

7th ESA REACH Workshop 2026 - Summary Report

On 2 June 2026, the European Space Agency (ESA) hosted the 7th edition of its **“Workshop on the EU REACH Regulation and its impact on the Space Sector”** at ESA ESTEC, The Netherlands.

About this document and disclaimer

This document aims to provide a concise summary of the workshop proceedings, key contents presented and discussions, as well as links for further information / monitoring of progress. It has been prepared by REACHLaw Ltd. under ESA Contract 4000139751/22/NL/AS (CCN2 of 11/12/2024). For further details, reference is made to the Agenda and the individual Presentations.

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Overview of the workshop

The main **objective** of this hybrid (on-site and Webex) full-day event was to raise once again awareness and discuss the current state of play, challenges, and risks with regards to **EU REACH and related environmental regulations** with experts from competent authorities, agencies and industry (including SMEs). Of particular interest was the recently concluded public consultation concerning the SEAC Draft Opinion on the universal PFAS (uPFAS) restriction proposal. The workshop, which was organised as a hybrid event, was composed of presentations with opportunities for questions and answers (**Q&A**), interactive Mentimeter surveys and a concluding expert panel discussion (see Table 1 below). More than 110 participants from 25 countries across 4 continents were registered for the workshop.

Table 1 Workshop Agenda

Time CEST	Speaker / Organisation	Title
09:10-09:20	Ross Findlay (ESA, TEC-SFS)	Introduction & Welcome
09:20-09:50	Premysl Janik (ESA REACH Officer)	ESA REACH Office - Introduction and space sector-wide initiatives
09:50-10:20	Simone Doyle (ECHA)	ECHA update: Authorisation, Restriction and new tasks
10:20-10:50	Edward Latter (DEFRA UK)	The UK PFAS Plan: Building a stronger future together
10:50-11:10	BREAK	
11:10-11:45	European Commission Julien Fabre (DG ENV) and Denis Mottet (DG GROW)	European Commission update on REACH and PFAS
11:45-12:15	Elisa Consoli (ASD Europe)	Updates from the Aerospace & Defence Industry Association on chemical legislation
12:15-12:45	Tim Becker (REACHLaw)	REACH & Space: Update on priority topics and joint contributions
12:45-14:00	LUNCH BREAK	
14:00-14:30	Oliver Reiff-Musgrove (REACHLaw)	How to use the ESA REACH Tool, AI and other software to identify PFAS and understand impact from REACH and other regulations.
14:30-15:00	Léo Fournier (ESA)	PFAS use mapping across ESA projects & update on obsolescence risk mitigation activities
15:00-15:30	David Liu (NASA)	Impact of PFAS-related regulations on the global space material supply chain
15:30-15:40	Mentimeter - interactive session	Have your say and give us feedback on the most challenging topics in regulatory landscape!
15:40-16:00	BREAK	
16:00-16:45	Panel Discussion <i>Panellists:</i> Josef Denzel (ADS) Thomas Rohr (ESA) Elisabeth Laurent (CNES) Fabian Schueller (Materiales)	PFAS and beyond: Impacts of wide group restriction initiatives and updates to the EU chemicals regulatory agenda on the European Space Sector <i>PFAS (Mapping, Substitution, Reporting) – impact on the sector, Regulatory simplification (omnibuses)</i> <i>Digitalisation (Digital product passport, substance traceability)</i> <i>Dependencies of space technologies on chemicals in geopolitically-driven uncertainty</i> <i>Essentiality of space technologies for functioning industry and society</i>
16:45-17:00		Closing Remarks
17:00		END

The workshop was moderated by *Agustin Coello-Vera*, Senior Consultant at *REACHLaw Ltd.*

Presentations

#1	Ross FINDLAY (ESA TEC-SFS)	Introduction & Welcome
In his opening speech, Ross FINDLAY (leading the Sustainability Engineering & Standards Section within ESA TEC – Future Engineering Division) highlighted that 2026 will be ESA’s busiest year ever with more than half of the 65 missions already launched. He emphasized that the contributions of the space sector constitute a contribution to the European society as such. He further elaborated that REACH continues to be addressed as a cross-cutting issue throughout the ESA Strategy 2040, however it has not been part of the Technology Vision 2040 so far. To mirror a shift in perspective, from REACH as a source of disruptive innovation to REACH as a disruptive risk, Ross explained it will now come within the scope of TEC-SFS. This way, REACH issues also move from a materials to systems level with agency-wide importance. Henceforth, REACH is viewed together with Sustainable Industrialisation and Standards. ... Q&A Q: Does the ESA Strategy 2040 also include any plans for missions to the Moon and Mars? A: As concerns planetary objects, ESA’s sustainability dimension is largely linked to planetary protection. Q: Where does the new organisational structure put the European Space Components Coordination (ESCC)? A: It is not directly managed by the Systems Department and constitutes a legacy issue of institutional development. Ross will attempt to introduce some harmonisation across departments in this regard.		

Q: Concerning the Systems Department, Ross is asked to provide some numbers.

A: From the 3000-4000 employees at ESA, a couple of hundreds work in the Systems Department, of which 15 are in the TEC-SFS Section.

