Beyond REACH: DG GROW perspective for moving towards animal-free regulations

New approach methodologies workshop: Towards an animal free regulatory system for industrial chemicals

Helsinki – 1 June 2023

Georg Streck, European Commission

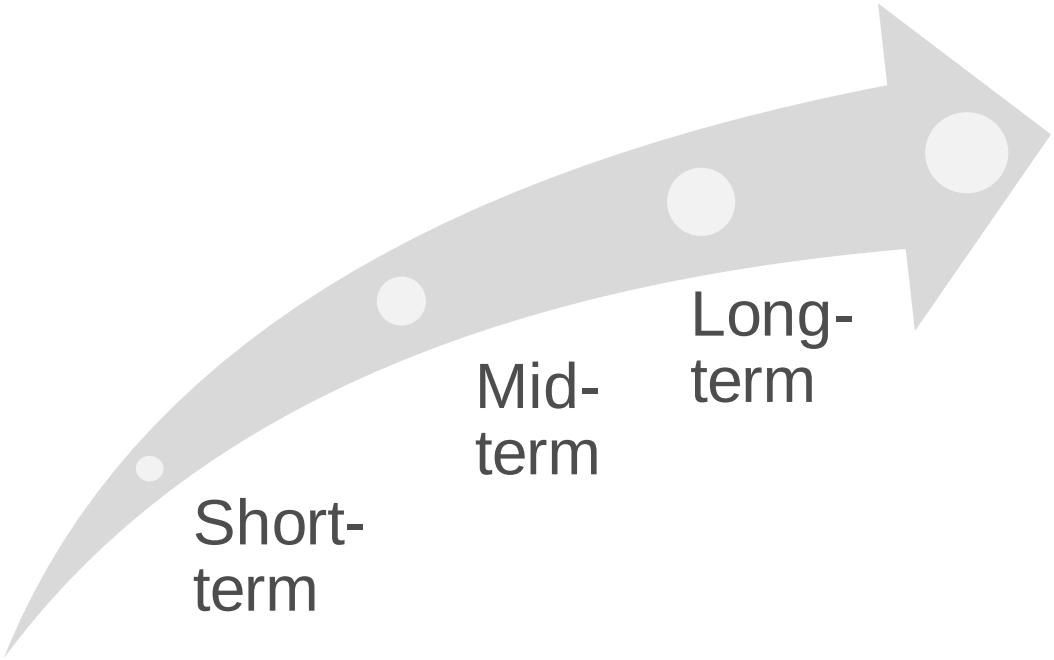
Content

- NAMs – a definition
- Moving towards animal-free regulations
- Other possibilities to reduce or to phase out animal testing
- Mutual acceptance of data + UN GHS
- Legal certainty
- Moving forward/next steps

NAMs – a definition

- No formally or legally accepted definition for the term ‘New Approach Methodologies’
- NAM is used in a broad sense as any methodology, approach or technology that provides information for the hazard or risk assessment of chemicals **without using intact animals** or that has **the aim to reduce animal testing**. That includes e.g.
  - In silico (incl. read-across, QSARs…), in chemico and in vitro approaches
  - Integrated approaches to testing and assessment (IATA) and defined approaches (DA)
  - Omics approaches or omic-enhanced studies
- Animal testing corresponding to the scope of Directive 2010/63/EU

Moving towards animal-free regulations



Ultimate goal: Phase out animal testing for regulatory purposes

Moving towards animal-free regulations

- REACH: Animal testing needed to fulfil Standard Information Requirements (SIR) (Annexes VII-X)
- Similarly, other pieces of chemical legislations (Biocidal Product Regulation, Plant Protection Products Regulation, …) based on Information Req. (IR)

Acute toxicity (oral, dermal, by inhalation)	Carcinogenicity study
Short-term repeated dose toxicity study (28-days)	Short-term toxicity on fish
OECD TG 421/422	Long-term toxicity on fish
EOGRTS (OECD TG 443)	Bioaccumulation in aquatic species, pref. fish

Moving towards animal-free regulations

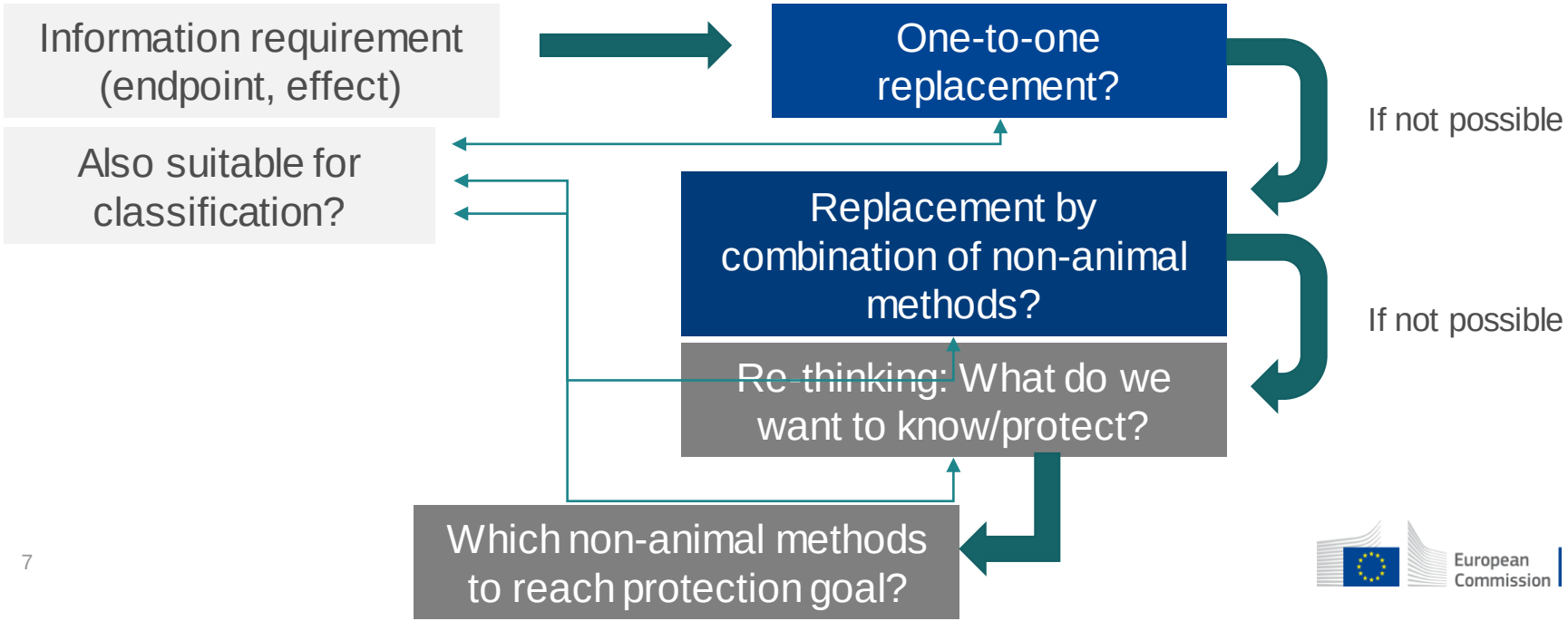
- Basing CLP hazard classes on NAMs/non-animal methods?
  - Classification based on available information
  - Information gathered under REACH (or other legislations) feed into classification

Reproductive toxicity	Carcinogenicity
Specific target organ tox. - repeated exposure	Aquatic toxicity

- Both CLP hazard classes and IRs to be taken into account when considering replacing animal testing
- Or do we need to ask why do we need the information, what do we want to protect?

Moving towards animal-free regulations

- Stepwise approach for each information requirement



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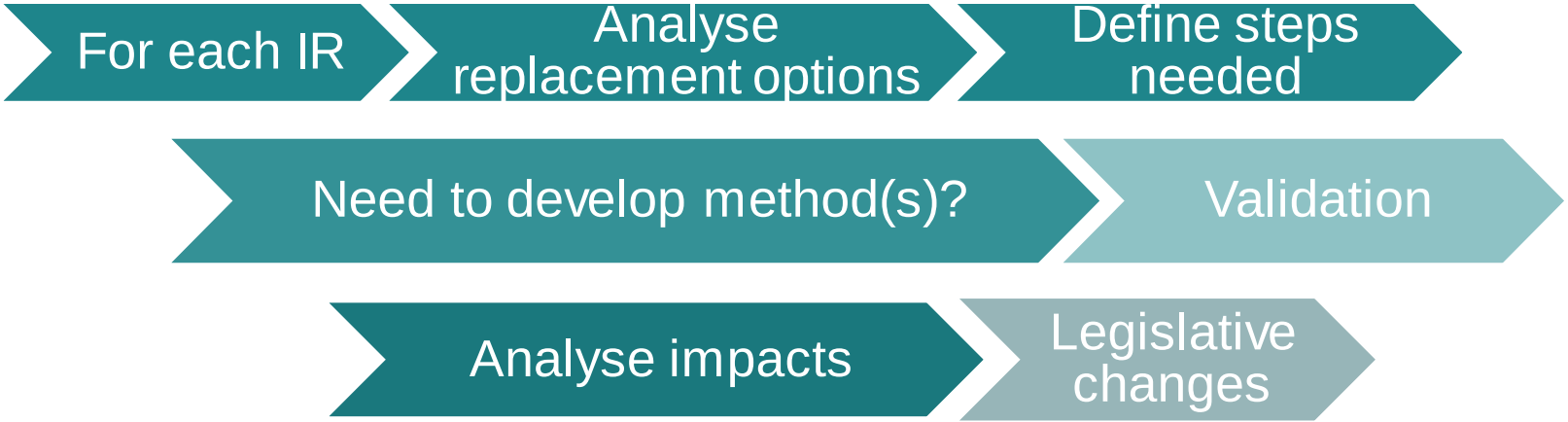
Moving towards animal-free regulations

- One-to-one replacement
  - Skin sensitisation, skin and eye irritation
  - Hyalella Azteca bioconcentration test (HYBIT) instead of fish bioaccumulation test
  - …
- Combination of methods/complex approaches
  - Skin sensitisation, skin and eye irritation
  - Weight-of-Evidence approaches
  - …

Moving towards animal-free regulations



- One-substance-one-assessment – need to look beyond REACH/CLP
- Involvement of Agencies, Member State authorities and stakeholders necessary

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Other possibilities to reduce/phasing out animal testing

- Substance-tailored exposure driven testing
- REACH Annex XI, section 3: Testing may be omitted for specific tests (OECD 421/422); 28-day repeated dose test (for < 100 tonnes))
  - If no significant exposure **and** DNELs/PNECs are available relevant for the omitted information and for risk assessment **and** exposure < DNELs/PNECs
  - For substances not incorporated in articles: strictly controlled conditions throughout life-cycle
  - For substances in articles, in which it is embedded/contained: no release during life-cycle; negligible exposure; conditions for transported isolated intermediate applies

Other possibilities to reduce/phasing out animal testing

- Lower tonnages manufactured/imported might lead to lower emissions/exposure
  - For environmental hazards: Relationship normally assumed
  - For human health hazards: Link between tonnage level and emission/exposure might depend greatly on uses
  - Refinements possible by taking into account uses and physico-chemical properties

→ Potential for reducing animal testing for lower tonnages by including waivers

Other possibilities to reduce/phasing out animal testing

- Use-based triggering/waiving
- Triggering of testing for uses with high potential for emissions/exposure/risks
- Triggering/waiving based on consumer/professional/industrial uses (in connection with proportionality or prioritisation considerations)

→ Exposure driven, emission/exposure- and use-based waiving/triggering underemployed due to database architecture, challenges for checking compliance etc.

→ Further analysis required of what would be needed to more often apply such approaches, overcome challenges etc.

Other possibilities to reduce/phasing out animal testing

- Grouping: Require animal testing for some group members (+ read-across or other methods, e.g. Omics)
  - Need to clarify how biological information (e.g. Omics) can support grouping based on structural similarity hypothesis
  - Base grouping approaches only on biological information?

