ECETOC Annual Report 2022

ecetoc

We are the Centre for chemical safety assessment

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ABOUT ECETOC

A collaborative space for top scientists from industry, academia and governments to develop and promote practical, trusted and sustainable solutions to scientific challenges which are valuable to industry, as well as to the regulatory community and society in general.

OUR PURPOSE

ECETOC is the scientific centre for chemical safety assessment.

WHAT WE DO

We provide a collaborative space for top scientists from industry, academia and governments to develop and promote practical, trusted and sustainable solutions to scientific challenges which are valuable to industry, as well as to the regulatory community and society in general.

We shape scientific knowledge

ECETOC works with leading scientists from academia, governments and industry to answer crucial scientific questions about chemical safety and assessment.
We do this by organising workshops, expert meetings and task forces that transform research into practical applications to solve contemporary and future scientific challenges.

We expand scientific knowledge

ECETOC works with Cefic's Long-range Research Initiative (LRI) to develop targeted scientific research and other relevant initiatives.
We provide Cefic LRI with scientific advice and support to develop its research programme and coordinate and monitor its projects.

We communicate scientific knowledge

ECETOC provides scientific thought-leadership, creating a practical knowledge base that is shared freely on our website, in our publications and at our meetings and symposia. ECETOC's chemical safety assessment tools are also available on our website.

OUR VALUES

Scientific excellence

We engage top scientists from industry, academia and governments.

Science for the public good.

We ensure all our scientific activities have a primary public purpose and benefit, in particular focusing on protecting human health and safeguarding the environment.

Collaboration

We provide a forum for scientists from industry, government, and academia to exchange ideas and work together to ensure appropriate and valuable scientific outcomes.

Independence

We provide the collaborative space, freedom from commercial pressure and long-term project stability needed to ensure independent scientific research and technical development.

Transparency

We openly address potential conflicts of interest (in publications, or internally) and make all our work and the scientific findings resulting from it freely available to the public.

Diversity

We are dedicated to building a diverse organisation and collaborative environment, with a shared commitment to scientific excellence.

OUR STRUCTURE

ECETOC is governed by a Board of Administration (senior executives from member companies), which is appointed by the General Assembly and responsible for ECETOC's overall policy and finance. The Board appoints the Secretary General, as well as members of the Scientific Committee which defines, manages and peer reviews the ECETOC work programme. The Board and the Scientific Committee are supported by the ECETOC secretariat, managed by the Secretary General.

OUR FINANCING

ECETOC is financed by its membership, which are the leading companies with interests in the manufacture and use of chemicals, biomaterials and pharmaceuticals.

MEMBERSHIP

Membership is open to companies engaged in manufacture, processing or use of chemicals or in applied research in the human health and environmental impact of chemicals (see www.ecetoc.org/membership for more details).

BENEFITS OF MEMBERSHIP

We create a collaborative environment that brings together the collective scientific expertise of academia, regulatory authorities and industry to contribute to regulatory safety assessments of chemicals.

We share scientific knowledge about current and future regulatory science challenges, as well as what's emerging, what's new, what's affecting industry sectors, regulatory authorities and science in general.

We actively help to shape industry's future science agenda.

We provide access to ECETOC expert meetings attended by industry, top academic and regulatory scientists.

We train our members' young scientists and enhance their professional networks through participation in Task Forces, Expert Groups and Research Monitoring Teams.

We represent our members in EU and international organisations, such as ECHA, WHO and OECD.

We develop tools to streamline evaluation, registration and management of safe chemistry.

Our member companies and the regulatory authorities gain practical scientific understanding and knowledge that they can apply in their organisations. ECETOC helps its members navigate through REACH (Evaluation, Authorisation and Restriction) and CLP technicalities.

To apply for membership, contact the ECETOC Secretariat:

Telephone
+32 2 675 3600

Email
INFO@ECETOC.ORG

Or write to
ECETOC, RUE BELLIARD 40,
1040 BRUSSELS, BELGIUM

ECETOC

MEMBER COMPANIES

During 2022, the ECETOC Membership comprised the following 30 full Member Companies and 5 Associate Member Companies

FULL MEMBERS

ARKEMA · BASF We create chemistry · Bayer · CLARIANT

CORTEVA agriscience · DOW · DSM BRIGHT SCIENCE. BRIGHTER LIVING. · DUPONT

equinor · EVONIK INDUSTRIES · ExxonMobil · Givaudan

Henkel · Honeywell · HUNTSMAN Enriching lives through innovation · L'ORÉAL

Lubrizol · lyondellbasell · MERCK

MSD INVENTING FOR LIF · P&G · Roche · SC Johnson wax

SOLVAY asking more from chemistry® · SUMITOMO CHEMICAL

syngenta · TOTAL · Unilever · WACKER

ASSOCIATE MEMBERS

Afton CHEMICAL · ALBEMARLE CORPORATION · CEPSA · Firmenich · NiPERA NICKEL HEALTH AND ENVIRONMENTAL SCIENCES

MESSAGE FROM THE CHAIR OF THE BOARD

Dr. **CHANTAL SMULDERS**
Chair of the Board
of Administration

**Dear members,
dear scientific community,
let me start where I ended my message of the 2021 Annual Report: an optimistic outlook for the future.**

In 2022, we welcomed our new Secretary General, Blanca Serrano Ramón. Very quickly, she took a firm grip at the helm of ECETOC and energetically continued to build up an effective internal organisation, as well as an active external network. Internally, the organisation has been brought more into line with ECETOC's strategic objectives, and this has resulted in increased scientific support and an effective organisational support structure. I am delighted to see ECETOC making great strides and I'm thankful to have Blanca on board!

Externally, our connections with existing stakeholders were renewed and new connections were made. This has led to increased awareness of what ECETOC can do for the academic, industry and regulatory community. As the world opened up following the pandemic, it was fantastic to experience proper human connections again. Our in-person events, such as workshops and meetings, had an amazing collaborative vibe and were valuable for reconnecting and bringing out new ideas for the future.

The regulatory landscape has continued to develop at pace and is creating a playing field for ECETOC to collaboratively develop the scientific tools and solutions that are much needed to enable industry to comply with the new regulations.

Regulatory refreshes always bring in new regulatory concepts, as well new hazard classes. These new concepts include potential future registration of polymers, as well as concepts to address potential risks from combined exposure. The new hazard classes we anticipate include endocrine disruption and persistent, mobile, toxic (PMT) and persistent, bioaccumulative, toxic (PBT). As safety science is continuously evolving, this also offers the opportunity to assess chemicals for the new hazard classes using state-of-the-art, scientifically robust methodologies: New Approach Methodologies (NAMs), which minimise animal testing. This report provides an overview of the strides that the scientific community has already made to establish and validate NAMs for the new hazard endpoints. In addition, experts on polymers have collaborated to develop a framework that could be used as a basis for the safety assessment of polymers.

A topic that continues to deserve further collaboration is 'Exposure Assessment'. Our existing Targeted Risk Assessment (TRA) tool has been updated with the latest scientific insights. However, we need to do more, and we need to do better. If we are able reliably to estimate or measure actual human and environmental exposures, this will significantly improve chemical risk assessments. With the TRA we are building on a solid basis, and we should set ourselves an ambitious challenge to take exposure assessment to the next level this year. Will you join us in meeting this challenge?

In 2022, the ECETOC Board said farewell to Dr. Craig Nessel, who retired from ExxonMobil and Dr. Jihane Ball, who moved to a different role in The Dow Chemical Company. I would like to thank both for the valuable insights, expertise, and leadership they brought to the Board. Subsequently, the Board has welcomed the following new Board Members: Dr. Nicholas Ball (The Dow Chemical Company – also elected as Treasurer), Dr. Bob Barter (ExxonMobil Biomedical Sciences), and Dr. Reza Rasoulpour (Corteva Agriscience). With these new Board members, we have strengthened our organisation, and this will help us to tackle the scientific challenges ahead of us.

All our activities, whether virtual meetings, workshops, publications, or reports, could not have been delivered without the excellent work of the secretariat team in Brussels. I would like to thank the ECETOC team, as well as the science consultants for their efforts and energy in organising the meetings and in keeping the organisation running smoothly, despite the changes. Special thanks goes out to our Secretary General Blanca Serrano Ramón, who can already look back on a successful first year.