#2 Premysl JANIK (ESA REACH Officer)

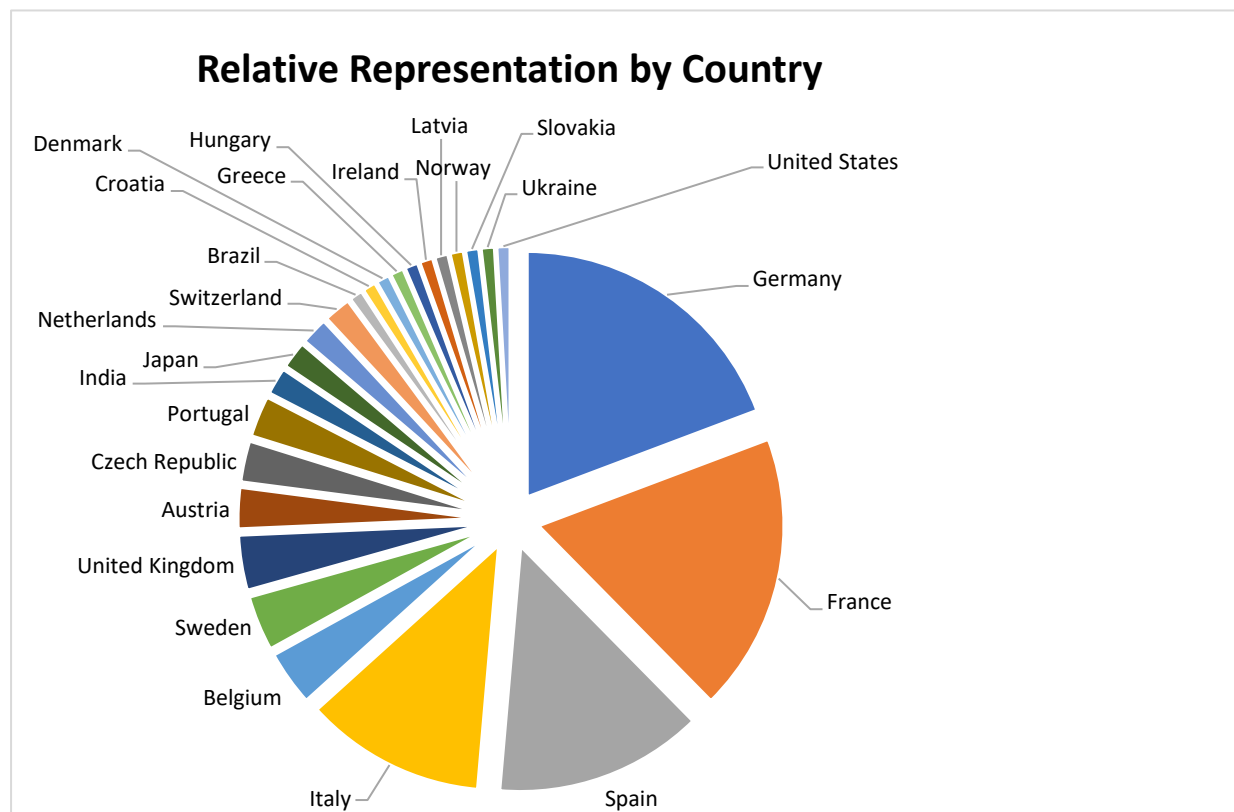
ESA REACH Office – Introduction and space sector-wide initiatives

Premysl opened his presentation with a reflection on the number 18, representing the number of astronauts/cosmonauts lives lost due to malfunctioning space systems, often related to materials performance, quality and reliability. Each of these disasters also represent crucial learning opportunities that have given rise to the super-performing materials used in space today. Premysl then went on to stress that for all space missions, reliability is crucial and materials that can also operate close to or even beyond the operational condition range they have been originally designed for.

Having this in mind, he emphasised that one objective of this Workshop is to network and connect the people that can identify relevant risks associated with materials' availability and find corresponding solutions.

Following brief reflections about the 6th ESA REACH Workshop 2025, Premysl introduced the agenda and outlined the participation for the present event (see [Figure 1](#)). The programme was purposefully less packed than previously to allow for discussion, interactions and give proper room for exchanges. Among participants, he noted, the whole REACH/Space ecosystem is represented, including regulatory authorities, space agencies, large space integrators, users of chemicals and chemical manufacturers themselves.

Figure 1 7th ESA REACH Workshop – participants by nationality



Particularly against the background of the recently concluded ECHA public consultation on the SEAC Draft Opinion for the universal PFAS restriction proposal and ever-increasing complexity of the chemicals regulatory landscape,

Premysl emphasized that the space sector in the EU REACH context faces specific challenges. Especially long mission lifetimes and resulting material requirements are difficult to reconcile with regulatory timeframes and cycles. Raising the example of BepiColombo, Premysl explained that it is not only the 18-year design phases that represent a challenge in the face of overtaking regulatory developments. Additionally, the one-directional and forward-iterative nature of project development in the space sector puts any project at increasing risk of obsolescence the later the development stage of the project.

He reminded participants that REACH issues are embedded in a much wider global regulatory landscape that is expanding every year. Making the space sector heard is challenging, particularly for ESA not being involved internally in the EU legislative processes and sitting at the top of the “food chain” of the space sector. Hence, for ESA business continuity, input from industry is needed, both in terms of existing and emerging concerns as well as opportunities for substitution and where substitution is not possible, for space-specific use advocacy.

Premysl then turned to a recent example for sectoral advocacy, namely the ECHA public consultation on the SEAC Draft Opinion for the universal PFAS restriction proposal. ESA conducted a PFAS mapping across several flight units and launchers (launched in reference year 2024) and identified that 9% of all declared material items contain PFAS, making them part of the space backbone. Not all these uses are covered by proposed derogations and for many cases, no PFAS-free alternatives are available that would maintain mission-critical performance. The burden, a universal PFAS restriction in the form of a ban would represent, seems practically unmanageable. Looking at the general transition period of 18 months for non-derogated PFAS uses against the baseline of assumed 18-year development periods alone shows this clearly. However, Premysl highlighted that even without a PFAS restriction, the space sector continues to see some PFAS disappearing from the market due to heightened litigation and liability risks that push companies to divert away from PFAS ahead of any regulation.