→ Which group members to test, cost sharing, data sharing rules…

→ Templates for reporting biological information (see OECD Omics Reporting Framework)

→ Guidance on the use of biological information

Mutual acceptance of data/UN GHS

- Using NAM data under different jurisdictions (outside EU) → Mutual Acceptance of Data (MAD)
  - Crucial for reducing/phasing out animal testing globally
  - Important for exporting companies/international trade
- OECD system of Mutual Acceptance of data
  - Multilateral agreement as a basis for OECD members (and several non members) to share data using OECD methods and principles
  - > 150 OECD Test Guidelines (validated), principles of Good Laboratory Practice (GLP); guidance on GLP and compliance monitoring

  → Need to work under the OECD umbrella to reach mutual acceptance of NAMs

Mutual acceptance of data/UN GHS

- UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
  - Crucial for reducing/phasing out animal testing globally
  - Important for facilitating international trade
- Harmonises globally classification criteria and communication tools on chemicals
  - Importance to move forward on UN GHS level for changing classification criteria/introducing NAMs for classification

Legal certainty

- Clarity for industry how to fulfil their obligations and the conditions for acceptance by authorities (information requirements; waivers and adaptations; testing proposals)
- Clarity for authorities that data fulfil requirements – facilitates checking of compliance/enforcement
- Importance of legal certainty for industry and authorities for
  - Predictability
  - Replacing/avoiding animal testing
  - Avoiding delays in providing information for the assessment of chemicals

→ Description of IR/classification criteria as clear as necessary

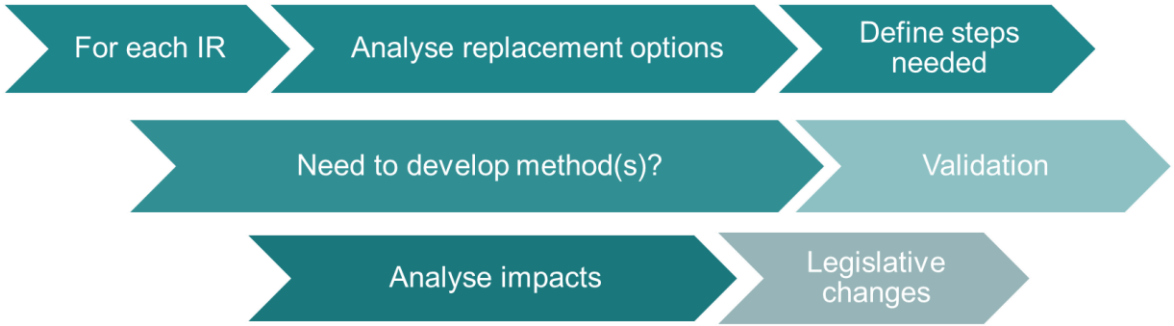
→ Reporting templates, guidance

Moving forward

- European citizens' initiative *'Save cruelty-free cosmetics - Commit to a Europe without animal testing'* submitted to EU Commission on 25 January
- Communication replying to ECI will outline legal and political conclusions as well as action(s) the Commission intends to take (adoption by 25 July)

Moving forward

- Need for a process to define steps for replacing animal testing



- Short-term, mid-term, long-term actions?
- Involvement of all stakeholders: Member States, Agencies, industry, NGOs, scientific community

Thank you

European Commission

Utrecht University

Veterinary Medicine

Accelerating the transition

to an animal-free regulatory system:

Let's make it happen together!

ECHA NAM workshop Helsinki
1 June 2023

Merel Ritskes-Hoitinga
Prof in Evidence-Based Transition to Animal-Free Innovations
Institute for Risk Assessment Sciences (IRAS) TOX
https://www.uu.nl/en/news/merel-ritskes-hoitinga-new-professor-of-evidence-based-transition-to-animal-free-innovations

Overview

- How did I get here?
- Where is the evidence?
- Can we act more upon scientific evidence / using systematic reviews?
- Accelerating the transition to animal-free innovations – transition science
- Setting goals and leadership

tpi.

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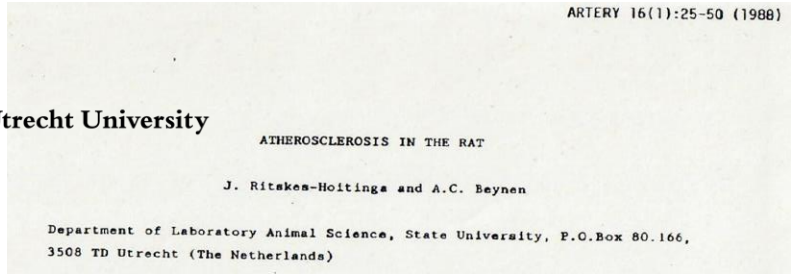
SYRCLE



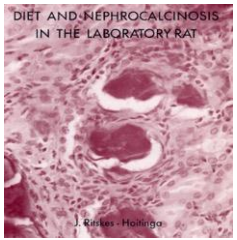
ARTERY 16(1):25-50 (1988)

ATHEROSCLEROSIS IN THE RAT

J. Ritskes-Hoitinga and A.C. Beynen

Department of Laboratory Animal Science, State University, P.O.Box 80.166, 3508 TD Utrecht (The Netherlands)

Utrecht University



www.ritskes-hoitinga.eu

The story of my life:
from Refinement to Replacement

3R Research Centre
Refine Reduce Replace

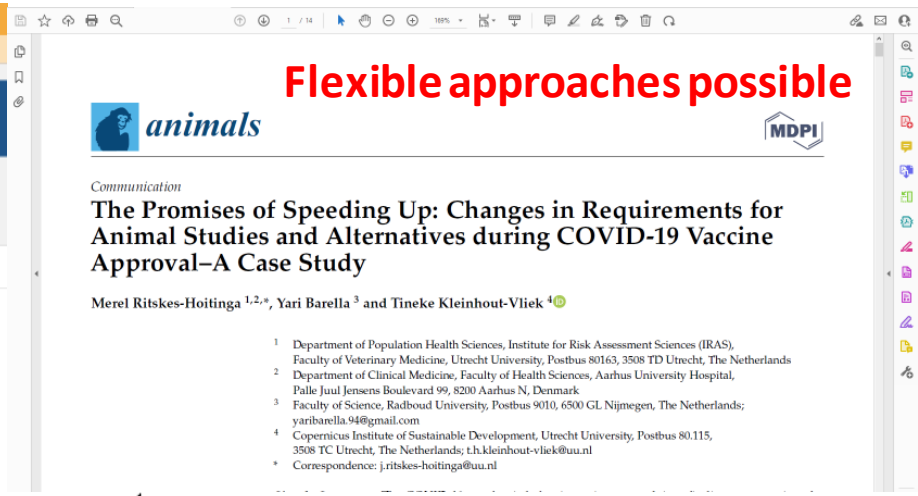
Radboudumc
university medical center

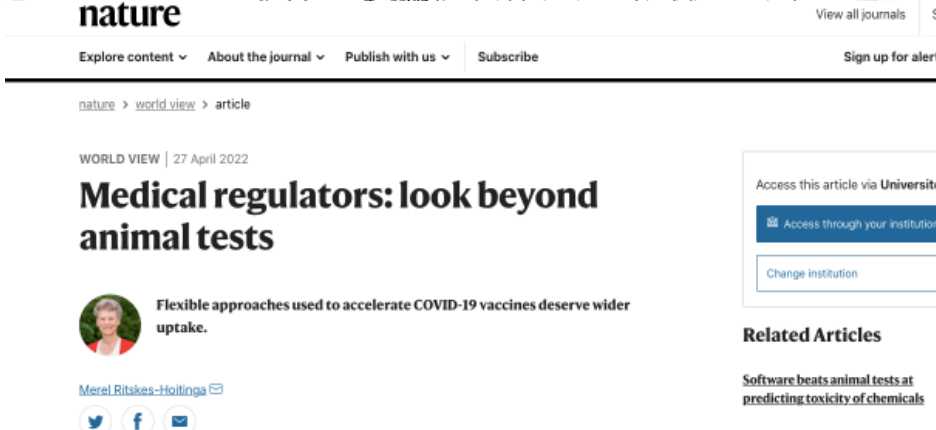
Syddansk Universitet
University of Southern Denmark

charles river

Where and what is the evidence behind drug legislation?

Flexible approaches possible





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Can we use evidence more?

What are systematic reviews?

Systematic reviews bring us the most

objective and complete scientific evidence

and lead to better evidence-based decision making

Systematic Review results:

low publication quality

and low translation of animal studies to

humans is made transparant.

Scientific need for change.

Changes coincide with resistance.

It needs perseverance and

managing transitions:

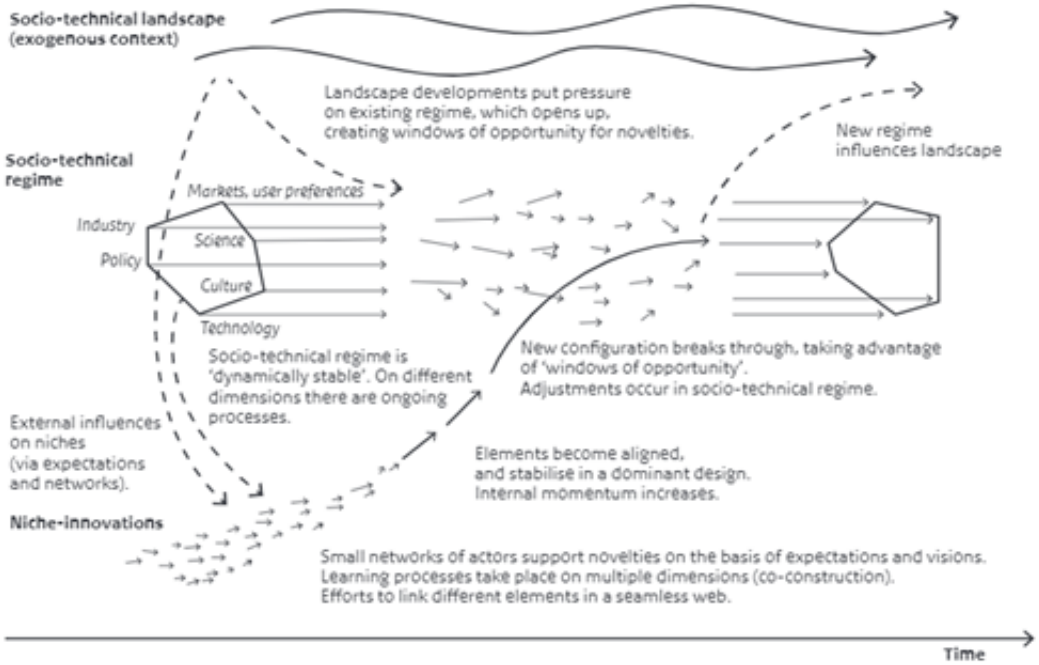
Transition science

Multi-level perspective transition analysis

Identify:
Barriers, leverages and opportunities

Niche: Alternative system
Regime: Dominant system
Landscape: Societal trends

Goal:
Identify opportunities to accelerate the transition



Geels, F. W. (2011). The multi-level perspective on sustainability transitions: Responses to seven criticisms. Environmental innovation and societal transitions, 1(1), 24-40.

The Dutch Transition Program to animal-free Innovations

Mission:

Better predictions without (lab) animals

Ambition:

The Netherlands with TPI as a catalyst of the (inter)national transition towards animal-free innovations

Partner program founded in 2018: 11 partners (including a young TPI!)

TPI-policy is in conjunction with 3Rs policy, to ensure animal- welfare as long as animals are needed.

tpi.

NFU
NEDERLANDSE FEDERATIE VAN UNIVERSITAIR MEDISCHE CENTRA

ZonMw

PROEFDIERVRIJ

Samenwerkende GezondheidsFondsen
SGF

KNAW

Health~Holland

Universities *of* *The* Netherlands

National Institute for Public Health and the Environment
Ministry of Health, Welfare and Sport

yt

Netherlands National Committee for the protection of animals used for scientific purposes

Ministry of Agriculture, Nature and Food Quality of the Netherlands

International ambition and activities

European/international approach is crucial to validate, accept and implement non-animal methods (NAMs).

TPI:

- Plans to start conversations with other EU member states about validation of NAMs;
- To find common ground on what is needed to improve validation;
- Together we can accelerate our national efforts and improve our chances to a European approach!