ECETOC's success is defined by a strong internal organisation, combined with a trusted reputation among our stakeholders. Only together we can achieve a scientifically robust and regulatory sound environment where chemicals can be used safely to benefit society.

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ECETOC BOARD OF ADMINISTRATION

The Board of Administration, composed of at least six member-company representatives, is empowered by the Annual General Meeting with the management and administration of ECETOC, and delegates these tasks on a daily basis to its Secretary General. Two Board Members are entitled to represent the Associate members. Board Members have a two-year mandate and are responsible for the overall policy and finance of the association. The Board is also responsible for appointing the members of the Scientific Committee.

Member companies may propose candidates for the Board. These candidates must have managerial duties within their company and possess scientific and technical experience.

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RE-ELECTION OF BOARD MEMBERS AT THE 2022 ANNUAL GENERAL MEETING:

Dr. Melanie Bausen-Wiens (BASF), Dr. Steve Maund (Syngenta Crop Protection), Dr. Chantal Smulders (SEAM – Shell Global Solutions) and Dr. Volker Soballa (Evonik Industries) were re-elected to the ECETOC Board.

ELECTION OF BOARD MEMBERS AT THE 2021 ANNUAL GENERAL MEETING:

Dr. Nicholas Ball (The Dow Chemical Company), Dr. Reza Rasoulpour (Corteva Agriscience) and Dr. Robert Barter (ExxonMobil Biomedical Sciences) were elected to the ECETOC Board.

ECETOC BOARD MEMBERS DURING 2022

CHANTAL SMULDERS Shell International (Chair)
CRAIG NESSEL ExxonMobil Biomedical Sciences (Vice-Chair until June 2022)
JIHANE BALL Dow Europe (Treasurer until June 2022)
NICHOLAS BALL Dow Europe (Treasurer from June 2022
ROBERT BARTER ExxonMobil Biomedical Sciences (from June 2022)
MELANIE BAUSEN BASF
PATRICK MASSCHELEYN Procter & Gamble
STEVE MAUND Syngenta Crop Protection
VOLKER SOBALLA Evonik Industries (Vice-Chair from June 2022)
RESA RASOULPOUR Corteva Agriscience (from June 2022)
ARNDT WELLMANN Bayer

REPORT FROM THE SECRETARY GENERAL

Dr. **BLANCA SERRANO RAMÓN**
Secretary General

If there was one word that perfectly captures my feelings about the past year, it would undoubtedly be **“change”**.

2022 brought about a wave of transformation as organizations and individuals worldwide adjusted to the permanent shifts caused by the pandemic – to name just one, the broad adoption of a hybrid working model. It was a year of significant changes for me as well, as it marked my appointment as Secretary General of ECETOC and my arrival in the team. Amidst all the adjustments, one thing remained constant: the warm and welcoming atmosphere I felt from ECETOC members and staff. Although I was already familiar with ECETOC’s outstanding reputation for excellence and extensive expertise in various fields, I was impressed by the collective knowledge, dedication, and passion of the ECETOC community of experts. As the new Secretary General, I am thrilled to be part of a team that embraces innovation, collaboration, and the pursuit of scientific advancements.

In addition of having to adjust to hybrid working, 2022 also witnessed an increase in emerging challenges related to chemical safety assessment, largely influenced by the European Green Deal, the Farm to Fork Strategy, and the Chemical Strategy for Sustainability (CSS). These initiatives have set ambitious goals for achieving a safe and sustainable environment, which will require the development -and implementation of innovative, effective, and efficient methods in chemical assessment. In this context, I am confident that ECETOC can play an even more crucial role. With our wealth of expertise and extensive network of industry, academic, and regulatory stakeholders, we are uniquely positioned to drive forward the development of cutting-edge approaches to chemical safety assessment. Through collaboration, research, and knowledge sharing, I have no doubt that ECETOC will be a key player in ensuring the safe and sustainable use of chemicals.

The diversity of backgrounds and stakeholders within our groups has been crucial to strengthening the outcomes of our work at ECETOC.

Throughout the past year, and with the support of the Board and the Scientific Committee, I started to lay the foundations for a forward-looking organisation, while ensuring that science remains at the heart of our work. Since my arrival, we have increased our impact by thoughtfully selecting new projects and topics in line with the European Green Deal priorities and actively sought input from industry, regulators, and academia. Additionally, we have focused on promoting our work through international conferences, seminars, publications, and workshops, aiming to elevate ECETOC's visibility and influence. By actively positioning ECETOC as part of important EU initiatives and fostering collaborations with an expanding network of organizations, both public and private, we are closer to our shared goal of advancing the field of regulatory science.

I want to express my deep gratitude to all the experts in our groups who provide their time and expertise to our common success. I deeply appreciate the commitment and passion you bring to the table, especially considering the demanding nature of your daily activities. Without the dedication and involvement of our Scientific Committee members and the experts on our Task Forces, our work would simply not be possible.

The diversity of backgrounds and stakeholders within our groups has been crucial to strengthening the outcomes of our work at ECETOC. The unique perspectives and expertise brought by individuals from various disciplines and sectors - from industries to regulatory bodies, from academia to other membership organisations - enhance our capacity to address complex challenges, develop robust solutions, and make a greater impact in advancing the field of regulatory science.

Moving forward, we are committed to further increasing the diversity within our groups and actively promote inclusivity, for example by creating opportunities for young scientists and recognizing their fresh perspectives and energy. As we look to the future, I am filled with excitement and anticipation for the possibilities that lie ahead.

I would like to take a moment to express my gratitude to the ECETOC Secretariat for their support and assistance throughout my onboarding process. Their commitment to embrace the evolution of our organization and their adaptability have been truly crucial during these times.

The team itself is also going through significant changes. Geneviève Gérits, who has been a pillar of support for ECETOC Secretary Generals for an impressive 23 years, started preparing for a well-deserved retirement. Genevieve's positive disposition has played an integral role in shaping ECETOC, and her contribution will continue to inspire us as we move ahead.

I would also like to thank the Board for placing their trust in me and appointing me as the Secretary General. I am fully committed to living up to their expectations and working tirelessly to take ECETOC even further. Building upon the work of my predecessors, I will continue fostering science-based collaboration and innovation. Together with the Board, the Scientific Committee, the Secretariat, and the entire ECETOC community, I will work to steer ECETOC towards new horizons, to achieve our shared goals, and to make a lasting impact.

SCIENCE PROGRAMME

FOREWORD FROM THE SCIENTIFIC COMMITTEE CHAIR

Dr. **BENNARD VAN RAVENZWAAY**
Chair of the Scientific Committee

For me, 2022 will stick in my memory as a year of renaissance. It was such a pleasure to see “old” friends and colleagues around the table of the Scientific Committee again, as well as at board meetings and in two workshops that I had the pleasure to attend. The level of discussion, prompting ideas resulting in innovation, is higher when people can sit together, enjoy lunch or a coffee break and communicate. Certainly, the hybrid meeting is here to stay and it serves an important function, enabling a higher level of participation in terms of the number of people attending and the ability to distribute information broadly. However, when creativity is needed, the interaction between scientists who are together at the same time and in the same place is essential.

This year, we welcomed our new secretary general Blanca Serrano Ramón. I was very happy that the transition period from ECETOC’s former secretary general to our new one was a short one, and I guess that is an indication of both ECETOC’s attractiveness as an organisation as well as of Blanca’s eagerness to lead ECETOC. Indeed, I have noticed a very high level of energy and interest in developing our organisation further in its effectiveness and its international cooperation. I am convinced that, with the new ECETOC leadership, in just a few years, we will be considered by the scientific and regulatory community as a different and more impactful organisation. I truly hope that this will also increase our attractiveness for companies and that more of them will join us. This is essential because we are limited by both financial as well as human resources. We still have more ideas than we can handle, and we could be a great deal more effective were it not for these two limiting factors.

Despite the limitations, 2022 witnessed very high levels of activities and output. To provide you with a brief overview, I have selected a few. In September 2022, for the

first time in several years we organised a Scoping Meeting. In the past, these meetings were held jointly with CEFIC LRI (long range research initiative). This time, however, it was an ECETOC-only event, providing the opportunity to present and discuss topics of interest to ECETOC in the coming years. Although ECETOC is not able to provide financial resources to enhance research activities, a very high number of proposals were received from academia, regulators, and industry, in line with our intention to be a tripartite organisation.