Concluding his presentation, Premysl once again reminded participants that the MPTB constitutes a unique gathering of actors and can be a great source for impact monitoring and advocacy for space in regulatory processes. It also represents a quick avenue for technical knowledge to be brought to the top management levels. As part of an outlook he mentioned that potential future topics to be addressed through new MPTB groups may include geopolitics, raw materials or composites. The overall goal will remain to prevent disproportionate impacts to the space sector and incorporate strategic aspects in its further development.

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Q&A

Q: In light of recent developments exploring the means of serial production in the space sector, what is Premysl's perspective on shorter development space mission timeframes of 4-5 years?

A: Although allowing faster developments, this approach brings with it the caveat of low adaptability at the end. Long development timeframes allow for adjustments throughout the process. In contrast, “new space” where means of serial production are increasingly used, product design may become obsolete very fast due to regulatory changes. Then, impacted serial production would need to be pushed back to premature redesign loop due to material obsolescence driven by REACH.

Q: How does ESA view current foreign competition? Is there a risk customers might move away to foreign launchers?

A: It represents a real risk that ESA is under much higher regulatory scrutiny than foreign actors.

Q: What is the outlook on cooperation with other space agencies, so Europe is not left behind?

A: The space sector is still divided into separate regional markets with regional regulation. Without international standards there is a lack of interest to coordinate policies and rules. The only exceptions in this regard are Persistent Organic Pollutants (POPs) which are internationally regulated (although the USA stay outside that system) and global chemical manufacturers/suppliers who unilaterally end production globally. Particularly the latter impacts all space actors, regardless of where they are based.

Q: What is the main point for regulators to realise the unique position and significance of space? What is the ‘shaking element’ to really make advocacy work?

A: Space debris materialising as a threat with impacts seems to bring actors closer together, especially with deterrence and defence capabilities in mind. The pressure is very real and space and launcher capabilities must be replenished fast. Alternatively, a detection of a significantly large asteroid on collision course with Earth could be the spark to bring about more international cooperation to really understand the criticality of materials needed to build reliable spacecraft.

#3	Simone DOYLE (ECHA) - online	ECHA update: Authorisation, Restriction and new tasks
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Simone DOYLE, Head of Risk Management I unit at ECHA, presented updates on the following topics:

- Latest news Authorisation – Focus on AfAs Cr(VI) substances
- ECHA investigation report on aromatic brominated flame retardants
- ECHA restriction proposals on universal PFAS and certain chromium(VI) compounds
- ECHA's tasks under the Batteries and Packaging and Packaging Waste Regulations
- ECHA's tasks under the End of Life Vehicles Directive, Toy Safety Regulation and POPs Regulation

Regarding REACH Authorisation, the statistics shared by Simone show that Cr(VI) substances still represent the majority of uses in applications for authorisation and review reports, with chromium trioxide as the most prevalent substance in applications. Since January 2026 however, applications for authorisations have been suspended as the **restriction proposal on Cr(VI)** compounds progresses. The **RAC Opinion** was just **adopted** the day before the workshop and adoption of the SEAC Draft Opinion is expected during the upcoming SEAC-71 meeting (9-11 June 2026). Final opinions are foreseen to be sent to the Commission by the end of the year. For a brief summary of the opinion contents, see [Figure 2](#) below.

Figure 2 Preview of the RAC and SEAC Opinion on the Cr(VI) restriction proposal

Committees' evaluation – state of play

→ RAC

- RAC adopted opinion on 1 June
 - Confirmed CrVI hazards and risks
 - Confirmed need for EU wide action
 - RAC proposed a single Limit Value for workers and single emission level for the environment for all use categories
 - RAC recommended to develop a guideline to support the restriction

→ SEAC

- SEAC *draft* opinion expected to be agreed in plenary next week
 - SEAC revised costs and proportionality for more restrictive options (for discussion at next plenary)



Concerning **certain non-polymeric aromatic brominated flame retardants (ABFRs)**, Simone outlined the European Commission (EC) mandate for a restriction proposal on ABFRs and an investigation report on organophosphorus flame retardants (OPFR) and potential alternatives to certain non-polymeric ABFRs. Under the

current timeline, consultations with Enforcement Forum members on the availability of analytical methods will continue until 22 June 2026 and the Annex XV proposal on ABFR together with the investigation report on OPFR are expected by December 2026.

Simone then turned to the topical **restriction proposal for a universal ban on PFAS** with certain derogations (under Restriction Option 2). Of particular interest insofar was the brief overview she presented of the statistics concerning the comments received to the recently concluded SEAC draft opinion consultation period (see [Figure 3](#) below). The final SEAC Opinion is expected by the end of 2026.

Note: The press release on the comments received was published after the Workshop on 3 June 2026 and is available [HERE](#).