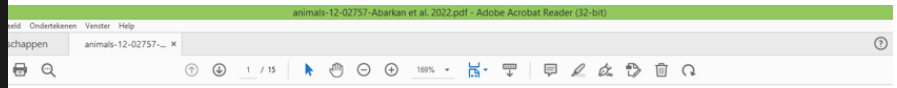
SCAN ME

Interested or questions ?
Feel free to contact our program manager:

Erica van Oort, PhD
e.vanoort@minlnv.nl
Ministry of agriculture, nature and food quality

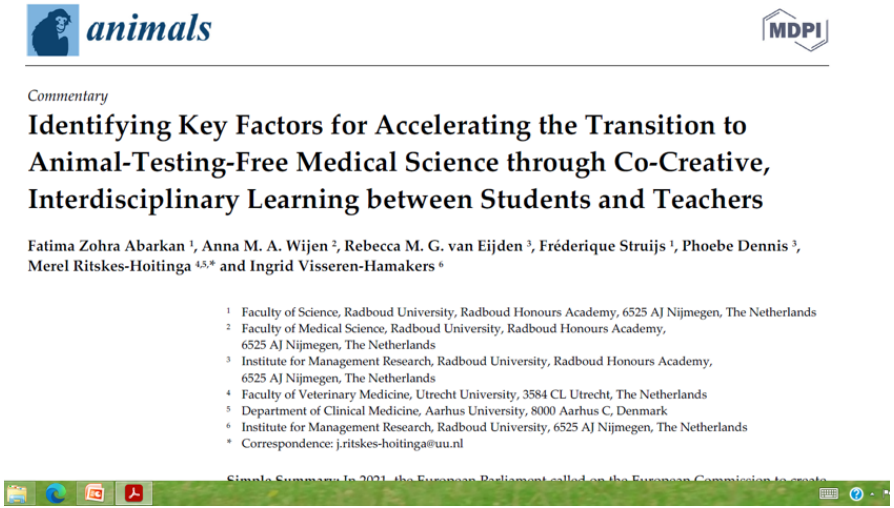
www.animalfreeinnovationtpi.nl

Education: Multi-level perspective transition analysis



Co-creation

Interdisciplinary learning



animals

MDPI

Commentary

Identifying Key Factors for Accelerating the Transition to Animal-Testing-Free Medical Science through Co-Creative, Interdisciplinary Learning between Students and Teachers

Fatima Zohra Abarkan [1], Anna M. A. Wijen [2], Rebecca M. G. van Eijden [3], Fréderique Struijs [1], Phoebe Dennis [3], Merel Ritskes-Hoitinga [4,5,*] and Ingrid Visseren-Hamakers [6]

[1] Faculty of Science, Radboud University, Radboud Honours Academy, 6525 AJ Nijmegen, The Netherlands
[2] Faculty of Medical Science, Radboud University, Radboud Honours Academy, 6525 AJ Nijmegen, The Netherlands
[3] Institute for Management Research, Radboud University, Radboud Honours Academy, 6525 AJ Nijmegen, The Netherlands
[4] Faculty of Veterinary Medicine, Utrecht University, 3584 CL Utrecht, The Netherlands
[5] Department of Clinical Medicine, Aarhus University, 8000 Aarhus C, Denmark
[6] Institute for Management Research, Radboud University, 6525 AJ Nijmegen, The Netherlands
* Correspondence: j.ritskes-hoitinga@uu.nl

Simple Summary: In 2021, the European Parliament called on the European Commission to create

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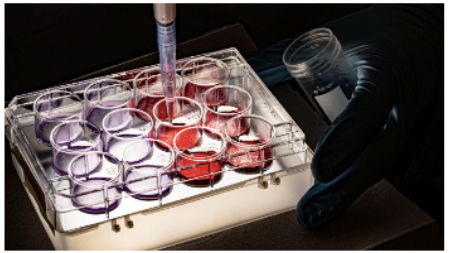
Funding Dutch Research Agenda (NWA): Non-animal models, acceptance and implementation

Three consortia awarded funding for acceptance and implementation of animal-free models in safety assessment

25 August 2022

Within the Dutch Research Agenda (NWA) 'Non-animal models: acceptance and implementation', three consortia will research on the acceptance and implementation of existing animal-free models. A total of about € 2.9mln has been awarded for this research. This programme is a collaboration between the Dutch Ministries of Infrastructure and Water Management (I&W), Public Health,



Characteristics

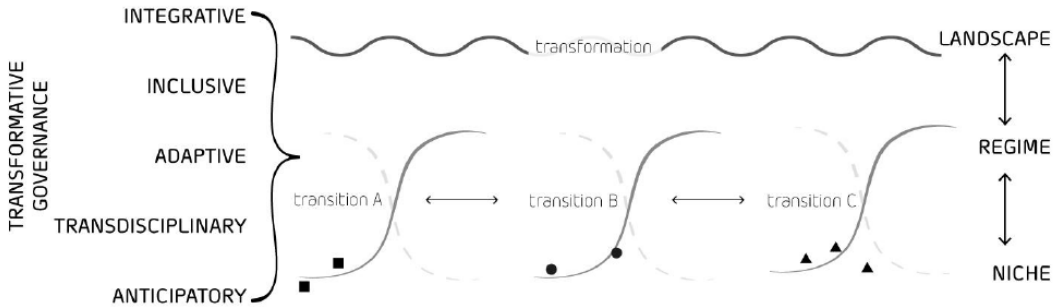
Research programme
Animal-free assessment models: acceptance and implementation

Themes
Knowledge Utilisation
Health
Open Science
Key Technologies
Safety
Food

Type
Awards

SAFE = Safety Assessment through animal-free evolution

INTEGRATING TRANSFORMATIONS AND TRANSITIONS THROUGH TRANSFORMATIVE GOVERNANCE



Visseren-Hamakers, I.J. et al. 2022. How to save a million species? Transformative governance through prioritization. In: Visseren-Hamakers, I.J. and Kok, M. (Eds.) 2022. *Transforming Biodiversity Governance.* Cambridge University Press.

Climate crisis

Energy crisis

Biodiversity crisis

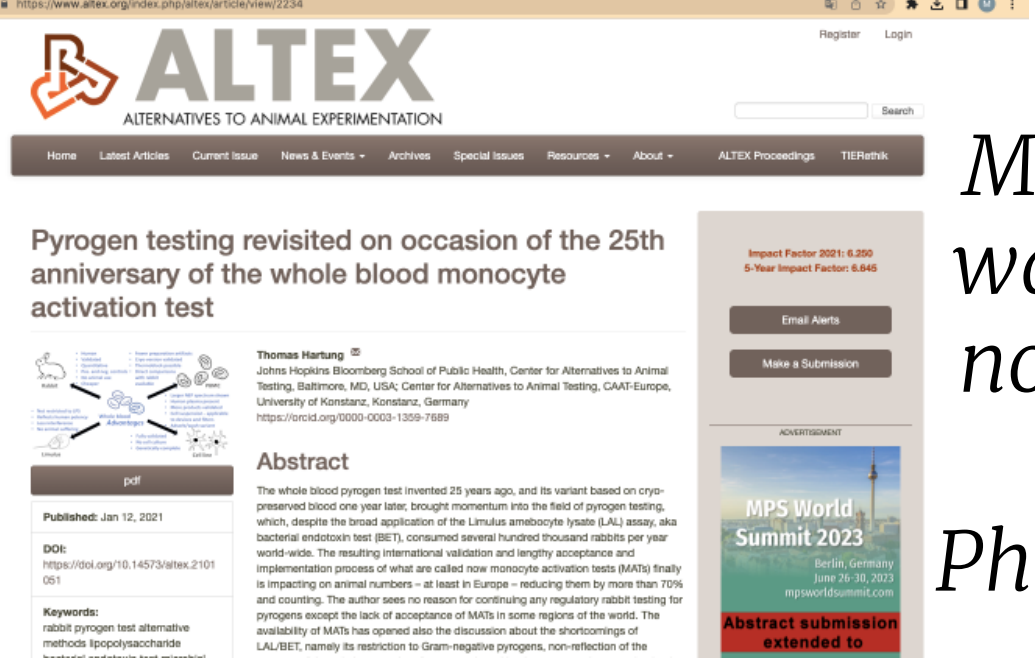
Covid pandemic crisis

Transitions inform and influence one another. Study the underlying causes.

We need mixed methods research and flexible approaches: combining quantitative and qualitative research

We need inter- and transdisciplinary research

Providing scientific evidence is clearly not sufficient to make real changes



Monocyte activation test was validated 25 yrs ago, now finally incorporated in the European Pharmacopoiea to replace rabbit pyrogen test.

Why has this taken so long?!

Promising recent developments – transition *is* happening

Multi stakeholder article on building scientific confidence in New Approach Methods – van der Zalm A et al. Archives Toxicology 2022

European Citizen's initiative

European Parliament asking for a roadmap

Food and Drug Administration modernisation act

European Medicines Agency 3R working party

European Food Safety Authority roadmap

This European Chemicals Agency New Approach Methods workshop

VHP4SAFETY
virtual human platform for safety assessment

Next generation (animal-free) risk assessment:

Human biology central
Science and regulations meet

THE CHALLENGE

HUMAN-RELEVANT SCENARIOS

Current animal tox testing regimes do not reflect human-relevant scenarios, such as differences in susceptibility due to age, gender, timing of exposure, or disease state.

REPRODUCIBILITY

Only 25% of published results obtained with animal data can be reproduced.

PREDICTIVE VALUE

The results of a laboratory animal can only predict the results in reproductive toxicity of another species by 60%.

9,338,162 ANIMALS

Were still being used for research and testing in the EU in 2017 **(about one third for toxicity testing).**

INTERDISCIPLINARY APPROACH

Integrating data from new in vitro and in silico methods, data sciences and social sciences

SLOW DECREASE

In 10-years time, the use of animals is only decreased by 22% with the current approach to gradually refine, reduce and replace animal testing.

Virtual human platform for safety assessment of chemicals and pharmaceuticals
VHP4Safety project NWA 1292.19.272 is part of the NWA research program 'Research along Routes by Consortia (ORC)', which is funded by the Netherlands Organization for Scientific Research (NWO).

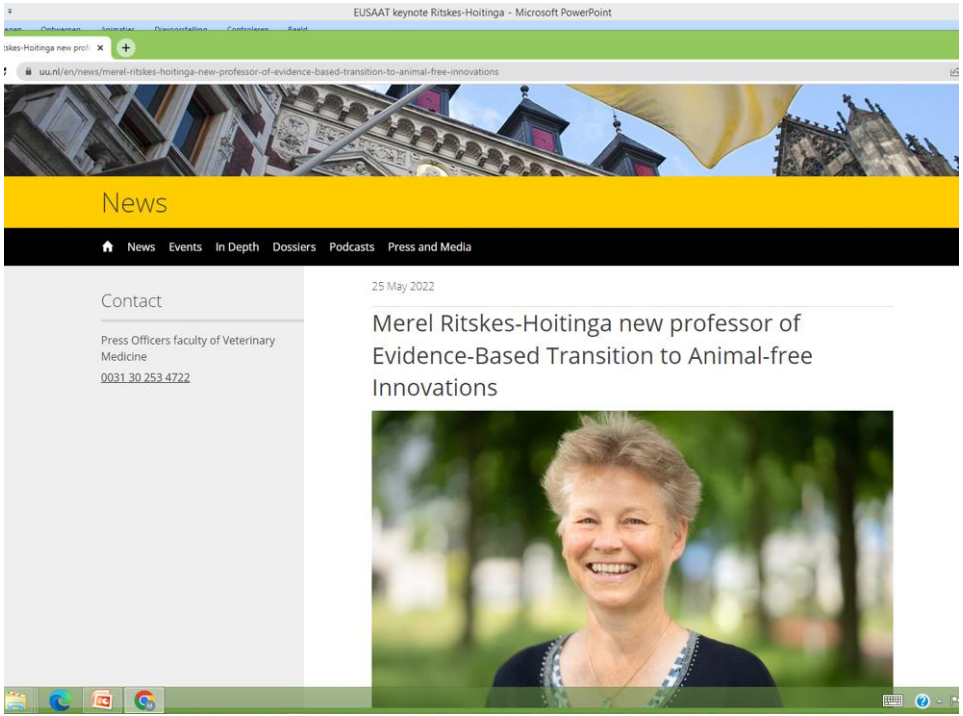
Let's make it happen together!
Phase out animal studies and embrace alternatives asap for the benefit of animals and humans.
The science and technology *are* here!

New (academic) pathways:

More evidence-based decision making

Transdisciplinary research and education – connecting stakeholders

Multilevel perspectives, transition science and transformative governance



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We choose to go to the moon…

..in this decade, not because it's easy, but because it's hard, it will serve to organise and measure the best of our energies and skills, a challenge we are willing to accept, unwilling to postpone and intend to win

We choose to go for New Approach Methods (NAM) only

..in this decade, not because it's easy, but because it's hard, we will only use NAMs because it will serve to organise and measure the best of our energies and skills in a challenge we are willing to accept and unwilling to postpone in the interest of all living creatures and our environment

EPAA Perspective

Dr Gavin Maxwell, EPAA industry co-chair

gavin.maxwell@unilever.com

European Partnership for Alternative Approaches to Animal Testing (EPAA)

The European Partnership for Alternative Approaches to Animal Testing

Collaboration between European Commission and Industry stakeholders from 8 sectors (est. 2005)

Vision: The replacement, reduction and refinement (3Rs) of animal use for meeting regulatory requirements through better & more predictive science (e.g. New Approach Methodologies (NAMs)).