This year, there was a particular focus on new approach methodologies (NAMs), and this too will mark a change in the direction of our future activities – a change that in my opinion is necessary and that will make us more attractive as an organisation. It also provided a great deal of food for thought. In particular, how will we deal with artificial intelligence (AI)? Do we have resources or even experience in this area? How will we deal with results generated based on the use of large data sets?

I have no doubt that AI provides us with a huge opportunity to improve the quality and effectiveness of the entire risk assessment process - from data generation, comprehensive hazard assessment to risk assessment, if used carefully. Clearly this is where the questions should start... How do we ensure good AI practice? How can data be curated to be suitable for such processes? Do we need an update of the Klimisch score? ...And that is to mention just a few of the questions.

However, isn't this really the very core of ECETOC's activities? Certainly, we have been most successful when dealing with future aspects of the risk assessment process and when we are able to bring together in the best tripartite sense scientists who are interested in shaping the future and to ensure best practices.

The integration of NAMs within REACH has become a key component of the transformational programme for human health and exposure sciences, showing our increased attention to these topics. It is important to realise that NAMs are not equivalent to in vitro studies. The above-mentioned AI, or in its simpler form in silico toxicology, is the starting point and key component of the proposed framework, which was published in 2021. Moreover, NAMs can also be more traditional in terms of improved or 'smart' studies that involve animals, in most cases rats. I believe that if we want to be successful in reducing the need for animal studies, we have to embrace all opportunities, in vitro as well as in silico, and smart animal studies in which modern technologies are used to better understand the molecular mechanisms of toxicity. Smart, short-term animal studies will improve the relevance of findings to humans and allow extrapolation to longer exposure duration, making these types of studies hopefully unnecessary. I also envisage that this type of new framework for risk assessment will be more acceptable and digestible to regulators as well as to the general public, before a complete stop of animal testing achieves a similar level of protection as we have now.

When it comes to good scientific practices, ECETOC has also been very active over many years in looking at more down-to-earth topics, such as effects on the endocrine system. In 2022, the '**Special T4**' Task Force finalised its third manuscript, relating to thyroid hormone imbalance and neurodevelopmental effects. The fourth and final manuscript, planned for publication in 2023, will bring everything together and provide a testing strategy to identify maternal thyroid hormone imbalance and neurodevelopmental effects.

The Task Force '**Assessing the human health and environmental safety of polymers**' is a good demonstration of the principal that the work is not necessarily over, even after the publication of several technical reports. The task force is now contributing to CARACAL by showing how ECETOC's tiered approach for polymers requiring registration under REACH can work in practice. I would like to emphasize these achievements to demonstrate that our science-based proposals, after they have been developed and published, are taken up by regulators and provide a benefit to industry as well as regulatory. However, it requires this additional effort to follow up on proposals with energy and persistence to ensure that they implement it in some way. I also note that the amount of resources needed for this is often underestimated and receives only limited attention when a task force is formed. In this context, I would like to mention once again the TRA and the NanoApp as very successful ECETOC innovations that are now widely used.

Risk is the outcome of combining hazard with exposure, we all know that. So why is it that we pay so much more attention to hazard than to risk? With the TRA, ECETOC is the organisation that has contributed more than anyone else in Europe to bringing exposure back into this equation. The TRA team continues to work and improve the tool for workers, consumers and environment and align it with the current regulatory requirements. In 2022, all three areas received due attention, resulting in various technical reports and publications. In particular, I would like to mention the collaboration with the National Institute for Public Health and the Environment in The Netherlands (RIVM) and Environment and Climate Change Canada (ECCC) for the assessment for the fate of substances in wastewater treatment plants and comparisons to measured removal data. The OECD Working Party on Exposure Assessment (WPEA) has been kept informed of this activity. These types of international collaborations, particularly if they include regulatory authorities, are more likely to lead to implementation than when we work on our own.

So far so good... The 'Mid-tier approach to aggregate exposure assessment' Task Force started writing its technical report at the end of last year. They identified a lack of good data and cross-industry-sector tools for assessing consumers aggregated exposure to chemical. Moreover, they observed that not all consumer exposures can be estimated to the same level of confidence. So here I must return to my initial question: "why is it that we pay so much more attention to hazard than to risk". When I listen to regulatory authorities when it comes to the use of exposure data in risk assessment, I often hear that there is a lack of confidence in exposure data, and apparently rightfully so! So, do we now face a "chicken and the egg" dilemma? Regulators are not using exposure data because there is a lack of confidence, industry is not producing such data because they are not used by regulators. If we really want to change the current hazard-based risk assessment, then we all have to ensure that reliable exposure data are being produced and that exposure science both in use and education is receiving the amount of attention it really needs.

ECETOC'S activities in 2022 in the area of environmental sciences focused on PBT and PMT. The Task Force related to **persistent chemicals** and water resources protection put forward in a peer-reviewed paper a tiered approach for the assessment of human exposure to contaminants in drinking water. ECHA started work on updates to the REACH PBT/vPvB assessment guidance. ECETOC coordinated the industry contribution to these drafting groups. Related to this, ECETOC held a multi-stakeholder workshop on **Bioaccumulation in air-breathing species at SETAC Copenhagen**. In addition, several oral and poster presentations were made at the SETAC conference. Over many years, ECETOC has collaborated with SETAC which has enhanced our communication opportunities significantly and I see this as an excellent example of how we can work jointly with the academic community to increase the impact of our work.

Finally, I would like to end my overview of our 2022 activities by mentioning two workshops. One was related to the use of 'omics technologies, the other to quantitative adverse outcome pathways. Together with a third workshop held in 2021 on in vitro in vivo extrapolation, they form a cluster of events in how to apply new technologies (let's call them NAMs in the wider sense) in risk assessment. All of the workshops included true tripartite engagement and papers to be published in peer-reviewed journals are currently being written or have been published.

This is where ECETOC is at its best! Shaping the future of risk assessment by providing guidance on how to best use new technologies.

2022 AREAS OF WORK

LEGEND / ICON SET

Please find below a set of icons that will mark a few key topics in this article.

MEETING

TASK FORCE

REPORT & PUBLICATION

TRANSFORMATIONAL PROGRAMME

TOOL

ECETOC SCOPING MEETING

Held on 13 and 14 September, ECETOC's 2022 Scoping Meeting offered the opportunity for a broad audience of experts to review, discuss and select topics for ECETOC to focus on in 2023-2024 and beyond. After its last edition in 2020 and the long Covid pause, the Organising Committee sought input from regulators on current and upcoming strategic topics of regulatory concern prior to launching a call for proposals, with the intent of focusing on areas of work with even greater chances of impact. Additionally, a lot of attention was given to participants' feedback from previous editions, the event was fully re-designed to give more time to discussions on suggested proposals and on face-to-face networking.

Out of the 21 proposals received, 16 were chosen to be pitched and discussed at the event, on topics varying from new approach methodologies (NAMs), to exposure, to capacity building for practitioners. After a quick round of presentations, the almost 70 participants had time to discuss them individually with the proposer and then again in smaller groups, before voting on the ones they thought to be the most relevant for their work.

This priority list was then analysed by the Scientific Committee during their last two meetings of the year: five proposals were given an immediate green light, five remain under evaluation and two (more related to capacity building of the sector) were sent to the board for consideration.

INTEGRATED APPROACH FOR CHEMICALS ASSESSMENT

The ECETOC Transformational Programme to develop an **Integrated Approach for Chemicals Assessment** aims to increase the efficiency of the EU's current system for assessing hazard and exposure, as well as the current rules for classification and risk characterisation.

Following up on the paper published in Archives of Toxicology called **A Framework for Chemical Safety Assessment Incorporating New Approach Methodologies Within REACH** in 2021, the group continued its work in 2022 with a deeper focus on the New Approach Methodologies (NAMs) that can be used under REACH.

To support with the work, two spin-off Task Forces were created in December 2022. One task force will work on examining how extended or 'smart' studies could be designed so they provide a higher level of evidence, especially when considered along with lines evidence from in silico and in vitro studies. A second task force will work on exemplify a staged assessment process by using it to provide more information in low tonnage bands, by working with the current classification system as far as possible. Both task forces are expected to complete the work by the end of 2023.

OMICS TECHNOLOGIES

The **Data from omics technologies – point of departure for adverse and non-adverse effects workshop** took place on 20 and 21 January 2022.