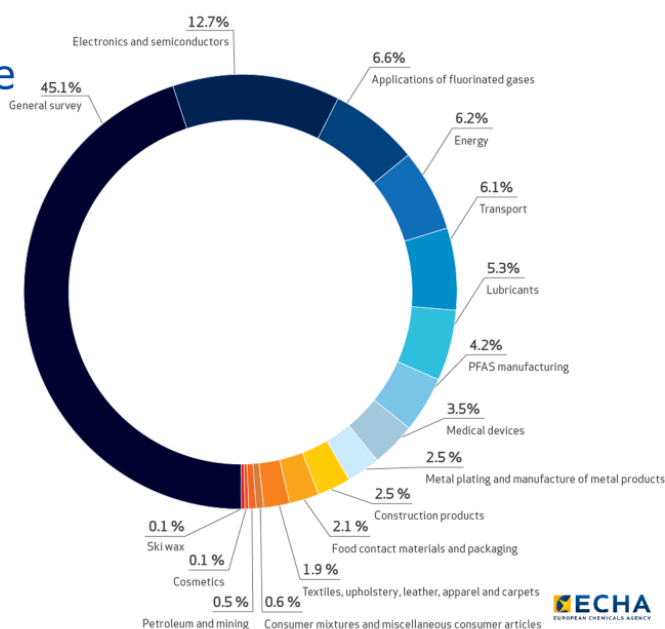
Figure 3 Distribution of comments on uPFAS proposal across sections of the consultation template

SEAC draft opinion consultation - outcome

3511 comments received

Commenter sector
(count / share in %)

18



With regard to the identification of “substances of concern”, Simone reflected on the on-going ECHA work supporting the EC under the **Batteries Regulation** as well as the **Packaging and Packaging Waste Regulation**.

As concerned **RoHS**, Simone informed attendees that ECHA is now prepared to receive industry requests for exemptions from restrictions and that a scoping study is upcoming to support the EC in its regular review activities. With a view to **POPs in waste limit values**, ECHA has been tasked with the development of a report on the human health, environmental and socio-economic impacts of introducing or modifying concentration limit values which will also require SEAC to adopt an opinion to this end.

Concluding her presentation, Simone reminded participants of the **stakeholder input invited** for ECHA consultations and the protection of business information by ECHA if the information is claimed as confidential.

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Q&A

Q: Given that no new substances have been subjected to Authorisation through addition to Annex XIV since 2022, has the Authorisation process been effectively halted?

A: The Authorisation process as such has not been halted, since AfAs continue to be processed and remain relevant. It remains an effective regulatory measure in certain cases. However, for less appropriate cases such as Cr(VI), alternative blanket measures of EU-wide coverage are considered together with the EC so that not each individual company would have to apply for an authorisation.

Q: In light of the extensive number of comments received to the Draft SEAC Opinion, can further delays be expected regarding the SEAC Opinion development as was the case earlier in the process?

A: The number of responses remained within ECHA's expectations and ECHA has prepared accordingly to process all comments in a timely fashion. The consultation is also structurally very different from the previous one, since input was received through a pre-structured form. Consequently, ECHA is expecting to finalise opinion development in the November SEAC plenary.

#4	Edward LATTEr (Defra UK) – online	The UK PFAS Plan: Building a stronger future together
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Edward (Ed) LATTEr is part of the Chemicals Policy Team at the UK Department of Environment, Food & Rural Affairs (Defra). He joined the Workshop to present the UK PFAS Plan and shed light on how it is connected to the EU REACH universal PFAS restriction proposal.

Using the OECD PFAS definition as a basis, Ed explained that the UK pursues a science-based, evidence-led, proportionate and where needed precautionary approach to PFAS. Reducing and minimising the impacts of harmful PFAS will not only improve human and environmental health but the transition to safer alternatives is also considered a big market opportunity. Through PFAS regulation, Defra intends to support industry in the shift to alternatives and in the realisation of potential business opportunities.

The PFAS Plan, which covers all UK nations, rests on 3 simultaneously evolving pillars that are interlinked and mutually reinforce each other: Understanding PFAS sources (1) will ultimately feed better knowledge into relevant regulation and research and ensures its adaptability as the knowledge base expands and evolves. Tackling PFAS pathways (2) aims at providing transparent information to consumers and ensuring that PFAS uses and environmental fate are clearly monitored. Reducing ongoing exposure (3) then will measurably reduce the public health and environmental risks by holistically addressing exposure routes. Implementation of the PFAS Plan will be progressive through a significant number of actions and will require an active industry, environmental and scientific groups, and government.

Reflecting more on UK REACH policy in general, Ed highlighted that the UK now attempts to avoid duplication of effort wherever possible through recourse to previous work in other trusted jurisdictions. EU REACH thereby constitutes an important baseline for UK developments. Core objectives are better predictability, stability and consistency for industry, market harmonisation with key trading partners (EU) and the reduction of trade barriers and business complexity. In practice, this will be achieved through a UK REACH Reform by the end of 2028 as part of the greater Environment Improvement Plan (EIP) 2025. Regulatory developments in EU REACH will be scrutinised for transposition to UK REACH and only in exceptional cases divergence from the EU baseline is expected.

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Q&A

Q: Does alignment with the proposed/future EU PFAS Restriction include potential derogations?

A: The EU restriction will be used as starting point to be assessed for alignment. At this point in time, it is too early to make any assessment yet, but the bar for divergence will be rather high.

Q: The restriction proposal in the EU relies on the OECD PFAS definition but excludes certain degradable PFAS. Will the UK adapt the definition under UK REACH accordingly?

A: The UK will use the OECD definition as the starting point for our overall policy framing on PFAS but this does not mean this needs to be strictly adhered to for specific regulatory decisions and, it might be that the EU definition is used in the context of future UK REACH restrictions that may be adopted following the UK REACH reforms.

Q: What does “proactive industry” mean? How does Defra engage with industry?

A: Defra is conducting stakeholder forums, particularly involving trade associations, later this year. There is also an information exchange forum on PFAS run by the chemical industry association. Other opportunities will emerge along the way, e.g. on consumer products. Communication about these opportunities is actively distributed by Defra and Ed can see to make sure the space sector is also aware of upcoming opportunities.

#5	Julien FABRE (DG ENV) and Denis MOTTET (DG GROW) (online)	European Commission update on REACH and PFAS
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Julien FABRE started the EC’s presentation by reminding participants of the recent decision that the planned **REACH revision** will not go forward. Instead, changes to simplify and modernise REACH will now be explored through other means, including comitology. Enhancement of enforcement at the EU border and through market surveillance will be main objectives.

