (beta), Skin permeability (beta), Uncouplers (MITOTOX))
- 2D parameters: 5 new methods for assessing pKa
- 159 new (Q)SAR models including pre-calculated online Danish QSAR DB models and new pKa models
- Toolbox Application Program Interface (API) is now publicly available allowing for:

- Enrichment of the Toolbox tools library with additional parameter calculators, profilers, (Q)SAR models and metabolism simulators
- Use of the new (Q)SAR Editor – create custom (Q)SAR models using equations or by dynamic linking to external online QSAR computational platforms
- Connection between Effectopedia and the Toolbox via the new Effectopedia Wizard

For the complete list of new features please see the release notes.
These build on the new features of version 4.0 (release notes) and 4.1 (release notes) and 4.2 (release notes) that was launched in April 2017, in August 2017 and in February 2018.

Download the QSAR Toolbox and find more information at https://qsartoolbox.org/.

WHAT IS THE QSAR TOOLBOX ?

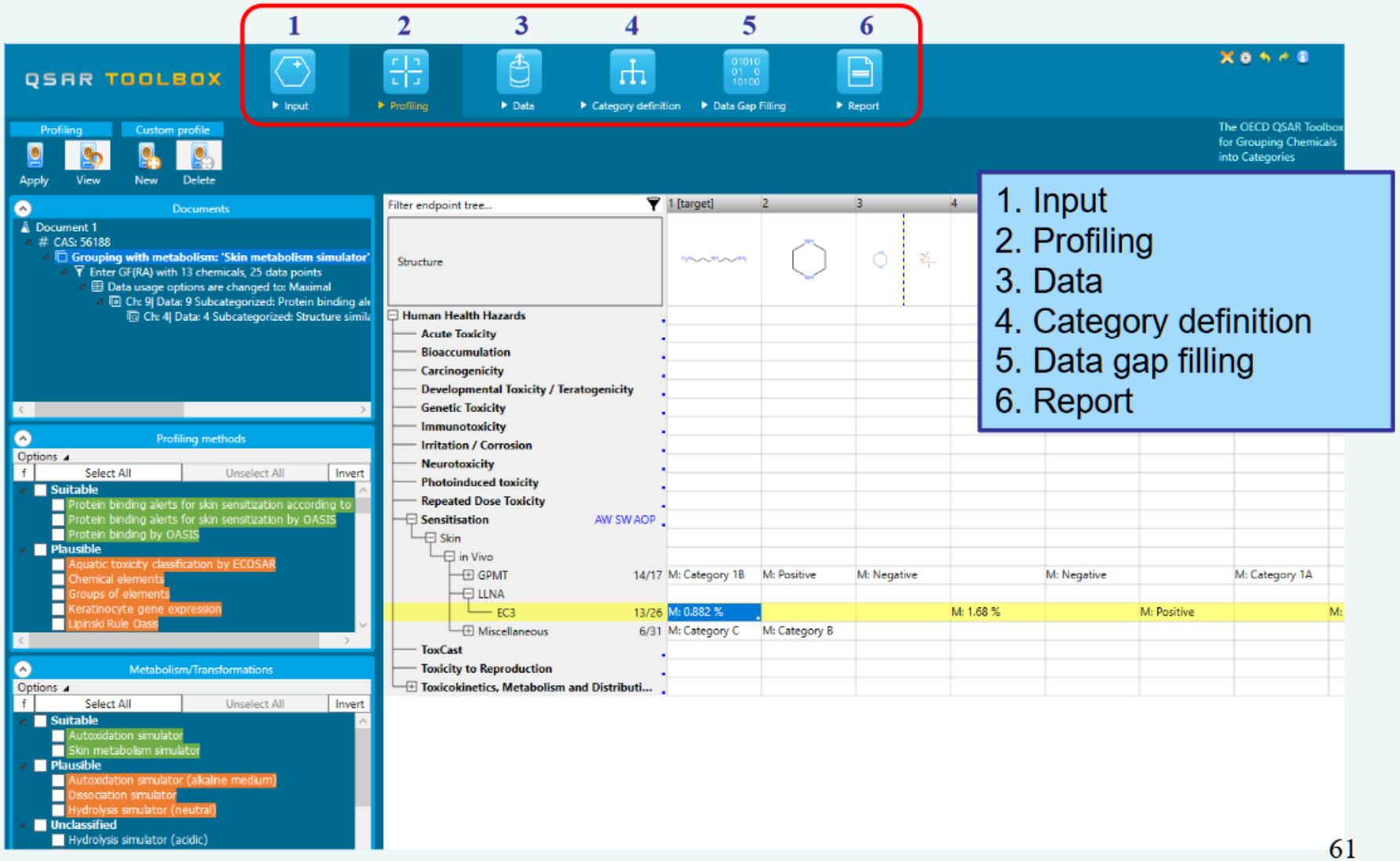
The Toolbox is a software application intended to the use of governments, chemical industry and other stakeholders in filling gaps in (eco)toxicity data needed for assessing the hazards of chemicals. The Toolbox incorporates information and tools from various sources into a logical workflow. Crucial to this workflow is grouping chemicals into chemical categories. Download our brochure (PDF).