This workshop explored current developments and challenges and seek to understand where more progress needs to be made, evidence gaps filled and importantly how to translate the research into application to advance the application of 'omic' methods in regulatory toxicology.

The event was held virtually, with participation from EU and USA regulatory speakers, as well as colleagues from industry and academia from EU, the US and Canada. The first day was focused on defining the regulatory needs for omics, followed by a series of presentations on available models and framework; the second day enabled the participants to actively engage in discussions, addressing questions such as what is a relevant point of departure for different omics approaches and how is this accurately determined, how do we determine biological significance/adversity of an 'omics response or 'molecular mechanistic response', What kind of experiment/data set would be necessary to identify non-adverse biological variation of controls, and would mapping basic cellular responses in terms of their 'omics-profile (or 'molecular mechanistic data') be helpful to better determine a true response from normal biological variation.

The workshop main learning points, recommendation and conclusion have been summarised in a workshop manuscript, which has been submitted for peer review in the Archives of Toxicology journal and is expected to be publicly available in Q2 2023.

qAOP

The **quantitative Adverse Outcome Pathways (qAOPs) workshop** was organised in Brussels, on the 18 and 19 October 2022. The hybrid event gathered more than 50 representatives from industry, academia and regulatory bodies.

The first day was opened by a series of presentations from US and EU regulators, followed by presentations on available models and case studies; the discussions continued in the second day, with a focus on questions such as how to choose the appropriate level of biological details to include in the qAOP or how to ensure the quality assurance and accessibility of qAOP models and their predictions.

A workshop manuscript is under preparation and is expected to be available for publication in Q3 2023.

CLINICAL DATA ON RESPIRATORY SENSITIZERS

A Task Force working on the **Use of clinical data in identification of respiratory sensitisers** was formed in 2022. To date health surveillance and clinical case study data has been used in the clinical context for the management of occupational asthma (OA) where limitations in its predictive value are considered acceptable. This review is intended to highlight the state of knowledge with respect to the value of such data and to identify both the strengths and limitations of such data if used in the context of chemical regulations and potential areas for further research. The Task Force will consolidate its finding into a technical report, expected to be published in Q2 2023.

ENDOCRINE DISRUPTION

The '**Special T4**' Task Force has finalised in 2022 the work on its third manuscript, named Towards a science-based testing strategy to identify maternal thyroid hormone imbalance and neurodevelopmental effects in the progeny – Part III: How is substance-mediated thyroid hormone imbalance in pregnant / lactating rats or their progeny related to neurodevelopmental effects?. The **manuscript** was published in the Critical Reviews in Toxicology in December 2022.

A fourth manuscript, named Towards a science-based testing strategy to identify maternal thyroid hormone imbalance and neurodevelopmental effects in the progeny – Part IV: The ECETOC and CLE Proposal for a Thyroid Function-Related Neurodevelopmental Toxicity Testing and Assessment Scheme (Thyroid-NDT-TAS) is under work and planned for publication in Q2 2023.

A **Task Force working on substances that activate various liver receptors as EDs** was formed in 2022. Considerable efforts have been placed on liver mediated thyroid toxicity induced by increased hepatic clearance of thyroid hormones. The overall intention of this work is to focus on hepatic clearance of sex steroid hormones in the context of young adult exposure (in utero exposure not in scope). The human relevance and the monotonicity of the dose response will need to be considered. Definition of associated NAMs in the future will be out of scope. The Task Force aims to produce at least one scientific paper, to be finalized in 2023 and present its findings in a workshop.

Finally, work kicked off in late 2022 to analyse **population relevance for non-target organisms (NTOs) per EU endocrine disruption criteria**. Technical guidance is currently missing in EFSA/ECHA guidance on identification of endocrine disruptors as to whether observed adverse effects are relevant at the (sub)population level for non-target organisms (NTOs). The Expert Group aims to support the development of a novel written and workable guidance to address this gap.

POLYMERS

The Task Force **Assessing the human health and environmental safety of polymers** has continued to work together, following their publication of Technical Reports **133-1**, **133-2** and **133-3**.

The main activity of the Task Force has been contributing to the **CARACAL sub-group on Polymers (CASG-Polymers)**. In this context the Task Force developed a proposal for a three-tiered approach for standard information requirements for polymers requiring registration under REACH which was submitted to CASG-Polymers. In addition, the proposed tiered approach for information requirements was applied to a series of case studies, to demonstrate the applicability, and submitted to CASG-Polymers. The tiered approach allows for use of solely in silico and in vitro methods (other than short-term aquatic invertebrate and algal toxicity testing) for toxicology and ecotoxicology endpoints at Tier 1, including bioavailability considerations. The need for further studies at higher tiers is then assessed based on Tier 1 information, as well as use and exposure considerations.

The Task Force made a series of interventions at **SETAC Europe 2022** focussing on the work to put

the ECETOC conceptual framework for polymer risk assessment into practice, including case studies and the ECETOC grouping approach:

- **Oral presentation:** 'Putting the ECETOC Conceptual Framework for Polymer Risk Assessment (CF4Polymers) Into Practice: Case Studies (CS2) on Cationic Polymers', presented by Nathalie Vallotton (Dow)
- **Oral presentation:** 'The ECETOC Conceptual Framework for Polymer Risk Assessment (CF4Polymers): Considerations & Examples for Grouping of Polymers', presented by Jens Otte (BASF)
- **Poster presentation:** 'Learnings from Case Studies Putting the ECETOC Conceptual Framework for Polymer Risk Assessment (CF4Polymers) into Practice', presented by Diederik Schowanek (P&G)

There was good attendance by regulatory authorities and much interest in the Task Force's work.

Other dissemination activities during 2022 included presenting to the Austrian Ministry in March 2022 on the polymer grouping approach and three-tiered approach for standard information requirements for polymers and presenting the polymer grouping approach during a workshop between European Commission, ECHA and some industry representatives in May 2022.

The Task Force is drafting a publication on the proposed tiered approach for information requirements for polymers under REACH, which will be submitted to a journal in Q1 2023. The Task Force has submitted an abstract to SETAC Europe 2023 on this topic also.

PBT AND PMT

2022 saw the publication of the European Commission's proposal to revise the CLP Regulation to include new hazard classes, including for persistent, mobile, toxic (PMT) and persistent, bioaccumulative, toxic (PBT).

Meanwhile, ECHA has started work on updated to the REACH PBT/vPvB assessment guidance. During the first half of the year, the ECHA Expert Group established a series of drafting groups to address different update topics. ECETOC coordinated the industry contribution to these drafting groups.

Related to this ECHA guidance update, ECETOC held a multistakeholder workshop on **Bioaccumulation in air-breathing species** at **SETAC Copenhagen**. The workshop aimed to bring together the relevant stakeholders and build on the recent efforts to advance this topic. There were twenty-eight participants, from industry, academia and regulatory bodies, and the return to a face-to-face format most certainly contributed to the rich exchange during the workshop. It was agreed that a tiered assessment approach is required but work is still needed to develop and make more use of in vitro and in silico approaches as well as information from existing in vivo studies.

Near the end of 2022, ECHA launched a call for a Partner Expert Group (PEG) on PBT/vPvB assessment guidance updates. ECETOC has a nominated expert on the PEG (Sylvia Jacobi, consultant for Albemarle). Sylvia is supported by an ECETOC shadow group.

The '**Persistent chemicals and water resources protection**' Task Force has remained active, after the publication of **Technical Report 139** in May 2021, and worked during 2022 on a manuscript to highlight the key aspects of the Technical Report. The manuscript considers in particular how to assess the mobility of chemicals to drinking water and puts forward a tiered approach for assessment of human exposure to contaminants in drinking water. The manuscript was published in the peer-reviewed journal Integrated Environmental Assessment and Management (IEAM) **Mobility in the context of exposure-based assessment of chemicals for drinking water resource protection**.

ECETOC is also providing selection and monitoring support to Concawe and Cosmetics Europe Long Range Science Strategy (LRSS).on their project with RfP title 'Developing a Persistence Assessment Tool (PAT) for P assessment under REACH', which has kicked-off in February 2022.

PARTICULATE MATERIAL

The Expert Group on '**Strategies to overcome challenges in aquatic testing of particulate material**' has remained active and submitted their white paper describing the current status of particulate material testing approaches, and the challenges when following these approaches, to the ECETOC Scientific Committee for peer review. The Expert Group intends to then submit the manuscript to some external expert for review, in early 2023, prior to submitting to the journal.