To join EPAA e-mail:
GROW-EPAA@ec.europa.eu

38 Companies (including 1 SME)

Boehringer Ingelheim, Johnson & Johnson, REVLON, L'ORÉAL, DSM, DOW, LVMH, essity, symrise, ESTĒE LAUDER, KANEBO, MERCK, MSD, Gowan, EVONIK, SHISEIDO, ADAMA, Beiersdorf, Unilever, CHANEL, COLGATE-PALMOLIVE, Henkel, BAYER, CORTEVA agriscience, P&G, Kimberly-Clark, NOVARTIS, Reckitt Benckiser, novo nordisk, zoetis, BASF, SANOFI, GSK, SASOL, novozymes, stratiCell, SOLVAY, syngenta

European Commission

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DG GROW
DG ENV
DG SANTE
DG JRC
DG RTD

Including Partner Agencies

ECHA European Chemicals Agency, efsa European Food Safety Authority, European Medicines Agency Science Medicines Health

Mirror Group *(Advisory body)*

Emily McIvor (Chair), Julia Baines, Emma Grange, Tuula Heinonen, Christiane Hohensee, Monique Janssen, Helena Kandarova, Winfried Neuhaus, Sirpa Pietikaïnen (MEP), Vera Rogiers

8 Sectoral Associations

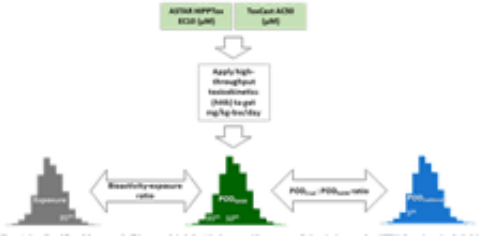
A·I·S·E, animalhealth europe, cefic, Cosmetics Europe, ifra International Fragrance Association, efpia European Federation of Pharmaceutical Industries and Associations, CropLife Europe, smo United

Goal: Safe & Sustainable Chemicals without Animal Testing

Chemical regulatory testing can evolve…

A paradigm shift in chemical regulatory testing is underway. New tiered, chemical safety assessment frameworks ensure animal testing is a 'last resort' through early use of NAMs.

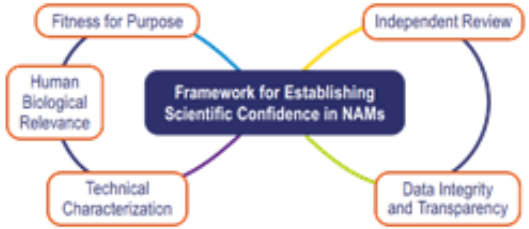
Let's use NAMs to reduce and replace chemical regulatory animal testing.



…to better protect people & our planet

Increased use of NAM data, exposure information and/or computational approaches should allow us to set, and assess against, more meaningful human health & environmental protection goals.

Let's use NAMs to strengthen confidence in chemical safety.



…and support new chemical innovation

Work is ongoing to update our chemical safety frameworks to better assess green chemistry / sustainable chemicals.

Let's use NAMs to ensure new chemicals are Safe & Sustainable by Design without Animal Testing.

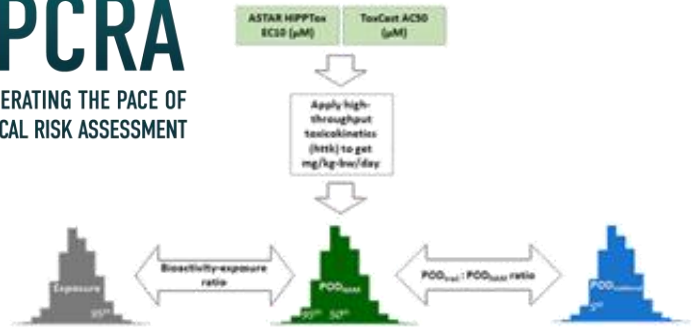
Applying NAMs to regulatory testing of chemicals: global paradigm shift

Paul Friedman et al. 2020 APCRA 'proof-of-concept' case study demonstrated the feasibility of applying a high throughput NAM-based approach for screening-level assessments

- $POD_{NAM\ 95}$ value was less than or equal to the $POD_{traditional}$ value (derived from *in vivo* toxicology data) value for 89% chemicals
- Bioactivity-exposure ratio is a useful data-driven metric

for chemical prioritization

APCRA
ACCELERATING THE PACE OF CHEMICAL RISK ASSESSMENT

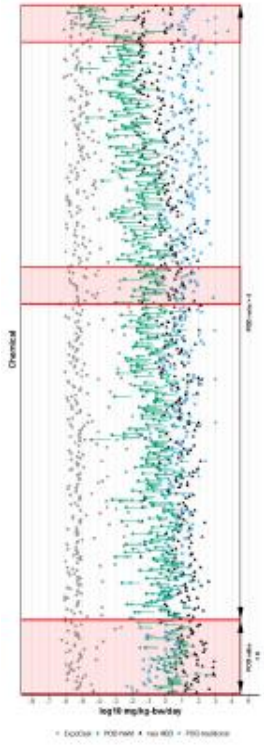



SOT Society of Toxicology academic.oup.com/toxsci Spotlight

Utility of *In Vitro* Bioactivity as a Lower Bound Estimate of *In Vivo* Adverse Effect Levels and in Risk-Based Prioritization

Katie Paul Friedman, Matthew Gagne, Lit-Hsin Loo, Panagiotis Karamertzanis, Tatiana Netzeva, Tomasz Sobanski, Jill A. Franzosa, Ann M. Richard, Ryan R. Lougee, Andrea Gissi, Jia-Ying Joey Lee, Michelle Angrish, Jean Lou Dorne, Stiven Foster, Kathleen Raffaele, Tina Bahadori, Maureen R. Gwinn, Jason Lambert, Maurice Whelan, Mike Rasenberg, Tara Barton-Maclaren, and Russell S. Thomas

ABSTRACT



Applying NAMs to regulatory testing of chemicals: global paradigm shift

Figure 1. Five work plan objectives for reducing the use of vertebrate animals in the EPA's regulatory, compliance, enforcement and research activities while remaining fully protective of human health and the environment.

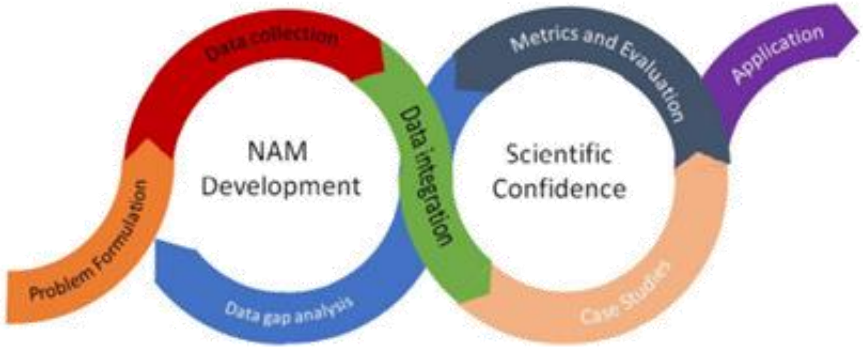
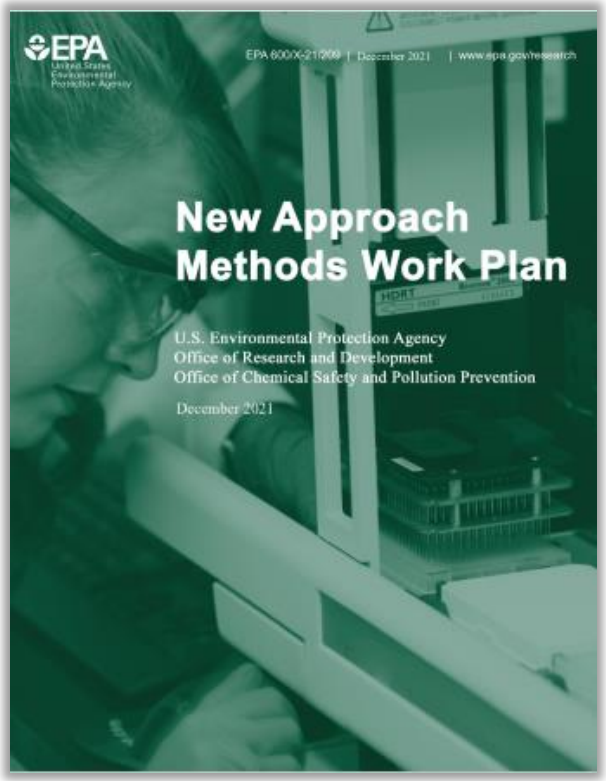


Figure 2. Problem-focused research planning and implementation process at EPA.



New Approach Methods Work Plan (epa.gov)

Transitioning Europe to Animal-free, Sustainable Innovation

EU Parliament resolution

On 15th Sept 2021 the EU Parliament resolution adopted to '**Accelerate a Transition to Innovation without the use of Animals in Research, Regulatory Testing and Education**' calling for an action plan with ambitious objectives, reduction targets & replacement timelines

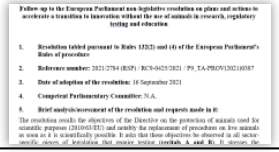

European Parliament
2019-2024
TEXTS ADOPTED
P9_TA(2021)0387
Plans and actions to accelerate a transition to innovation without the use of animals in research, regulatory testing and education
European Parliament resolution of 16 September 2021 on plans and actions to accelerate the transition to innovation without the use of animals in research, regulatory testing and education (2021/2760(RSP))

European Parliament

EU Commission response

EU Commission response to EP resolution stated that:

- '**ultimate goal of full replacement is enshrined in EU legislation**'
- 'transition to innovation without the use of animals is **best supported by focusing on & intensifying current efforts'**


Follow-up to the European Parliament non-legislative resolution on plans and actions to accelerate a transition to innovation without the use of animals in research, regulatory testing and education
1. Resolution tabled pursuant to Rules 132(2) and (4) of the European Parliament's Rules of procedure
2. Reference number: 2021/2784 (RSP) | RC9-0425/2021 | P9_TA-PROV(2021)0387
3. Date of adoption of the resolution: 16 September 2021
4. Competent Parliamentary Committee: N.A.
5. Brief analysis/assessment of the resolution and requests made in it:
The resolution recalls the objectives of the Directive on the protection of animals used for scientific purposes (2010/63/EU) and notably the replacement of procedures on live animals as soon as it is scientifically possible. It asks that those objectives be observed in all sector-specific pieces of legislation that require testing involving A and B. It stresses the

European Commission

EPAA is accelerating the transition to animal-free, sustainable innovation through:

1. Helping identify & evaluate NAM-based frameworks that address regulatory testing needs
2. Creating a forum for scientific dialogue between industry & regulatory safety assessors
3. Helping implement an EU roadmap to replace regulatory animal testing of chemicals

Key EPAA 2022/23 NAM activities

- EPAA '**Non-animal science (NAMs) in Regulatory Decisions for Chemical Safety'** project:
  - **WG1: NAM Designathon Challenge** with ECETOC
  - **WG2: NAM User-Forum:** case study-led workshop to share experience of applying NAMs for regulatory decision-making, building on **Skin Sen. User Forum**

- EPAA **Partners Fora**: '**Exposure Considerations in Human Health Safety Assessment**' (6th May & 14th Nov 2022) and "**Use of NAMs in Environmental Safety Assessment**" (13th-14th Nov 2023), hosted by CEFIC and organised with ECETOC, SETAC and ICCS.

- Helping implement an **EU roadmap to replace regulatory animal testing of Chemicals**
  - **EFSA One Conference** (21st-24th June 2022)
  - **ECHA NAMs workshop** (31st May – 1st June 2023)
  - EPAA supports PARC via membership of the **PARC Synergy Network (SYNnet)**
  - **EPAA EU Parliament debate** (13th Sept 2023) **& exhibition** (12th Sept 2023) on 'Accelerating Transition to Animal-Free Innovation'

EPAA ‘Use of NAMs in Regulatory Decisions for Chemical Safety’ workshop

In November 2021, EPAA organised a deep-dive workshop on **Use of New Approach Methodologies (NAMs) in regulatory decisions for chemical safety**.