Denis MOTTET then addressed **PFAS challenges and actions in EU legislation**. In addition to existing measures, he particularly focused on the upcoming regulation of long-chain PFCA (C9-21) under the POP Regulation and the proposed universal PFAS restriction currently at the opinion development stage at ECHA. For a detailed account on how the EC intends to move forward with the universal PFAS restriction, see [Figure 4](#) below.

Figure 4 EC’s perspective on moving forward with the universal PFAS restriction proposal

Policy objectives of the CIAP on PFAS (1/2)

Clarification on PFAS brought by the Communication on the Chemicals Industry Action Plan (July 2025). **Regarding the UPFAS restriction:**

- The Commission is committed to presenting a proposal **as soon as possible** after receiving ECHA’s opinion, with the **overall objective of minimising PFAS emissions**.
- The Commission will consider PFAS **ban in consumer uses such as cosmetics, food contact materials and outdoor clothing**.
- Where adequate alternatives in terms of performance and safety are not available, the **continued use of PFAS in industrial applications may be allowed for critical applications**, such as health, defence, semiconductors, and other strategic sectors, **under strict conditions until acceptable substitutes are found**.
- **Derogations** for uses will need to be accompanied by **requirements to reduce emissions at all lifecycle stages** to limit the release of pollutants into the environment **and by clear incentives to innovate**.

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Turning then to the **restriction proposal on certain Cr(VI) substances**, Julien stressed in particular that the restriction could be adopted earliest by the end of 2027/Q1 of 2028 (‘best-case scenario’) with a delayed later entry into application to ensure an appropriate transition period for companies to comply with the conditions of the restriction as well as alignment with the timeline on the de-listing of substances from Annex XIV. This is to ensure a simultaneous replacement of the Cr(VI) authorisation regime with the restriction regime.

Julien concluded the presentation by providing the EU Chemical and Innovation and Substitution Hubs that are designed to help industry transform to more energy-, water- and resource-efficient low-emissions processes and facilitate the substitution of targeted hazardous substances. He highlighted their relevance especially for the

space sector as an innovative sector facing strong substitution challenges. He also introduced two ongoing and two upcoming funding opportunities under the HORIZON Europe framework targeting alternatives to PFAS and substances of concern more generally. The scope of each of these should presumably be broad enough to also allow space industry to qualify for funding.

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Q&A

Q: What is the timeline for continued uses under the universal PFAS ban given that even a partial ban can introduce supply chain blockage?

A: *It is too early to comment on this. Based on the final RAC and SEAC Opinions and informed by consultations, suitable transition periods will be determined. The Commission does not consider industry uses the same as consumer uses and will treat them differently.*

Q: Under the current universal PFAS restriction proposal, if a use is not covered by a derogation, it is banned. Would a total exclusion of fluoropolymers not make more sense?

A: *The SEAC and RAC Opinions will be the basis for the development of the Commission proposal and before their adoption no comment can be made in this regard.*

Q: The presentation gave the impression that the Commission intends to adopt the universal PFAS restriction soon next year. How does the Commission timeline interact with the SEAC Opinion being delivered only by the end of the year?

A: *The Commission intends to submit its restriction proposal as soon as possible after receipt of the SEAC Opinion. As of now, nothing more concrete can be said.*

Q: Industry has been receiving obsolescence letters, in particular from US manufacturers announcing that a certain PFAS-containing products will be phased out. Has the Commission received any such letters from EU companies? It seems that in the US, companies are leading the development while the US where government is inactive. In contrast, in Europe it is the EU that seems to be leading the development while companies are waiting for concrete regulation to come.

A: *There is no knowledge at the Commission of such letters from EU industry. The reason for the difference in the development might be the stronger litigation risks for companies in the US.*

Q: Now with the REACH Revision abandoned, is there any intention for resuming the addition of new substances to Annex XIV (authorisation list)?

A: *Annex XIV proposals have been dormant due to the REACH Revision proposal but now a return to business as usual is assessed and foreseen.*

#6	Elisa CONSOLI (ASD Europe) (online)	Updates from the Aerospace & Defence Industry Association on chemical legislation
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Elisa CONSOLI joined online to present the challenges a universal ban of PFAS with limited derogations would represent to the Aerospace & Defence industry and to give an overview of the ASD comments submitted to the SEAC Draft Opinion public consultation.

Recalling that PFAS substances are essential for our sector due to very demanding material performance, she noted that information material developed by ASD has been made available on their website specifically addressed at regulators, lawyers, and authorities who often lack the understanding for the special requirements of the sector. Like Premysl in his earlier presentation, she stressed that there is no acceptable loss of performance and mission readiness in aerospace and defence applications and that operation safety principles, complex international supply chains with niche applications and overall a small market share of aerospace and defence products make the industry very vulnerable to supply chain obsolescence. Additionally, extremely long development horizons and strict testing requirements for real-life use under extreme conditions mean that any failure of performance requires a return to the start of the development phase.

Turning to the ASD comment submitted to the SEAC Draft Opinion public consultation, in the end, 19 PFAS uses were submitted for sector-specific surveys out of initially >50 that were considered. All input is based on a purely theoretical scenario where one use can be isolated. In contrast, in reality all uses are intertwined and integrated within bigger systems. However, ASD aimed with its contribution to facilitate discussions in SEAC and provide a reference for discussion on availability of alternatives and expected impact. A particular challenge was the fact that often individual critical components are crucial for overall certification of a system or complex product and due to their safety criticality, it is hard to impossible to establish a hierarchy among different PFAS uses. For a detailed overview of the input to the general survey of the public consultation, turn to [Figure 5](#) and [Figure 6](#).