The Task Force **Inhalation Toxicological Properties of Low Soluble Particles and Their Relevance for C&L** kicked off their work in early 2022. Poorly soluble low toxicity (PSLT) particles are coming under increasing regulatory scrutiny, resulting in requests for additional testing and/or classification and labelling requirements. The Task Force aims to identify whether adaptive responses in inhalation toxicity can be distinguished from adverse responses for PSLTs, and develop associated guidance.

USE OF GEOREFERENCED DATA IN RISK ASSESSMENTS

The Task Force 'Geospatial approaches to increasing the ecological relevance of chemical risk assessments' has completed their study into the feasibility of using georeferenced data to improve the ecological relevance of risk assessments published a **manuscript** in Ecotoxicology and Environmental Safety.

The Task Force concluded that whilst guidance needs to be developed for framing of landscape-scale risk assessment, incorporation of georeferenced data into chemical risk assessments is feasible, but to a limited extent. key limitations identified were the narrow species range of ecotoxicity data (limiting extrapolation to in-field ecological datasets) and scarcity of georeferenced species assemblage data.

EXPOSURE AND RISK ASSESSMENT

The Task Force on **Mid-tier approach to aggregate exposure assessment** finalized its work on the technical report called 'Approaching cross-sector aggregated substance exposure assessment for consumers' in December 2022. The Task Force identified a lack of good data and cross-industry-sector tools for assessing consumers aggregated exposure to chemical. The report found not all consumer exposures can be estimated to the same level of confidence. Moreover, while one possible simplified methodology would be to base exposure estimates on the total tonnage produced, the tonnage estimates for each use is rarely available – and also data would need to be available on the number of people exposed to estimate individual exposure.

The task force concluded that although there are high-tier assessments for single substances, which can be learned from and used, there are still too few to cover all possible consumer exposures thoroughly.

The report is under review by the ECETOC Scientific Committee and is expected to be published on the ECETOC website in Q1 2023.

TARGETED RISK ASSESSMENT (TRA)

Three parallel Task Forces (Workers, Consumers and Environment) continued their work throughout 2022 to bring the TRA tool in line with the current regulatory requirements.

The Worker **Targeted Risk Assessment Task Force** finalized in 2022 the review of literature and external validation studies on exposure estimations using TRA tool version 3 and developed a curated database. The findings and proposed improvements to the tool are detailed in the **TR 140** on the ECETOC website. A second technical report named 'ECETOC TRA v3 Worker module: comparison of measured and modelled peak inhalation and dermal exposure; changes to tool settings' has been drafted and is expected to be published in Q2 2023.

The Task Force has also worked on a **manuscript** on 'An In-depth Comparison of Publicly Available Measurement Data Sets with Modelled Estimates of Occupational Inhalation Exposure to Chemicals', published in the Annals of Work Exposures and Health.

In 2023, the Task Force will concentrate its efforts on the communication of the TRA workers changes to the TRA users.

The Consumer Targeted Risk Assessment Task Force's reviewed in 2022 the TRA Consumers tool's algorithms and defaults and benchmarked its performance against other consumer exposure models and/or empirical data, with the objective of examining whether or not it under-predicts potential exposures. The task force also considered existing external reviews of the tool.

The evaluation found that the consumer TRA predictions were higher than measured exposures (when these are available), typically by orders of magnitude, and were generally greater than or similar to those of other exposure tools. This is the first evaluation of the TRA consumer tool in its entirety, including its algorithms, input defaults, and associated exposure predictions for consumer products and articles.

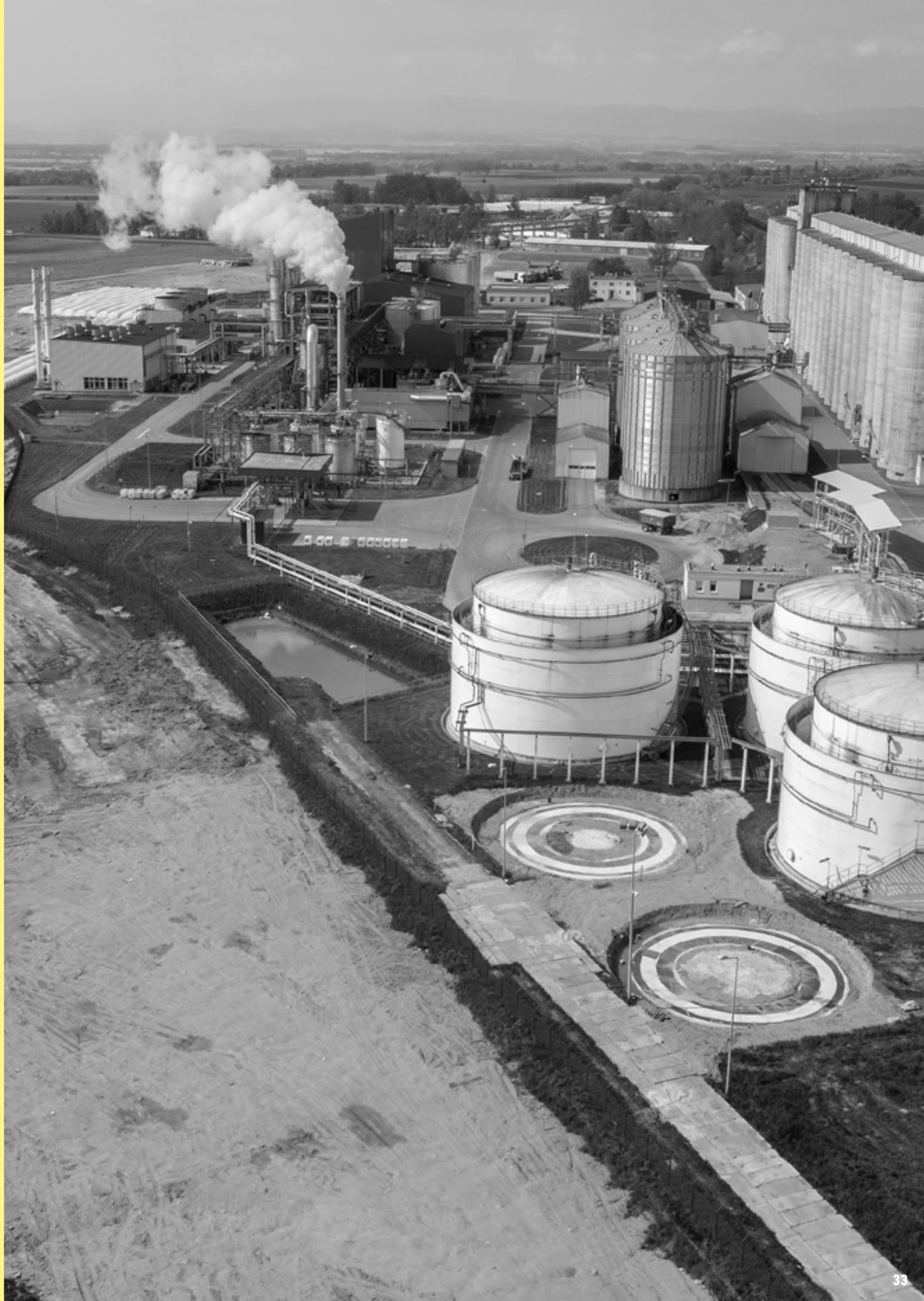
The **manuscript** called "An assessment of the ECETOC TRA Consumer tool performance as a screening level tool' was published in the Journal of Exposure Science & Environmental Epidemiology.

The **Environment branch of the TRA Task Force** launched the following two activities during 2022:

- A literature review on assessment of humans exposed indirectly via the environment, to ascertain the state of the science and identify further research needs. This will be conducted by a consultant, with the Task Force acting as a Steering Group.

- A collaboration project with National Institute for Public Health and the Environment in The Netherlands (RIVM) and Environment and Climate Change Canada (ECCC) relating to generation of removal predictions from the SimpleTreat model (an assessment tool for the fate of substances in wastewater treatment plants, incorporated into EUSES and Chesar) and comparisons to measured removal data. This stepped from some ongoing work by ECCC to improve wastewater treatment removal modelling. The OECD Working Party on Exposure Assessment (WPEA) has been kept informed of this activity.