The workshop identified opportunities to advance use of NAMs through **addressing scientific needs, regulatory needs and opportunities & education & training:**

Science

a) Building trust through defining criteria for robust, reliable and reproducible use of NAMs and level of acceptable variability
b) Sharing NAMs experience for a wide coverage of substances / exposure situations
c) Increasing applicability and reliability of *in vitro* ADME and QIVIVE.
d) Defining curated data sets that could be used to evaluate the performance of NAMs including qualitative/ quantitative human data
e) Taking advantage of human-based NAMs across appropriate doses vs. predicting NOAELs/LOAELs from animal studies
f) Developing a transparent scientific approach to characterise sensitivity/specificity and avoid potential over/under-classification with NAMs
g) Better defining exposure information across the lifecycle of chemicals and progressing work on exposure classification
h) Building on achievements of use of NAMs (link to survey) and addressing complex areas that currently have fewer NAM approaches (e.g., DART)
i) Ensuring new approaches provide Points of Departure for risk assessments AND hazard classification schemes, including repurposing existing NAM data
j) Consider applicability domain for NAMs-based approaches including future chemical classes (e.g., nanomaterials, polymers)

Regulatory Frameworks

a) Existing regulation could be revised to further explore tiered schemes that include exposure and NAMs without seeing animal studies as the gold standard.
b) Increasing opportunities to use NAMs that are fit for regulatory needs (e.g. Annexes of REACH) such as sharpening the text to better facilitate the use of NAMs
c) Striving to seek balance between flexibility/adaptation and prescribing defined test approaches in regulations, retaining the goal of protecting humans and the environment
d) Ensuring that scientifically valid NAMs/strategies are horizontally applied across different legislative frameworks
e) Exploring whether a cross-sector approach for use of NAMs is conceivable for OSOA
f) Increasing formal channels for scientific dialogue between decision-making regulators and industry on bespoke use of NAMs for filling information requirements

Education & Training

a) Raise awareness and provide relevant expertise and training
b) Industry and regulators to find ways to explore more NAM assessments in regulatory submissions to increase confidence in use of NAMs in regulatory discussions
c) Build common understanding with other stakeholders: NGOs, wider society – role for EPAA
d) Identify opportunities to leverage NAMs for the EU Chemicals Strategy for Sustainability


Regulatory Toxicology and Pharmacology

Use of New Approach Methodologies (NAMs) in regulatory decisions for chemical safety: Report from an EPAA Deep Dive Workshop

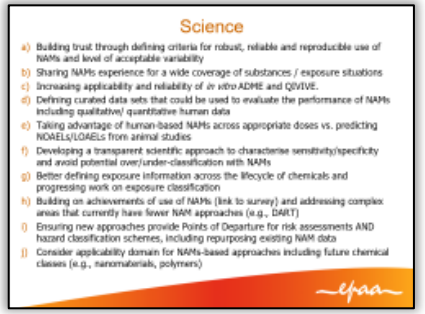
An EPAA project was created in 2022 to progress priority activities with two initial working groups.

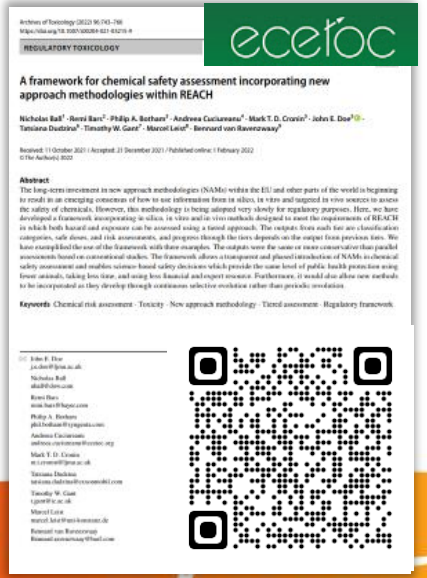
2. EPAA ‘Non-animal science (NAMs) in Regulatory Decisions for Chemical Safety’

EPAA NAM project working group 1 have focussed on addressing the **scientific challenges** identified during the workshop through reflecting on how the conceptual **ECETOC framework for chemical safety assessment incorporating NAMs within REACH** could be implemented.

EPAA ‘NAM Designathon 2023’ Challenge for human systemic toxicity seeks to identify classification systems capable of categorising chemicals into three levels of concern based on the intrinsic toxicodynamic and toxicokinetic properties (see figure) and will be launched soon on the EPAA website.

		Activity (NAM-based toxicodynamics)		
		High	Medium	Low
Potential Systemic Availability (NAM-based toxicokinetics, based on ADME properties)	High	H	H	M
	Medium	H	M	L
	Low	M	L	L





EURL ECVAM
European Union Reference Laboratory for Alternatives to Animal Testing

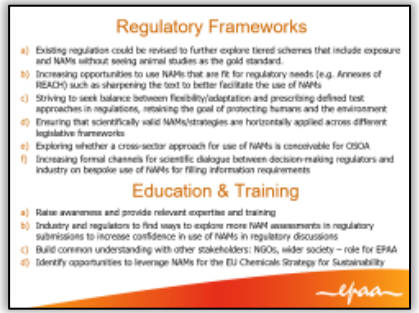
EPAA 'Non-animal science (NAMs) in Regulatory Decisions for Chemical Safety'

EPAA NAM project working group 2 have focussed on addressing the **regulatory frameworks and education & training challenges identified during the NAM deep-dive workshop**.

EPAA has provided a forum to discuss **use of Skin Sensitisation NAMs, defined approaches (DAs) and Integrated Approaches for Testing & Assessment (IATA) for regulatory testing** since it's inception**.**

EPAA's series of '**Applying non-animal strategies for assessing Skin Sensitisation**' workshops (2013, 2015 & 2019) have evolved into a **Skin Sensitisation NAM User Forum** (leads: Dr Katrin Schutte, DG ENV & Dr Petra Kern, P&G) to support ongoing knowledge sharing

Expanding the **EPAA NAM User Forum** format an initial kick-off workshop (7th-8th Dec 2023, hosted by ECHA) will host scientific, case study-led discussions on use of NAMs to address other priority regulatory needs (e.g. repeat dose, systemic toxicity, carcinogenicity, developmental & reproductive toxicity, endocrine disruption).



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  - **EPAA EU Parliament debate** (13th Sept 2023) **& exhibition** (12th Sept 2023) on 'Accelerating Transition to Animal-Free Innovation'

EPAA Partners Fora: Exposure (2022) & Environmental Safety (2023)

EPAA **Partners Fora** are annual events that allow the membership to review a priority topic or theme to identify opportunities for EPAA to advance use of the 3Rs through:

- identifying priority research gaps/challenges
- facilitate industry: regulator dialogue
- foster cross-sector collaboration

Last year EPAA held two partners fora on '**Exposure considerations for Human Safety Assessment**' (6th May & 14th Nov 2022) that identified several opportunities to standardise use of exposure information, tools and exposure-based safety assessment frameworks across sectors to enable greater use of NAMs (manuscript in prep).

This year EPAA will discuss '**Use of NAMs in Environmental Safety Assessment**' (13th-14th Nov 2023) to identify where EPAA can help accelerate the adoption of Environmental NAMs. Forum will be hosted by CEFIC and organised in partnership with SETAC, ECETOC & ICCS.

cefic
SETAC
ecetoc
ICCS INTERNATIONAL COLLABORATION ON COSMETICS SAFETY

Key EPAA 2022/23 NAM activities

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Helping implement an EU replacement roadmap for regulatory animal testing of chemicals

In 2022, EFSA published their '**Development of a Roadmap for Action on NAMs in Risk Assessment**' scientific report and hosted the **One Conference (21st-24th June 2022)** to discuss the recommendations.

This year, EPAA helped organise ECHA's '**Towards an animal-free regulatory system for industrial chemicals**' workshop.

We need to now work together to implement an **EU replacement roadmap for regulatory animal testing of chemicals**.

EXTERNAL SCIENTIFIC REPORT

APPROVED: 2 May 2022

doi:10.2903/sp.efsa.2022.EN-7543

Development of a Roadmap for Action on New Approach Methodologies in Risk Assessment

Sylvia E. Escher[1], Falko Partosch[2], Sebastian Konzok[1], Paul Jennings[2], Mirjam Luijten[3], Anne Kienhuis[3], Victoria de Leeuw[3], Rosmarie Rauss[4], Katrina-Magdalena Lindemann[4], Susanne Hougaard Bennekou[5]

[1] Fraunhofer ITEM, [2] Vrije Universiteit Amsterdam, [3] National Institute for Public Health and the Environment, [4] Eura AG, [5] The National Food Institute Denmark

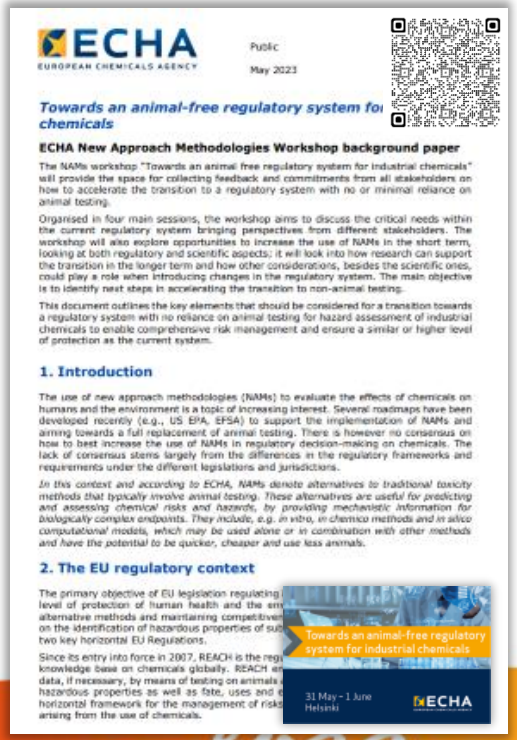
Abstract

While whole animal studies have their place in risk assessment of food and feed components, it is thought that more modern approaches such as human focused new approached methodologies (NAMs) would bring advantages including a greater focus to the human species, a focus on molecular mechanism and kinetics and the possibility of addressing susceptible populations. This report outlines the thinking from the authors and culminates in activity proposals in seven distinct but interacting scientific areas i.e. development of additional AOPs/AOP networks (AOPs), advanced cell culture models including Organ on a chip (OoC), toxicokinetic assessment with a focus on physiological based kinetic modelling (PBK), exposome, human susceptibility, data integration and new concepts in human risk assessment. Furthermore, the development of a Forum is proposed to facilitate the implementation of new approaches and concepts in risk assessment. The report was compiled by the project team, renowned experts in the various areas, and recommendations were discussed with EFSA and further refined following consultation with external experts via a dedicated workshop. The authors are convinced that if the recommendations are taken up, there will be a significant impact in the field, resulting in increasing the uptake and utilisation of these emerging technologies by all stakeholders involved.

Key words: Next Generation Risk Assessment, Ne

Question number: EFSA-Q-2022-00231

Correspondence: SPIDO@efsa.europa.eu



ECHA EUROPEAN CHEMICALS AGENCY

Public

May 2023

Towards an animal-free regulatory system for chemicals

ECHA New Approach Methodologies Workshop background paper

The NAMs workshop "Towards an animal free regulatory system for industrial chemicals" will provide the space for collecting feedback and commitments from all stakeholders on how to accelerate the transition to a regulatory system with no or minimal reliance on animal testing.

Organised in four main sessions, the workshop aims to discuss the critical needs within the current regulatory system bringing perspectives from different stakeholders. The workshop will also explore opportunities to increase the use of NAMs in the short term, looking at both regulatory and scientific aspects; it will look into how research can support the transition in the longer term and how other considerations, besides the scientific ones, could play a role when introducing changes in the regulatory system. The main objective is to identify next steps in accelerating the transition to non-animal testing.

This document outlines the key elements that should be considered for a transition towards a regulatory system with no reliance on animal testing for hazard assessment of industrial chemicals to enable comprehensive risk management and ensure a similar or higher level of protection as the current system.

1. Introduction

The use of new approach methodologies (NAMs) to evaluate the effects of chemicals on humans and the environment is a topic of increasing interest. Several roadmaps have been developed recently (e.g., US EPA, EFSA) to support the implementation of NAMs and aiming towards a full replacement of animal testing. There is however no consensus on how to best increase the use of NAMs in regulatory decision-making on chemicals. The lack of consensus stems largely from the differences in the regulatory frameworks and requirements under the different legislations and jurisdictions.