Figure 5 ASD Input to the General Survey of the SEAC Draft Opinion public consultation - 1/2

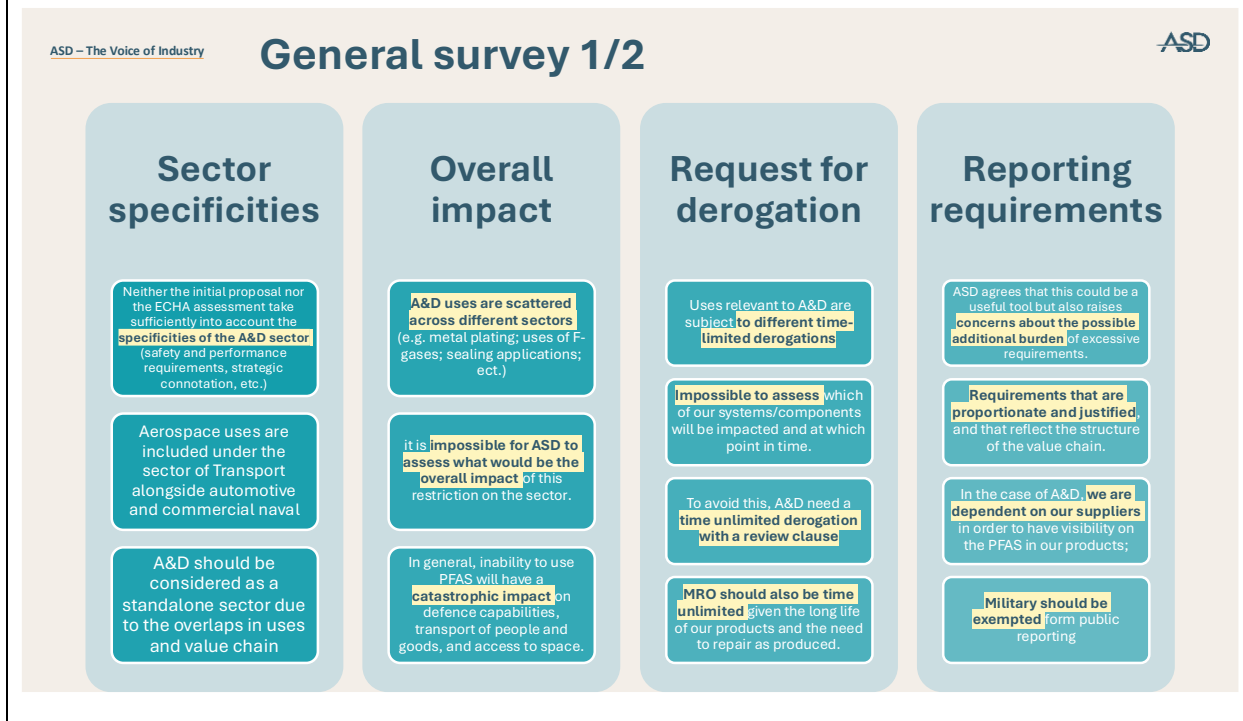
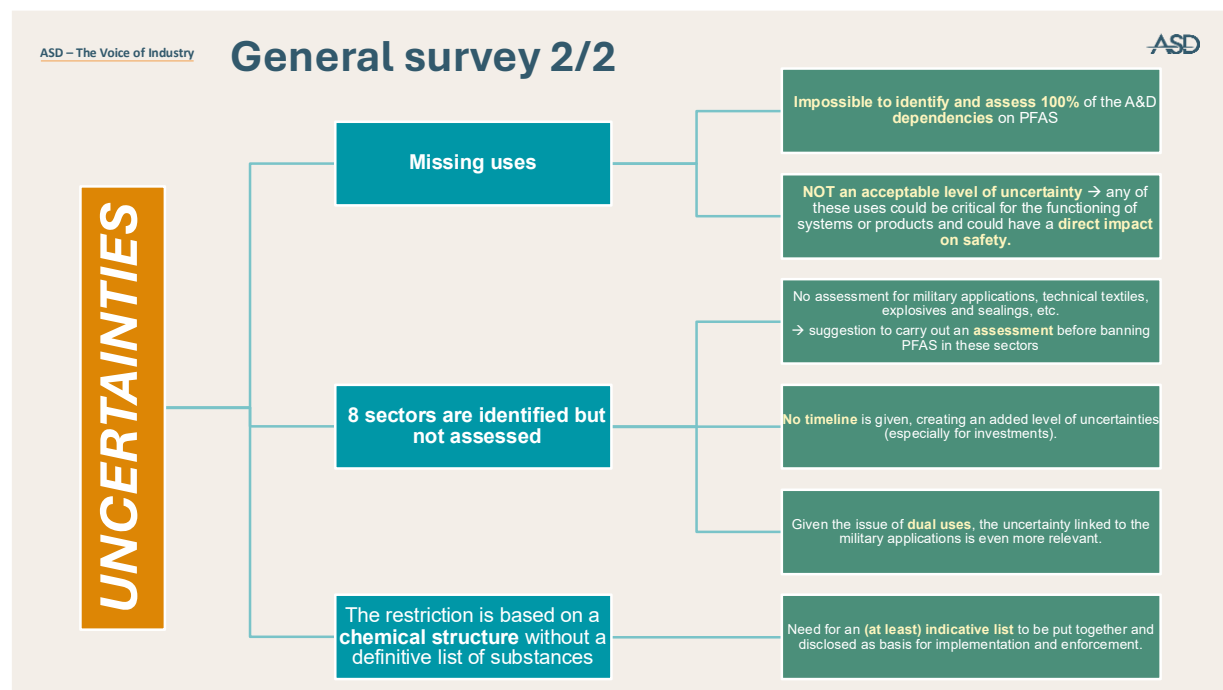
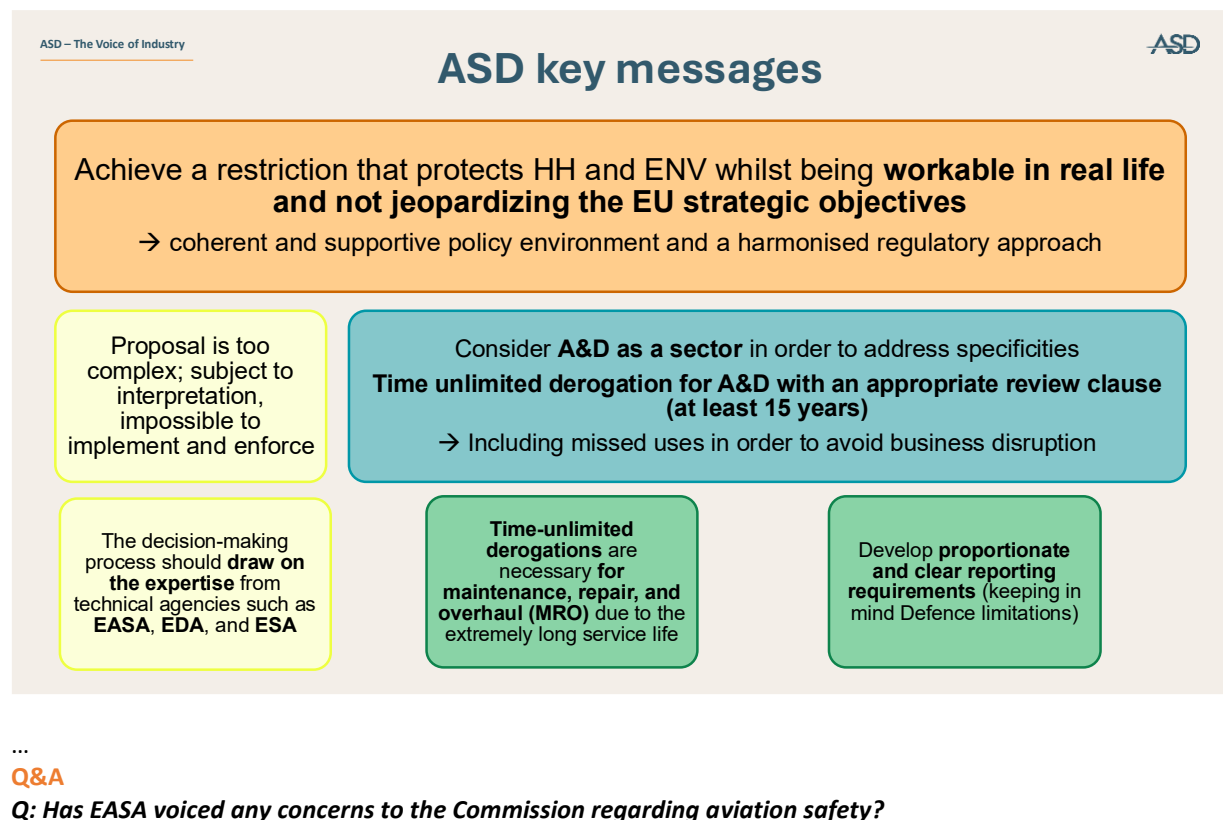