The **TRA Steering Team**, which includes the Chairs from each of the three branches, continues to oversee the work of the three branches of the TRA Task Force. The TRA Steering Team has also maintained their bi-monthly coordination calls with ECHA to share updates and developments, including ECHA's work on the **Chesar Platform**.



DISSEMINATING FOR IMPACT

A YEAR IN NUMBERS

6 WORKSHOPS IN 2022 ATTENDED BY 261 PARTICIPANTS

- 69 Scoping meetings
- 50 Advancing the science of exposure assessment of low molecular weight components in polymer matrices
- 47 Quantitative Response-Response Relationships (qAOPs)
- 35 MARII workshop
- 31 Omics threshold of non-adversity
- 29 Bioacculumation in air-breathing organisms

WEBSITE PERFORMANCE

59K Users

258K Page views

Source: Google analytics

SOCIAL MEDIA PERFORMANCE

LinkedIn	Visitors	4736
	Followers	3789
YouTube	New videos	2
	Subscribers	146
	Views	6,8k
	Hours watched	356,4
Twitter	Followers	1075 (120 new)
	Impressions	32k

Source: LinkedIn, YouTube, Twitter

**Google Analytics only records data from users who've accepted a specific website's cookie policy. To comply with current regulations, we updated our website's cookie policies in May 2022 and numbers are therefore likely to be lower than in reality.

PUBLICATIONS

8 NEW REPORT RELEASED IN 2022 Viewed over 17.000 times. Cited 55 times.

Views source: ECETOC website's google analytics** and statistics from publishers
Citation source: Google Scholar
*Data from journal not available

	Views	Citations
A framework for chemical safety assessment incorporating new approach methodologies within REACH.	6946	22
Commentary Assessing the ED effects of chemicals on invertebrates in the EU.	3274	7
Towards best use and regulatory acceptance of generic physiologically-based kinetic (PBK) models for in vitro to in vivo extrapolation (IVIVE) in chemical risk assessment.	2914	2
Scientific concepts and methods for moving persistence assessments into the 21st Century.	1528	20
Towards a science-based testing strategy to identify maternal thyroid hormone imbalance and neurodevelop-mental effects in the progeny, part III: how is substance-mediated thyroid hormone imbalance in pregnant/lactating rats or their progeny related to neurodevelopmental effects?	1522	3
Mobility in the context of exposure-based assessment of chemicals for drinking water resource protection.	798	1
Heterogeneity in biological assem-blages and exposure in chemical risk assessment: Exploring capabilities and challenges in methodology with two landscape-scale case studies.	63	
Workshop report: Advancement of polymer exposure science.	17	

Top 5 Most downloaded Publications from our website

1	310	TRA Standalone Consumer Tool User Guide
2	254	TRA Integrated Tool User guide
3	253	TR 140 – Systematic review of published studies of ECETOC TRA Worker exposure predictions
4	210	TR 133-3 – A selection of case studies addressing different components of polymer grouping and RA to put the CF4Polymers into practice
4	210	TR 133-1 – The ECETOC Conceptual Framework for Polymer Risk Assessment (CF4Polymers)

Source: ECETOC website's Google analytics

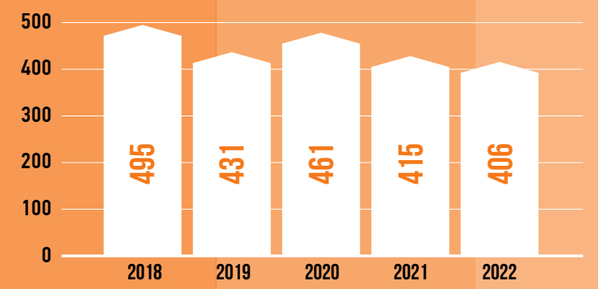
Top 5 Most cited ECETOC Publications to date

1	1967	The potential risks of nanomaterials: a review carried out for ECETOC 2006
2	406	The fish embryo toxicity test as an animal alternative method in hazard and risk assessment and scientific research 2010
3	287	Influence of indoor factors in dwellings on the development of childhood asthma 2011
4	271	A decision-making framework for the grouping and testing of nanomaterials (DF4nanoGrouping) 2015
5	234	Testing strategies to establish the safety of nanomaterials: conclusions of an ECETOC workshop 2007

Source: ECETOC website's Google analytics

HOW MANY TIMES WERE ECETOC PUBLICATIONS CITED OVER THE LAST 5 YEARS ?

Source: Google Scholar



PUBLICATIONS, AWARDS AND TOOLS

Communicating and disseminating scientific knowledge, both to its members as well as to external audiences, is at the core of ECETOC's raison d'être. Writing and publishing scientific papers, organising webinars and workshops, and creating useful tools for industry and regulators are an integral part of ECETOC's work every year.

ECETOC's primary outputs are state-of-the-science reports that are compiled as a result of the scientific partnerships formed in the framework of ad-hoc issues-based task forces. These take the form of both ECETOC's own published reports, as well as articles published in the open scientific literature.

Technical Reports
address specific aspects of the science used in evaluating the hazards and risks of chemicals to human health and the environment.

Workshops Reports
are summaries of the discussions and conclusions derived from ECETOC-sponsored scientific workshops.

Scientific Articles
are publications in peer-reviewed journals.

Technical Reports
are compilations of data targeted to specific regulatory issues/demands.

As part of our continuing drive for efficiency and environmental care, all ECETOC publications are now distributed exclusively in electronic format. All reports can be freely downloaded from

ecetoc.org/publications

AWARDS

Environmental science related awards

Each year, ECETOC sponsors an award honouring a young scientist for the best platform or poster presentations at the SETAC Europe Annual Meeting.

In 2022, in occasion of the 32nd Annual Meeting, which was held from 15–19 May in Copenhagen, Denmark and online, the **Young Scientist Awards** for Best Presentation was given to Cailin Alexander Mackenzie, from Oregon State University (USA) for his presentation entitled "Methylmercury Trophic Transfer: How Exposure Methods Affect Aquatic Invertebrate Biomagnification".

Human health science related awards

The early career award for toxicological research into mechanisms and risk assessment is supported by ECETOC and is presented to young scientists at the EUROTOX Annual Meetings. In 2014, the award was re-named in memory of the late Dr. Christa Hennes, former ECETOC Human Health Sciences Manager, who was instrumental in its organisation. The winner receives a monetary prize and a free invitation to the following year's Eurotox meeting.

The recipient for the 2022 **ECETOC Christa Hennes Award for toxicological research into mechanisms and risk assessment** was assigned to Job Berkhout from RIVM (NL) for the abstract "Computational modelling of neural tube closure defects". The award was given by Professor Carvalho (President of EUROTOX) and Dr Serrano Ramón during the closing ceremony of the Annual Meeting, held in Maastricht on 21 September.

TOOLS

Ecetoc launched and manages 3 practical tools to help practitioners:

NanoApp

helps establish and justify sets of nanoforms and identify poorly soluble – low toxicity (PSLT) nanoforms. Launched in 2020, in 2022 it counted over 160 users.

HeatDB

is a database of tools and data for the assessment of human exposure. Updated on a yearly basis, in 2022 it featured 298 data sources and 65 tools.

TRA

Targeted Risk Assessment, calculates the risk of exposure from chemicals for workers, consumers and the environment. It has been identified by the European Commission's Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as a preferred approach for evaluating consumer and worker health risks (ECHA, 2010 a,b) – see above sections for ongoing work and updates.