In this context and according to ECHA, NAMs denote alternatives to traditional toxicity methods that typically involve animal testing. These alternatives are useful for predicting and assessing chemical risks and hazards, by providing mechanistic information for biologically complex endpoints. They include, e.g. in vitro, in chemico methods and in silico computational models, which may be used alone or in combination with other methods and have the potential to be quicker, cheaper and use less animals.

2. The EU regulatory context

The primary objective of EU legislation regulating
level of protection of human health and the en
alternative methods and maintaining competitiven
on the identification of hazardous properties of su
two key horizontal EU Regulations.

Since its entry into force in 2007, REACH is the reg
knowledge base on chemicals globally. REACH en
data, if necessary, by means of testing on animals
hazardous properties as well as fate, uses and e
horizontal framework for the management of risk
arising from the use of chemicals.

EPAA EU Parliament events

Last year EPAA held a lunch debate in the EU Parliament with key MEPs to discuss EPAA's contribution to '**Accelerating the transition to animal-free, sustainable innovation**' (13th Sept 2022).

This year a range of EPAA partners will hold a follow-up **EU Parliament exhibition** to share progress & discuss opportunities / challenges (12th Sept 2023).

PARC Synergy Network

Partnership for the Assessment of Risks from Chemicals (PARC) is a collaborative network of 200 partners from 28 EU countries that aims to develop next-generation chemical risk assessment to protect human health and the environment.

EPAA is proud member of PARC's Synergy Network (SYNet), a programme designed to facilitate collaboration and knowledge sharing with other initiatives.

Summary: EPAA is accelerating the transition to animal-free, sustainable innovation through:

1. Helping identify & evaluate NAM-based frameworks that address regulatory testing needs

- EPAA NAM Designathon 2023 Challenge

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European Union Reference Laboratory for Alternatives to Animal Testing

		Activity (NAM-based toxicodynamics)		
		High	Medium	Low
Potential Systemic Availability (NAM-based toxicokinetics, based on ADME properties)	High	H	H	M
	Medium	H	M	L
	Low	M	L	L

2. Creating a forum for scientific dialogue between industry & regulatory safety assessors

- EPAA NAM User Fora
- EPAA Partners Fora
  - Exposure
  - Env. Safety

SETAC

cefic

ecetoc

ICCS

3. Helping implement an EU roadmap to replace regulatory animal testing of chemicals

- EFSA ONE conference
- ECHA NAM workshop
- EU Parliament events
- PARC SYNet

efsa
EUROPEAN FOOD SAFETY AUTHORITY

European Parliament

ECHA
EUROPEAN CHEMICALS AGENCY

P-A-R-C

epaa

EPAA 2022 Annual Report

a. Projects in 2022

a. Clostridial Vaccines for veterinary use
b. Human Rabies Vaccines
c. Acute Toxicity
d. Harmonisation of 3Rs in Biologicals
e. Monoclonal Antibody Safety
f. Carcinogenicity of Agrochemicals
g. Skin Sensitisation Dissemination (User Forum on use of NAMs)
h. PBK Modelling in Safety assessments
i. Non-animal science (NAMs) in regulatory decisions for chemical safety

Available on EPAA website: here

Thank you – EPAA partners, collaborators & secretariat

38 Companies (including 1 SME)

European Commission

DG GROW
DG ENV
DG SANTE
DG JRC
DG RTD

Including Partner Agencies

Mirror Group *(Advisory body)*

Emily McIvor (Chair), Julia Baines, Emma Grange, Tuula Heinonen, Christiane Hohensee, Monique Janssen, Helena Kandarova, Winfried Neuhaus, Sirpa Pietikaïnen (MEP), Vera Rogiers

8 Sectoral Associations

@EPAA3Rs

LinkedIn

EPAA website: https://ec.europa.eu/growth/sectors/chemicals/epaa_en
E-mail: GROW-EPAA@ec.europa.eu

Challenges and opportunities for implementing NAMs in a regulatory context: Perspectives from current research initiatives:

An Academic's Viewpoint

Mark R. Viant

Professor of Metabolomics, University of Birmingham, UK

Co-Founder, Michabo Health Science Ltd.

ECHA NAMs Workshop

1 June 2023

UNIVERSITY OF BIRMINGHAM

MICHABO

Discussion topics

- **General** reflection on challenges for **academics** to contribute to NAMs ‘pipeline’
- **Focus** on **‘omics to support grouping/read-across** to highlight progress and challenges in the NAMs pipeline
- 3 take-home messages

NAMs pipeline

Innovation → Applied science → Policy changes → NAMs in legislation

NAMs pipeline

Innovation → Applied science → Policy changes → NAMs in legislation

UNIVERSITY OF BIRMINGHAM

2003-present
Develop & apply metabolomics to (eco)toxicology

- Academic **funders –** almost exclusively fund innovative research, not applied
- Expected **products –** research discoveries, high impact-factor papers (*Nature*, *Science*)
- Personal **motivation –** curiosity for blue-skies innovative research
- Academics prefer to ask deeper questions, not provide definitive answers!

- How do some academics genuinely cross that chasm?...

NAMs pipeline

UNIVERSITY OF BIRMINGHAM

spin-out company MICHABO

2018-present

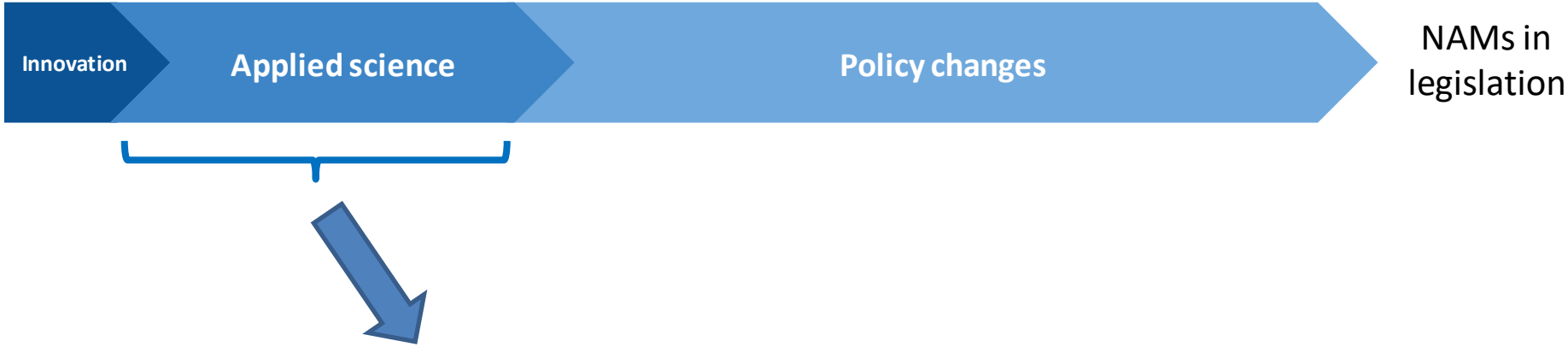
Evaluate 'omics approaches in regulatory (eco)toxicology

- Contracts with progressive companies/REACH consortia
- Contracts with regulators – e.g. *Services related to metabolomics measurements and multi-omics data interpretation* (2018-2023)

ECHA EUROPEAN CHEMICALS AGENCY

- Message 1: 99% of academics 'locked' in innovation zone (most are happy with that!)
- Illusion (through grant proposals) of considerable academic focus on applied NAM science

NAMs pipeline



Challenges and opportunities in application of ‘omics to support chemical grouping

‘Omics to support chemical grouping:

progress in the ‘process’

In vivo / in vitro exposures	Sample collection for ‘omics analysis	‘Omics data generation & processing	Statistical & mechanistic analyses to build chemical categories
- Knowledge exists (fragmented) - Future: Integrate into *in vivo, in vitro* OECD TGs	- Well established (e.g. biomedical) - Future: OECD guidance	- Well established; - New OECD Omics Reporting Framework (OORF)	- OECD GD 194 being updated; - OORF actively being extended

- Reliability has just been demonstrated

cefic **LRI C8 – MATCHING**

Met***A***bolomics ring-***T***rial for ***CH***emical group***ING***

Five of 6 *blinded* ring-trial participants derived an identical set of results

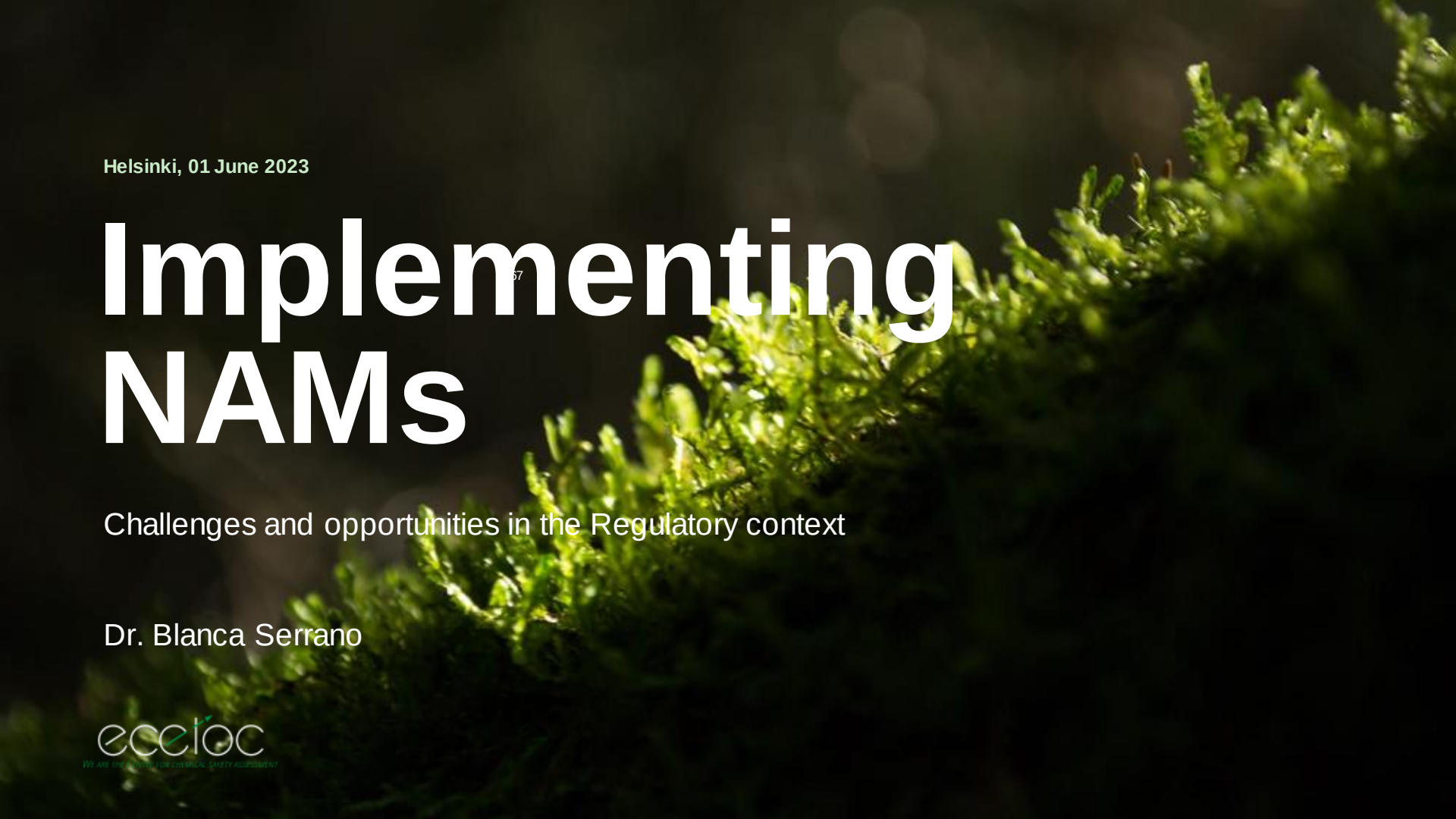
UNIVERSITY OF BIRMINGHAM · BASF We create chemistry · syngenta · VU VRIJE UNIVERSITEIT AMSTERDAM · Imperial College London

From ‘process’ to NAMs in legislation

- Challenge arises when we attempt to embed the ‘applied science process’ into an existing regulatory ‘machine’
  - Regulatory machine already has its own processes, outputs, legal timelines

- It’s new (**N**AM), so by definition, insufficient exemplar regulatory case studies
- Remains unclear what adaptations (REACH Annex XI) may be assessed as (in)sufficient
- Lack of transparency – but expected for a **new** approach…

- Message 2: We need exemplar case studies
- Message 3 (to ‘early adopter’ companies/REACH consortia using NAMs): Keep taking risks, your role in advancing NAMs is essential!