The seminal features of the Toolbox are:

1. Identification of relevant structural characteristics and potential mechanism or mode of action of a target chemical.
2. Identification of other chemicals that have the same structural characteristics and/or mechanism or mode of action.
3. Use of existing experimental data to fill the data gap(s).

The interface

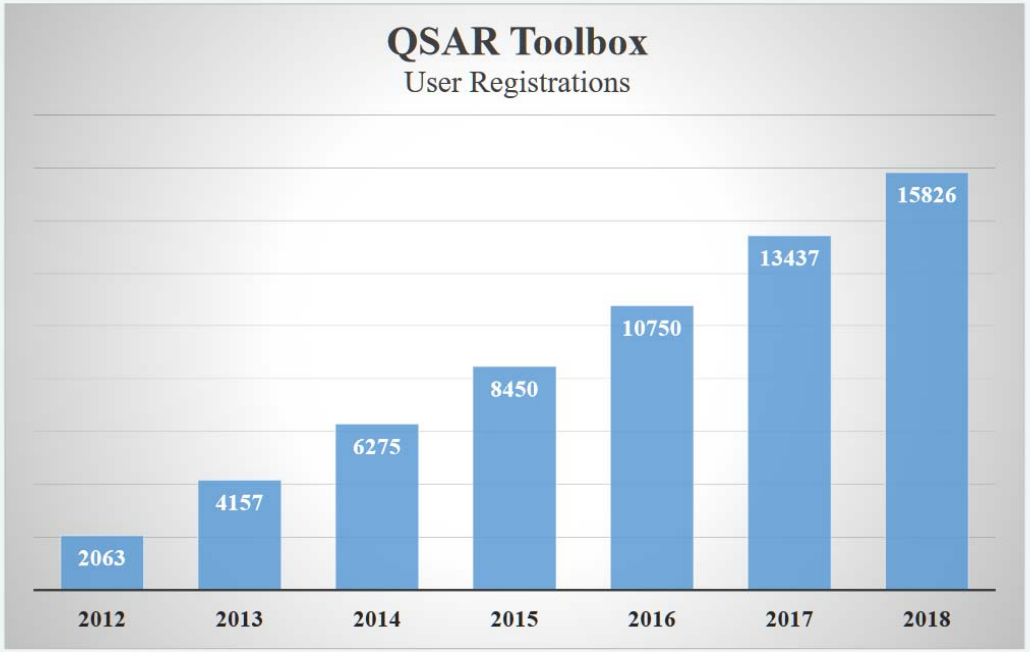
Toolbox modules



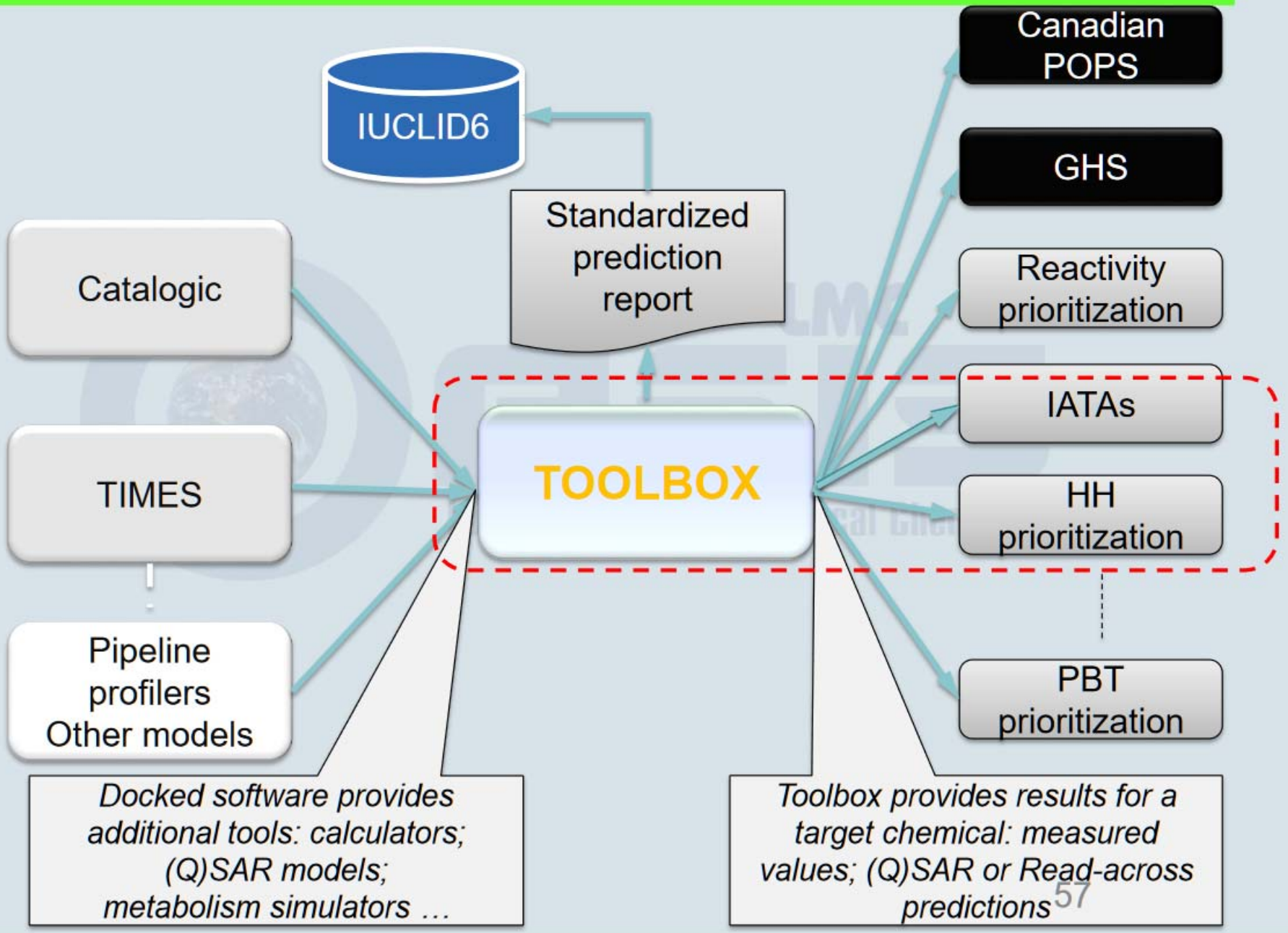
Main Toolbox Supporters

- ✓ OECD
- ✓ European Chemicals Agency
- ✓ US EPA, OPP
- ✓ US EPA, OPPTs
- ✓ US EPA, NHEERL
- ✓ Environment Canada
- ✓ Health Canada
- ✓ NITE Japan
- ✓ NIES Japan
- ✓ Danish EPA
- ✓ UBA Germany
- ✓ NICNAS Australia
- ✓ DEWNA Australia
- ✓ ISS Italy
- ✓ Fraunhofer Germany
- ✓ BfR Germany
- ✓ Cefic
- ✓ Oasis
- ✓ L'Oreal
- ✓ DuPont
- ✓ Givaudan
- ✓ Dow chemicals
- ✓ BASF
- ✓ ExxonMobil
- ✓ 3M
- ✓ Firmenich SV
- ✓ SRC, Syracuse
- ✓ Unilever
- ✓ Multicase
- ✓ ChemAxon
- ✓ International QSAR Foundation

Users registrations



Toolbox interactions



What can we do with Toolbox?

Predictions and much more…

- **Searching** for available experimental data
- **Profiling** chemicals
- **Grouping** analogues
- **Simulating** metabolites
- **Filling data gaps** with prediction workflows for (eco)toxicological endpoints

https://qsartoolbox.org/wp-content/uploads/2019/06/QSARToolbox_General_Workflow_TB43-1.pdf

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Mas información: reach@feique.org

www.icca-chem.org/Home/ICCA-initiatives/Long-range-research-initiative-LRI

anchemistry.com | **www.cefic-lri.org** | **www.j-lri.org/**

Agradecimientos AMBIT

- CEFIC LRI EEM9.3-IC
- Project idea for LRI EEM9.3-IC
  - Volker Koch, Clariant (retired)
  - Joanna Jaworska, *P&G (AMBIT 2005)*
- Project input (AMBIT2):
  - Clariant CompTox Team
    - Udo Jensch *(Toxicologist)*
    - Volker Koch *(Ecotoxicologist)*
    - Qiang Li *(Toxicologist)*
    - Joachim Schneider-Reigl *(Ecotoxicologist)*
- Project implementation
  - Ideaconsult Ltd. www.ideaconsult.net

Nina Jeliazkova, Nikolay Kochev

- Advice: Emilio Benfenati