Figure 6 ASD Input to the General Survey of the SEAC Draft Opinion public consultation - 2/2



The key messages ASD attempted to communicate to SEAC are summarised in [Figure 7](#).

Figure 7 ASD key messages for the SEAC Draft Opinion public consultation



A: Elisa knows that EASA has participated in some of the SEAC meetings, but she is not aware of any active engagement with the Commission.

Q: Does ASD have a louder voice in Europe now compared to previous years?

A: In the last years a lot more interest has emerged in understanding and listening to concerns of the aerospace and defence sector and there is more awareness now.

#7 Tim Becker (REACHLaw)

REACH & Space: Update on priority topics and joint contributions

Tim BECKER, Senior Legal Advisor at consultancy REACHLaw Ltd., introduced his presentation by highlighting that the EU chemicals regulatory landscape continues to evolve and that we are experiencing an ongoing shift to regulating groups of substances rather than individual substances. He recalled that given its specificities as a high-end niche sector the Space Sector is very vulnerable to chemicals restrictions, even more if a wide substance group is the subject of the proposed restriction.

Concerning ongoing developments across various substance lists, Tim reflected on the reasons for the current lack of SVHC intentions and how this may lead to no updates to the Candidate list this summer. He also brought participant's attention to various relevant application deadlines under existing restrictions (REACH Annex XVII) and surveyed ongoing restriction proposals and the status of processes.

Then turning to high priority substances, Tim addressed the following substances or substance groups in more detail

- Universal PFAS restriction proposal
- Cr(VI) compounds
- Bisphenol A and certain other bisphenols of similar concern

Regarding universal PFAS, Tim highlighted the specific challenge that the space sector faced in making a contribution to the SEAC Draft Opinion public consultations due to space sector uses being covered by various and at times arbitrary sector-agnostic derogations in the restriction proposal. He also recalled the space sector input to the previous consultation in 2023 (ECHA comment ID # 8544) and then outlined the Eurospace 2nd response to the SEAC Draft Opinion consultation. For an overview of the key points, see [Figure 8](#) below.