Helsinki, 01 June 2023

Implementing NAMs

Challenges and opportunities in the Regulatory context

Dr. Blanca Serrano

ecetoc

Regulatory acceptance & data availability

Regulatory agencies require assurance that NAMs can produce reliable and accurate results that are equivalent to traditional animal testing methods.

Challenge

The regulatory acceptance of NAMs varies across different regions, with some agencies incorporating them into their guidelines and others still evaluating their reliability and relevance.

Developing new NAMs without the input of Regulators might need to the tools not being accepted or fit for purpose.

Proposal

Multistakeholder platform to define scientific and regulatory needs to move forward, collaborate in the development phase, obtain feedback, and provide faster access to data and scientific evidence can help build confidence in NAMs and accelerate regulatory acceptance.

Develop a framework to incorporate NAMs into chemical legislation[1]

Cooperation between regions, the US, Canada, OECD in order to build scientific confidence in NAMS.

[1]Framework for chemical safety assessment incorporating new approach methodologies https://www.ecetoc.org/publication/a-framework-for-chemical-safety-assessment-incorporating-new-approach-methodologies-within-reach/

The long-term investment in new approach methodologies (NAMs) is beginning to result in an emerging consensus of how to use information from in silico, in vitro and targeted in vivo sources to assess the safety of chemicals.

ECETOC Framework

Incorporates in silico, in vitro and in vivo methods designed to meet the requirements of REACH

Both hazard and exposure can be assessed using a tiered approach.

The outputs from each tier are classifcation categories, safe doses, and risk assessments, and progress through the tiers depends on the output from previous tiers.

Results show a more conservative than parallel assessments based on conventional studies

Allows a transparent and phased introduction of NAMs in chemical safety assessment

Enables science-based safety decisions which provide the same level of public health protection using fewer animals, taking less time and using less expert resource

It would also allow new methods to be incorporated as they develop through continuous selective evolution rather than periodic revolution.

Validation & Standarisation

There is a growing need to expedite the validation process to keep pace with the demand for new approach methodologies

Challenge

Rigorous validation studies are required to assess sensitivity, specificity, and reproducibility.

Standarisation of NAMs is required to ensure consistency in quality of data.

Both processes are complex and slow.

Proposal

Develop international collaborations to establish standardization protocols and validation strategies.

Identify the most promising NAMs and prioritize their development and validation.

Create a repository of available test and applicability scope.

Cost and Resource Constraints

Capacity building and accessibility will be key to ensure a smooth staged transition to new approach methodologies

Challenge

Implementing NAMs can be costly and require significant resources, which may not be readily available or affordable for all actors involved

Contract Research organisations need time and resources to modify their installations and implement NAMs. Capacity might be limited.

Proposal

Staged implementation, starting with readily available methodologies, incorporate transitional periods and review progress.

Developing cost-effective NAMs and increasing the availability of infrastructure and resources for NAMs can make them more accessible.

Conclusions

- NAMs offer numerous opportunities for reducing animal testing and improving the efficiency of regulatory testing.
- Several challenges must be overcome, including validation and standardization, regulatory acceptance, and cost and resource constraints.
- Developing international collaborations, engaging with regulators, academia, industry and NGOs, and optimizing NAMs workflows and data management systems can help overcome these challenges and foster the development and adoption of NAMs.
- The continuous improvement of the predictive power and specificity of NAMs, as well as the enhancement of their efficiency and speed, can further advance their potential and increase their reliability and relevance for regulatory purposes.


Thank you.
ecetoc
We are the Centre for chemical safety assessment

CHALLENGES AND OPPORTUNITIES FOR IMPLEMENTING NAMs:

Food & Feed Regulatory Context

George Kass
Lead Expert

efsa
EUROPEAN FOOD SAFETY AUTHORITY

SETTING THE EFSA SCENE (I)

Regulated products

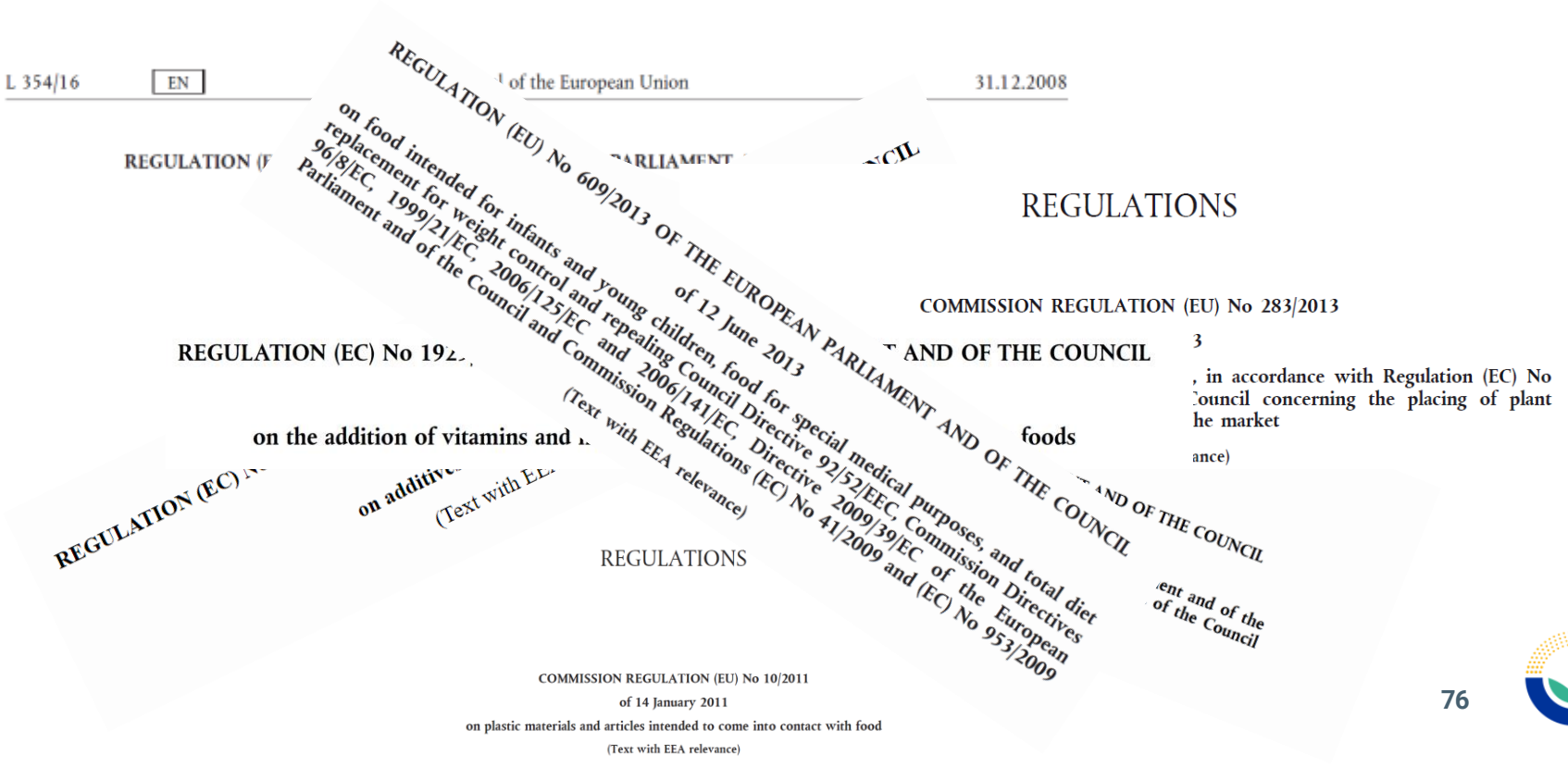
Contaminants

Applicants

No commercial producer

New chemicals or already on market

SETTING THE EFSA SCENE (II)



SETTING THE EFSA SCENE (III)

NAMs AND EFSA

SCIENCE-POLICY INTERFACE

The Commission will:

- foster multidisciplinary research and digital innovations for **advanced tools, methods and models, and data analysis capacities**[102] to also move away from animal testing;

EC policy

Safety testing and chemical risk assessment need to innovate in order to reduce dependency on animal testing but also to improve the quality, efficiency and speed of chemical hazard and risk assessments.

EFSA strategy 2027

STRATEGIC OBJECTIVE 2

Ensure preparedness for future risk analysis needs

KEY ACTIONS

- Develop and integrate new approach methodologies (NAMs) and omics for regulatory risk assessment

European Partnership for the Assessment of Risks from Chemicals
Horizon Europe

EURL ECVAM
European Union Reference Laboratory for Alternatives to Animal Testing

APCRA

OECD

ASPIS Consortium (RISK-HUNT3R, ONTOX and PrecisionTOX)

efsa
European Food Safety Authority

ECHA

Global Coalition for Regulatory Science Research

ILMERAC

EUTOXRISK

NAMs landscape

WHERE ARE WE WITH NAMs?

Investment in NAMs

- ✓ 32 EFSA-launched projects
- ✓ Areas addressed: Toxicokinetics, toxicodynamics, systems toxicology, modelling, read-across, data management: Emphasis on case studies
- ✓ Many collaborations: ECHA, JRC, MS
- ✓ Many project collaborations: PARC, ASPIS, APCRA, etc

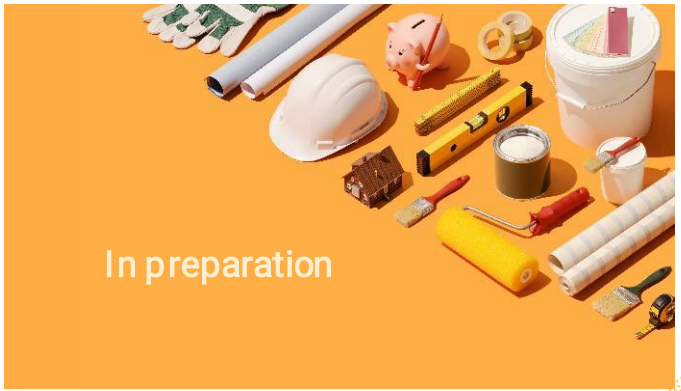
EFSA Guidance documents

- ✓ Grouping of chemicals
- ✓ Mixture assessment
- ✓ Pesticide residues
- ✓ Read-across (under development)

EFSA GUIDANCE DOCUMENTS

3 Guidance on the Use of the Read-
4 across Approach in Food Safety
5 Assessment

6 EFSA Scientific Committee



OUTSOURCED PROJECTS - EXAMPLES

SCIENTIFIC OPINION

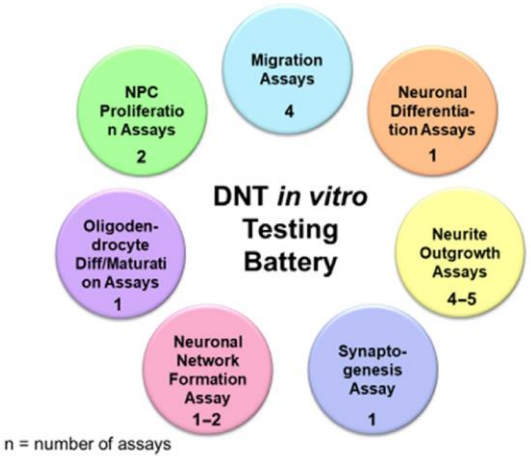
EFSA Journal

ADOPTED: 21 April 2021

doi: 10.2903/j.efsa.2021.6599

Development of Integrated Approaches to Testing and Assessment (IATA) case studies on developmental neurotoxicity (DNT) risk assessment

EFSA Panel on Plant Protection Products and their Residues (EFSA PPR Panel),



OECD

Organisation for Economic Co-operation and Development

Guidance on Evaluation of Data from the Developmental Neurotoxicity (DNT) In-Vitro Testing Battery

Project 4.124: New Guidance Document on Developmental neurotoxicity (DNT) in vitro assays	
Lead: Inclusion in work plan: Project status and	EC (EFSA, JRC)/US/DK 2017

WORK PLAN FOR THE TEST GUIDELINES PROGRAMME (TGP)

THE CHALLENGES

Lack of NAM data submitted to EFSA

- ✓ Guidance documents are ‘young’
- ✓ NAM-based data remain optional

Need for confidence building

- ✓ Validated NAMs: performance standards, right chemicals, reproducibility, etc…
- ✓ Change in concept: NAMs are not a 1-to-1 replacement of a 90-d study
- ✓ Benchmarking and coverage of potential adversity
- ✓ Fit-for-purpose and ready-to-use
- ✓ Identification of low toxicity compounds

HOW CAN WE PROGRESS ANIMAL-FREE RISK ASSESSMENT?