ECETOC'S CONTRIBUTION TO CEFIC LONG-RANGE RESEARCH INITIATIVES

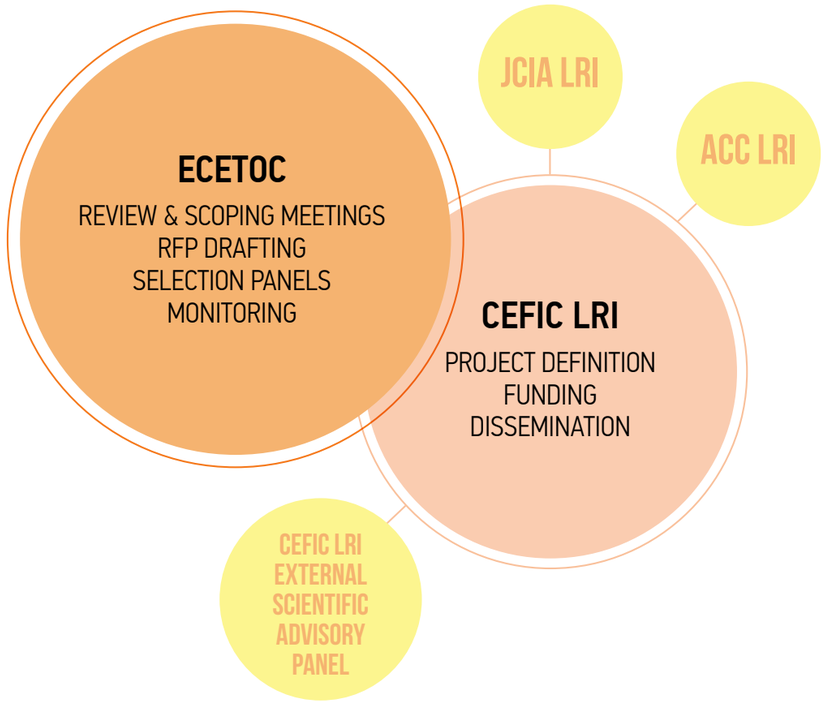
Since 1996, the Long-range Research Initiative (LRI) Programme of Cefic, the European Chemical Industry Council, has been providing proactive scientific data on which the entire industry and regulatory bodies can draw to address societal concerns on a reliable basis.

As a fundamental basis for a sustainable chemical industry and a complement to Responsible Care, LRI presents a Research Programme that is forward-looking and ambitious, but also realistic and coherent. LRI invests in long-term research and delivers transparent, quality-assured scientific data, open to the broad public.

ECETOC provides scientific support to the Cefic LRI as follows:

1. Organisation of joint ECETOC/Cefic LRI biennial scoping meetings to scope topics for further consideration as new projects by the Cefic LRI Issue Team (IT);
2. Drafting of 'requests for proposals' (RfPs) for new projects prioritised by the Cefic LRI IT;
3. Establishment and coordination of selection panels to review the research proposals submitted in response to published RfPs and make recommendations to the Cefic LRI IT concerning the funding of the proposals;
4. Establishment of monitoring teams to act as a discussion partner with the research teams and support Cefic LRI in the monitoring of project progress and
5. Administrative support and management of ongoing projects

Information on the Cefic LRI projects active or initiated during 2022 is set out in the following pages.



HUMAN HEALTH AND EXPOSURE PROJECTS ACTIVE OR INITIATED DURING 2022

The following Cefic LRI projects were active or initiated during 2021, with the support of the ECETOC Monitoring Teams and Selection Teams.

4 projects were completed during 2022 (marked below with ✓).

AIMT11
Expansion of a regulatory accepted in vitro testing battery for developmental neurotoxicity evaluation. Principal investigator: Dr Ellen Fritsche, IUF Leibniz Research Institute, Dusseldorf, DE

B12.5 EXT
Assessing the relevance of the dust contribution in consumer exposure to substances from consumer products and articles (DustEx). Principal investigator: Dr.John Little, Virginia TECH, US

✓ B21
In Vitro Data to Parameterise PBPK Models for Inhalation Exposure. Principal investigator: Dr. Katharina Schwarz, Fraunhofer ITEM, Germany

B22
Tiered Methods for Quantifying Exposure to Complex Substances ("TMEx-Complex"). Principal investigator: Prof. J. Mark Parnis, Trent University, Canada

✓ B23
Optimizing the benefit of REACH worker exposure assessments: ensuring meaningful health risk communication. Principal investigator: Dr Wouter Fransman, Netherlands Organisation for Applied Scientific Research (TNO), The Netherlands

C5
XOMETOX - Evaluating multi-omics integration for assessing rodent thyroid toxicity. Principal investigator: Dr. Jorg Hackermuller, Helmholtz Centre for Environmental Research (UFZ), Germany

✓ C7
ELUMICA - Elucidating Microbial Metabolic Capacity. Principal investigator: Saskia Sperber, BASF SE, Germany

C8
MetAbolomics ring-Trial for CHemical groupING (MATCHING). Principal investigator: Prof. Mark Viant, University of Birmingham, United Kingdom

C9
Mining the developmental toxicity biomarker genome in the zebrafish embryo test. Principal investigator: Dr Sylvia Escher, Institute ITEM, Hannover, DE

C10
A tiered strategy of modelled doses, analogy concepts, and testing to approach the human hazard of microplastic particles via inhalation pathway (Stage 1). Principal investigator Dr Tanja Hansen, Fraunhofer ITEM, Germany

EMSG 59.2 EXT
Developing a quantitative AOP for liver-mediated thyroid modulation after prenatal exposure to a xenobiotic compound in the rat. Principal investigator: Prof. Aldert Piersma, RIVM, Nederlands

✓ EMSG 60
Incidence trends of selected endocrine-related diseases and conditions in Europe and North America, and the contribution of changes in human reproduction. Principal investigator: Dr. Eva Negri, Università degli Studi di Milano, Italy

ENVIRONMENTAL PROJECTS ACTIVE OR INITIATED DURING 2022

The following Cefic LRI projects were active or initiated during 2021, with the support of the ECETOC Monitoring Teams and Selection Teams.

8 projects were completed during 2022 (marked below with ✓).

2 projects secured funding and will be initiated in 2023 with the support of the monitoring teams (marked below with ⚑).

C8

Improved characterisation of partitioning and biotransformation for screening organic compounds for the potential to bioaccumulate in air-breathing species. Principal investigator: Prof. Frank Wania, University of Toronto, Canada

✓ ECO 43

Improving sediment toxicity testing design and data interpretation for very hydrophobic substances. Principal investigator: Dr. Michiel Jonker, IRAS, Utrecht University, The Netherlands

✓ ECO 46

Improved aquatic Testing and Assessment of cationic Polymers (iTAP). Principal investigator: Dr. Hans Sanderson, Aarhus University, Denmark

✓ ECO 47

SNAPFISH "Searching for refiNed in vitro Approaches to Predict bioconcentration in FISH. Principal investigator: Dr. Andreas Schaffer; Institute for Environmental Research, RWTH Aachen University.

ECO 49

Microplastic Effect Thresholds for Aquatic Species (METAS). Principal investigator: Prof. Albert Koelmans, Wageningen University, The Netherlands

✓ ECO 50

Incorporating spatial and seasonal variability in community sensitivity into chemical risk assessment (GET REAL). Principal investigator: Prof. Ralf Schafer, University of Koblenz-Landau, Germany

✓ ECO 51

Strengthening Weight of evidence for FET data to replace acute Fish Toxicity (SWiFT). Principal investigator: Dr Adam Lillicrap, Norwegian Institute for Water Research (NIVA)

✓ ECO 52

Bioavailability, complex substances and overall persistence (BCOP): three themes to deliver a step-change in persistence assessments. Principal investigator: Christopher Hughes, Ricardo Energy and Environment

✓ ECO 53

A Chemical Categorisation Approach for LRT P Assessment (CC-ALT). Principal investigator: Prof. Knut Breivik, Norwegian Institute for Air Research (NILU)

ECO 54:

Next generation risk assessment methods for substances associated with mobility concerns. Principal investigator: Dr Li Li, University of Nevada, NV, US

ECO 55:

Impact of Sample Collection on Microbial Population and Validity Criteria in the OECD 309 Surface Water Mineralisation Test. Principal investigator: Dr Odd Brakstad, SINTEF Ocean AS, Olso, NO

ECO56:

UTOPIA: Development of a mUltimedia uniT world OPen-source model for microplastic. Principal investigator: Prof. Matthew MacLeod, Stockholm University, SE

ECO57:

µPLANET – microPlastic Long-range transport Assessment aNd Estimation Tools. Principal investigator: Dr Antonia Praetorius, University of Amsterdam.

ECO58

Comprehensive additive release and bioaccessibility model for risk assessment of micro- and nano-plastics in the environment. Principal investigator: Prof. P Lee Ferguson, Duke University, US.

ECO59

FRAGMENT-MNP: Developing a mechanistic model of Micro and NanoPlastic FRAGMentation in the ENvironmenT. Principal investigator: Dr Claus Svendsen, UK Centre for Ecology & Hydrology, UK.

⚑ ECO60

EMIFACT-MNP: EMIssion FACTors for Micro and NanoPlastics. Principal investigator: Sam Harrison, UK Centre for Ecology & Hydrology (UKCEH), UK.