Global blueprint	Working together	Efficient validation process
Adhere to MAD principle	1S1A	Capacity building

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German Federal Institute for Risk Assessment

Transitioning to “Next-Generation Risk Assessment” (NGRA)

Why, what, who, how, chances and challenges ... and what’s PARC got to do with it

01.06.2023, ECHA NAM Workshop, Helsinki

Dr Matthias Herzler
Coordination and Assessment Strategies
Chemical and Product Safety

The views expressed in this presentation are exclusively my own and do NOT represent an official position of the BfR or other German authorities.

Useful definitions

„New Approach Methodologies“ (NAMs)

Methods not in routine use for Chemical Risk Assessment (CRA) when I started at BfR 21 years ago.

„Next-Generation Risk Assessment“ (NGRA)

CRA framework helping us overcome the problems of „Past-Generation Risk Assessment“.
It relies on NAMs (as above) and not on (new) traditional *in vivo* testing.

Why do we need NGRA?

The current CRA framework **protects us well**, but there are problems*:

efficiency

flexibility

science

focus

information on
use and exposure

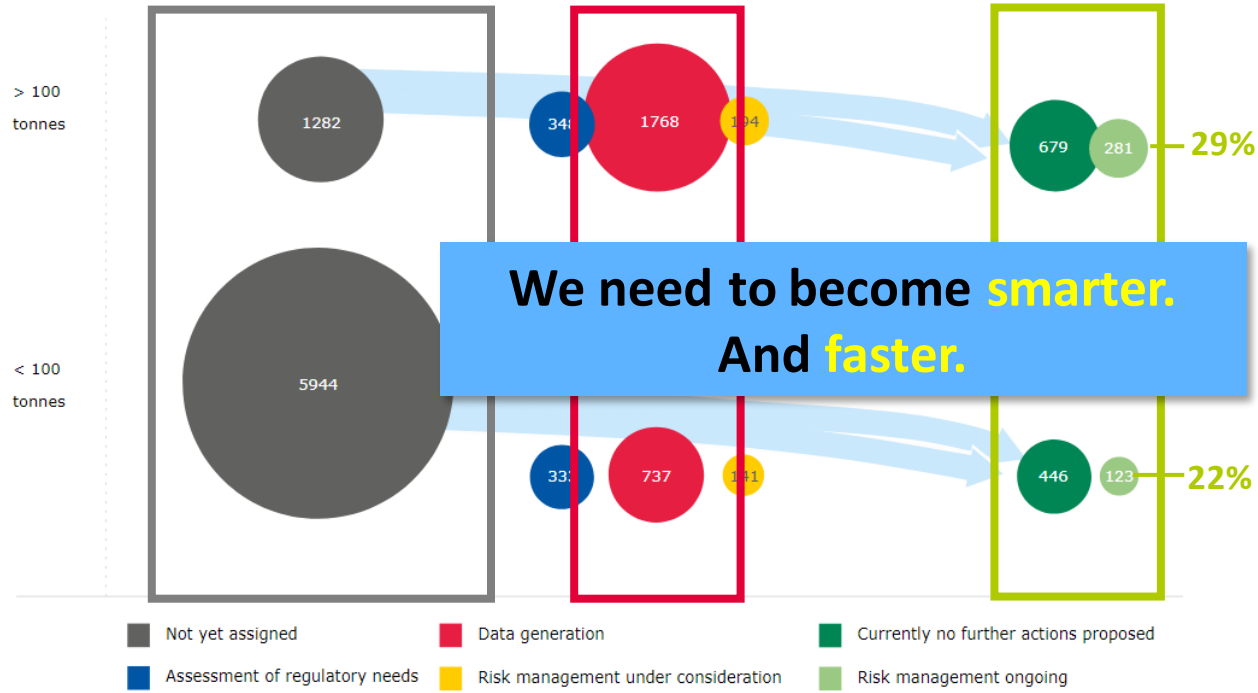
consistency/coherence

ethics

*cf. also EU Chemicals Strategy for Sustainability

One figure to show them all... (source: ECHA website, last accessed 2023-05-26)

Figure: REACH chemical universe: substances with active registrations above 1 tonne/year.



We need to become smarter.
And faster.

Acc. to current knowledge...

... ~25% of the chemicals in the database need risk management ...

... ~75% don't.

What we want from NGRA

high throughput,
speed

early filter for
real concern

full **quantitative** risk assessment
(ideally probabilistic)

high and transparent level of
confidence

comparable level of
protection

improved knowledge about
use and exposure
(also cumulative, aggregate)

species-relevance,
reflect **mechanistic** knowledge

combination effects

Scientific challenges (non-exhaustive list...)

reliable identification of
low/no toxicity

early biomarkers **in vitro** vs.
real adverse effects **in vivo**

quantitative RA
(qIVIVE/qAOPs...)

integration
of diverse streams of evidence

validation
(qualification)

standardisation
(and translational capacity building)

Even if we do not have everything in place already,
WE CAN START the **transition** right **NOW.**

To do this, we need a new mindset*!

Article 25

Objectives and general rules

1. In order to avoid animal testing testing on vertebrate animals for the purposes of this Regulation shall be undertaken only as a last resort. It is also necessary to take measures limiting duplication of other tests.

There are many reasons why REACH **Art. 25 (1) has not become a real part of the REACH „DNA“** ...

On the side of the authorities:

Structural (mandate, capacity), but also **mindset** issues have favoured an often **skeptical, passive attitude**, waiting for others to deliver fit-for-use NAMs.

* (among other things...)

And is this even really our job (as authorities)?

?

YES, it is. Due to our unique role and expertise, the **authorities** need to **take the lead**.

Some of us have been working on it for a while already ... and now there's the

Partnership for the Assessment of Risk from Chemicals.

PARC

https://eu-parc.eu

A (first attempt to formulate the) **vision for a new mindset**

(PARC Task 2.2, NGRA*route* roadmap activity, interim report*)

"By April 2025, NGRAroute will provide a concrete and applicable roadmap proposal for implementing NGRA as the default approach to chemical risk assessment in EU chemicals legislation."*

"Default" = first line of risk assessment

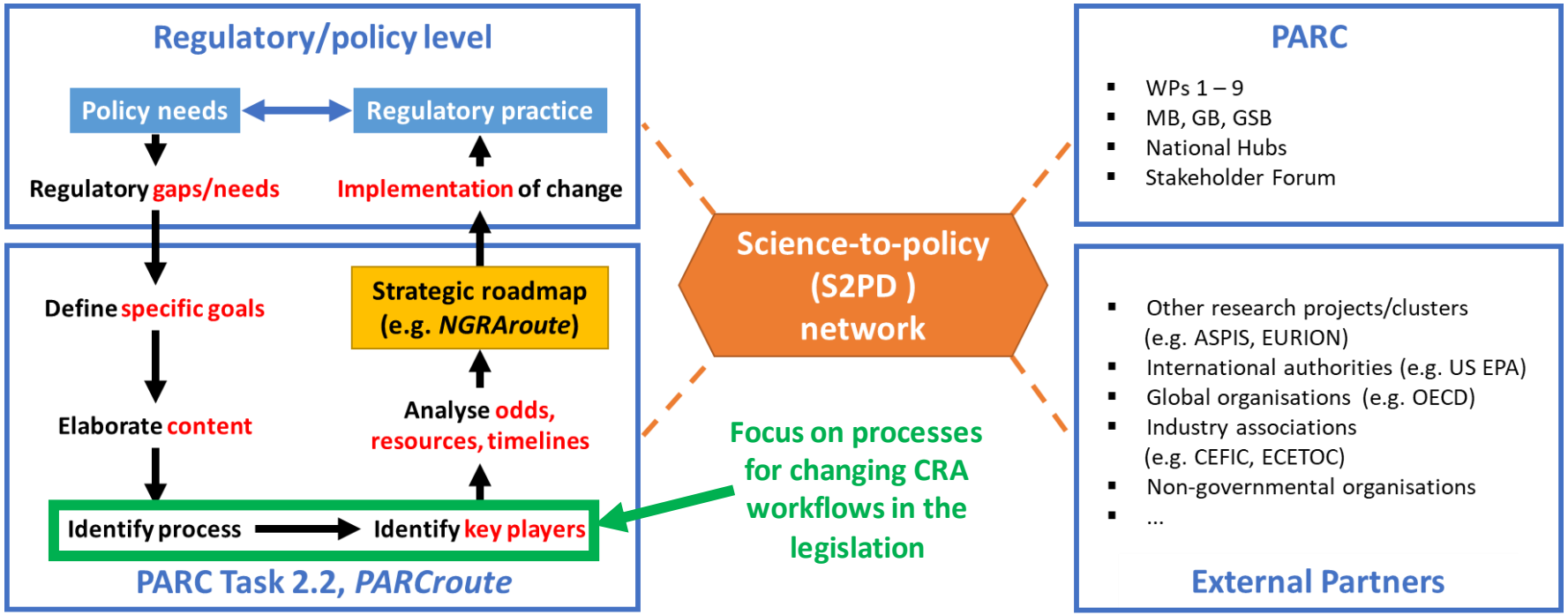
→ traditional in vivo testing only if:

a) NGRA is not (yet) practically feasible or b) the conclusions from NGRA are not sufficiently reliable

This is **NOT A REVOLUTIONARY APPROACH** → REACH Art. 25 (1)
(cf. also REACH Annex VII, section 8.3 on skin sensitisation)

* Currently under review by the European Commission, will be published on the PARC website after approval.

... and a strategy (PARC Task 2.2, NGRA*route* interim report*)



* Currently under review by the European Commission, will be published on the PARC website after approval.

The challenges ahead require a collective effort

... need to establish **consensus** within a **broad and diverse community**

... **good understanding of new methods** required on all sides
(researchers, risk assessors, risk managers, policy makers)

... need to **connect people** to **share** work,
exchange ideas and **discuss** new approaches

... help prevent/overcome **language barriers**

Pieter Bruegel (the Elder): The Tower of Babel
Source: Wikipedia, the free encyclopedia

Coming November 2023...

PARC

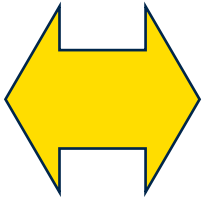
PARCopedia

An

online

knowledge platform

to ***create and share knowledge*** on chemical risk assessment (CRA)



A

community space

for CRA professionals

to ***connect*** different disciplines, sectors and areas of work, in- and outside of PARC

Features

PARCopedia

- **Knowledge base** (“wiki”) covering all aspects of CRA
- Special **focus on NAMs and NGRA** as well as other innovative (PARC) content
- A **community space** made of profiles, blogposts and discussion groups

YOU ARE INVITED...

... to ***present*** yourself and your work ...

... to ***exchange*** points of view, ***share and comment*** on what´s new in PARC(opedia) and CRA ...

... to ***interact*** with a lively, ***interdisciplinary*** community and help us ***shape the CRA of tomorrow***!

German Federal Institute for Risk Assessment

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Concluding remarks

New approach methodologies workshop: Towards an animal free regulatory system for industrial chemicals

1 June 2023

Ofelia Bercaru
Director - Prioritisation and Integration
European Chemicals Agency

Closing remarks

- → Strong commitment from all stakeholders to move towards animal-free chemical safety assessment
  - Different expectations on how ready and how fast we can move
  - It is important to have goals to make progress
- → Use of New Approach Methodologies is advancing for some, but not all, toxicological endpoints, and challenges remain
  - → Confidence building in NAMs is required, e.g. using targeted case studies
- → Targeted investment is required to facilitate NAM regulatory acceptance (including validation)
- → Regulatory context defines the readiness to apply NAMS
  - Mutual Acceptance of Data is essential to ensure global acceptance
  - There is not one recipe fits all
  - Legal and scientific certainty is critical
- → Input into the dialogue is required from all stakeholders across sectors and geographical regions


ECHA


PANELLISTS
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Thank you!

→ Thank you to the 500 participants

→ Thank you to our presenters

→ Proceedings coming soon

→ All materials available at echa.europa.eu/events

→ Give us feedback

Thank you

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