⚑ ECO61

HERA-MP - Establishment of a Holistic Environmental Risk Assessment for MicroPlastics in the terrestrial environment using the study of environmentally relevant particles. Principal investigator: Karsten Schlich, Fraunhofer IME, DE.

MEMBERS OF THE SCIENTIFIC COMMITTEE

The Scientific Committee is responsible for the definition, management and peer-review of the ECETOC work programme. Appointed by the Board, the members are selected on the basis of their scientific expertise.

During 2022, the Scientific Committee consisted of the following members:

BEN VAN RAVENZWAAY *	BASF
PAOLO BOFFETTA*	Università di Bologna
PHIL BOTHAM	Syngenta
ALISTAIR BOXALL*	University of York
DOROTHEE FUNK-WEYER	BASF
TIMOTHY GANT*	King's College London
HELMUT GREIM*	Technical University Munich
ANDREAS HÄNER	F. Hoffmann-La Roche
DANIELA HOLLAND	Huntsman
HELI HOLLNAGEL	Dow Europe
PHILIPPE LEMAIRE	Total energies
LORRAINE MALTBY*	University of Sheffield
LO MEISTERS	Corteva Agrisciences
MIRIAM LEON PAUMEN	ExxonMobil Petroleum and Chemical
MARK PEMBERTON*	Systox Limited
CARLOS RODRIGUEZ	Procter & Gamble
DAVID ROUQUIÉ	Bayer CropScience
GORDON SANDERS	Givaudan International
CLAIRE TERRY	Corteva AgriScience
JOHANNES TOLLS	Henkel (Co-Chair)
JAN URBANUS	Shell Health
KEES VAN LEEUWEN*	KWR Water Research Institute
ERIK VAN MIERT	Sciensano

**external experts*

MEMBERS OF THE SECRETARIAT

The ECETOC Secretariat is responsible for co-ordinating and managing the scientific work programme. The team supports the scientists working on the ECETOC programme in meeting the objectives set by the Scientific Committee.

BLANCA SERRANO RAMÓN — Secretary General (from April 2022)
ANDREEA CUCIUREANU — Human Health Sciences Manager
GENEVIÈVE GÉRITS — Office Manager
AUDRIC MATHUREN — CEFIC LRI Support
BETHANY ROBERTS-RHODES — CEFIC LRI Support
ANDREA SALVADORI — External Relations Manager
FRANCESCA UGUCCIONI — Administrative Assistant
VIRGINIE VAN DER STEEG — Administrative Assistant
LUCY WILMOT — Environmental Sciences Manager

FINANCE

INCOME ACTUAL 2021 IN EURO

Subscription

Full members	1.034.735
Associate members	50.000
Total subscription income	**1.084.735**
Bank Interest	
Investment income	-1.491
Project related income	126.615
Exceptional income	360
Total	**1.210.219**

EXPENDITURE ACTUAL 2021 IN EURO

Salaries and Associated Costs	481.237
Office Running Expenses	158.440
Travel Expenses	3.850
External contractors	258.776
Board, Committees & Annual General Meeting	26.653
Task Forces	179.935
Workshops	76.266
Sponsorships & Awards	5.599
Publications/communication/website	38.105
Professional Services	23.039
Bank Charges	-2.298
Capital expenditure	10.905
Miscellaneous & contingency	6.120
Total	**1.266.627**

BALANCE SHEET AND RESERVES ACTUAL 2021 IN EURO

Balance Sheet	
Income	1.210.219
Expenditure	1.266.627
Operating Margin	-56.408

Reserves

Opening Reserve	1.627.880
Operating Margin	-56.408
Closing Reserve	1.571.472
Reserve required for Closure	269.894

ABBREVIATIONS

AGM
Annual general meeting

AI
Artificial Intelligence

AOP
Adverse outcome pathways

CARACAL
Competent Authorities for REACH and CLP

CASG
Compentent authorities sub-group

Cefic
European Chemical Industry Council

CF4Polymers
Conceptual Framework for Polymers

Chesar
(ECHA) CHEmical Safety Assessment and Reporting tool.

CLE
CropLife Europe

CLP
Classification, Labelling and Packaging

C&L
Classification and Labelling

ECCC
Environment and climate change Canada

ECETOC
European Centre for Ecotoxicology and Toxicology of Chemicals

ECHA
European Chemicals Agency

EFSA
European Food Safety Agency

EU
European Union

EUROTOX
Association of European Toxicologists and European Societies of Toxicology

EUSES
European Union System for the Evaluation of Substances

heatDB
ECETOC Human Exposure Assessment Tools Database

IEAM
Integrated Environmental Assessment and Management

IT
Issue Team (Cefic)

LRI
Cefic's Long-range Research Initiative

NAMs
New Approach Methods/Methodologies

NIVA
Norwegian Institute for Water Research

NILU
Norwegian Institute for Air Research

NTO
Non-target organism

OA
Occupational Asthma

OECD
Organisation for Economic Co-operation and Development

P
Persistence

PAT
Persistence assessment tool

PBT
Persistent, Bioaccumulative Toxic

PEG
Partner Expert Group

PMT
Persistent, mobile and toxic

PSLT
Poorly soluble, low toxicity

qAOP
Quantitative adverse outcome pathways

REACH
EU Regulatory framework for the registration, evaluation and authorisation of chemicals

RfP
Request for proposal

RIVM
The Dutch National Institute for Public Health and the Environment

SETAC
Society of Environmental Toxicology and Chemistry

TP
(ECETOC) Transformational Programme

TR
Technical Report

TRA
Targeted risk assessment

T4
Thyroxine

UKCEH
United Kingdom's Centre for Ecology & Hydrology

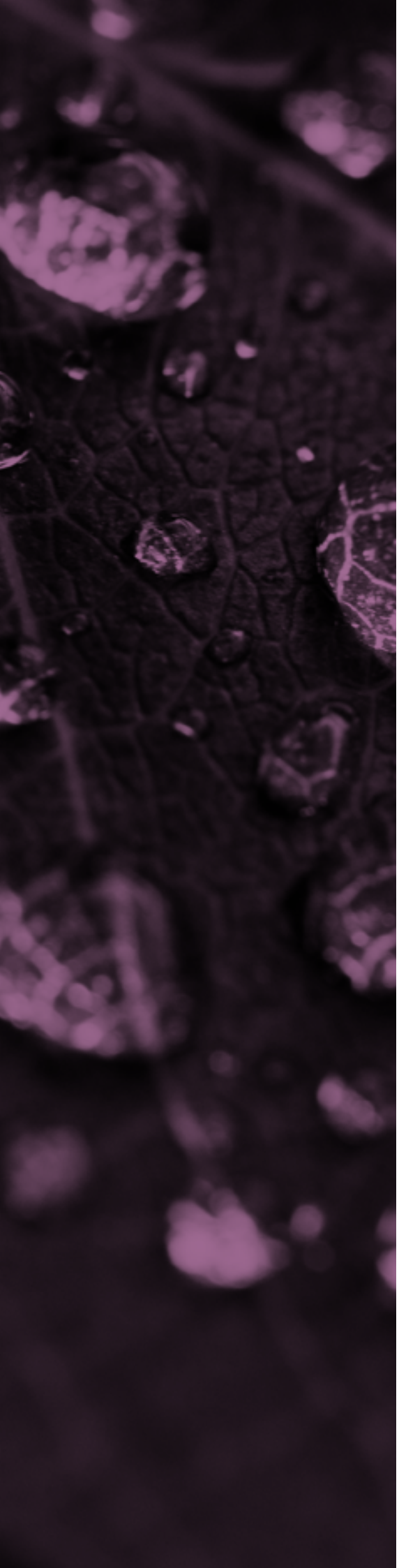
vPvB
Very persistent, very bioaccumulative

vPvM
Very persistent, very mobile

WHO
World Health Organisation

WoE
Weight-of-evidence

WPEA
Working Party on Exposure Assessment



ecetoc

We are the Centre for chemical safety assessment

THANK YOU FOR READING!

Since 1978 ECETOC has provided a collaborative space for top scientists from industry, academia and governments to develop and promote practical, trusted and sustainable solutions to scientific challenges which are valuable to industry, as well as to the regulatory community and society in general.

Learn more at **ecetoc.org.**

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