Figure 8 Key points of the Eurospace (RTF) comments submitted to the SEAC Draft Opinion public consultation

Universal PFAS (4/5)

Key points in Eurospace (RTF) response of 22 May 2026*

High priority substances targeted

“Universal PFAS”: European Space Sector comments on socio-economic assessment sent to ECHA, urging EU policy makers to move away from universal ban model

27 May 2026 - 10 h 27 min

<https://eurospace.org/universal-pfas-european-space-sector-comments-on-socio-economic-assessment-sent-to-echa-urging-eu-policy-makers-to-move-away-from-universal-ban-model/>

*Ref: MPTB-ES-PO-0225. to be published on ECHA website [HERE](#) soon.

- ✓ New uses identified since 2023
- ✓ Inappropriate bundling with other sectors
- ✓ Need for a dedicated single derogation covering all space applications, which is time-unlimited
- ✓ Strategic implications, incl. for security and defence
- ✓ Non-use impact (*ESA impact assessment*)
- ✓ Practicality and enforceability of reporting obligations (*no reporting to ECHA!*)

Clearly disproportionate for the European Space Sector

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Note: The Eurospace response of 22 May 2026 to the SEAC Draft Opinion consultation has been published (alongside other stakeholder comments) right after the Workshop on 3 June 2026 on the ECHA website [HERE](#), ref. ECHA comment ID # 10901 = MPTB-ES-PO-0225. The related ASD response (fully supported by Eurospace as well) is available under ECHA comment ID # 10161.

He also pointed participants’ attention to a legal opinion by a German public law legal practice which had been commissioned by the German Industry Association (BDI). The opinion questions the legality of the restriction proposal and the process so far. The opinion is available in English translation [HERE](#) and as German original [HERE](#). The opinion suggests that the procedural errors – particularly when considered cumulatively – would preclude the EC from adopting a restriction in accordance with the proposal.

Concerning Cr(VI) substances, Tim informed participants about the expected publication of the SEAC Draft Opinion on ECHA’s restriction proposal later in June and the consultation period following thereafter. Input from the space sector may be warranted here too. He also pointed participants to the ongoing review of OELs where an issue of incoherence might arise, should limit values in the restriction proposal eventually diverge from OELs.

With a view to bisphenols, Tim summarised the ‘re-submitted’ restriction intention from Germany. Generally, it is more narrow than the previous submission withdrawn after stakeholder consultation (including Eurospace input) in 2023, with less impact on the space sector assumed based on the currently available scope description. The new restriction dossier submission is foreseen by 12 March 2027.

Relating to the comitology procedure announced earlier by the Commission that will take the place of the REACH Revision, Tim noted that only REACH Annexes can be amended through this procedure. He also recalled that this leaves the targeted amendment through the Defence Readiness Omnibus concerning the defence exemption clause in REACH as the only substantial amendment of REACH that is currently ongoing.

As concerns the SCIP database, Tim noted that even though the Commission has proposed its discontinuation last December, the European Committee of the Regions recently cautioned against its removal before the Digital Product Passport is in place. Should this idea gain traction, it could entail substantial delays to the discontinuation

of SCIP. On the other hand, the German Bundesrat¹ has already expressed full support for the Commission's view. The outcome of the co-legislative process needs to be monitored; it could be available by Q4 2026.

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Q&A

Q: What is the nature of the legal opinion commissioned by the BDI concerning the universal PFAS restriction proposal?

A: The opinion is without any binding nature, but it has been integrated partly into the input to the SEAC consultation. Josef DENZEL from Airbus Defence and Space briefly explains the core arguments of the document as he has been involved in the commissioning by the BDI (through BDLI and BDSV as members).

Q: Should the space be part of the (wider) aerospace and defence (A&D) sector or constitute its own sector under the universal PFAS restriction and how would this fare with regard to dual use applications?

A: A space-only derogation might not be sufficient due to supply chain overlap with other sectors and very small use volumes. Therefore, integration into a wider derogation seems more effective. Regulators should understand different sub-domains and their particular needs. Dual use applications are of similar concern to ESA/Space as they are to the defence sector.

Q: With regard to the Eurospace input to the SEAC Draft Opinion public consultation, Tim mentioned that there is an inappropriate bundling of the space sector with other sectors (such as transport, electronics and semiconductors, lubricants) in the proposal – what does this mean?

A: Dossier submitters should justify why they grouped certain applications. There is a lot of overlap between different sectors with uses that are listed unintuitively and with disregard to use volumes in individual sub-sectors.

Q: One substance has been blatantly absent from the presentation. What is the current status about lead?

A: No news is good news and the Commission has clearly stated since 2024 that it does not intend to include lead in the authorisation list, despite the prior ECHA recommendation (see EC presentation for the 5th ESA REACH Workshop on 19 June 2024, PDF page 27, available [HERE](#)).

#8	Oliver REIFF-MUSGROVE (REACHLaw)	How to use the ESA REACH Tool and AI to identify PFAS and understand REACH
Oliver REIFF-MUSGROVE, Senior Product Manager at consultancy REACHLaw Ltd., began his presentation with an overview of the ESA REACH Tool, how it works and what its advantages and disadvantages are. He then turned to PFAS and the challenge of integrating them into any data management solution as there is no official exhaustive list of PFAS, only indicative lists (OECD, EPA and others) of various sizes. Oliver stressed once again that group restrictions based on molecular structural groups complicate the traceability of restricted substances, and that clear indexing of substances subject to regulation (e.g. by CAS nr.) is vital for unambiguous substance identification in space-relevant materials, processes and within supply chains overall, provided the list index is truly exhaustive and analogous. The actual core of this year's presentation however was a reflection on how to use AI in addressing chemical regulatory risk. Oliver shared best practices and introduced a targeted AI-based software solution for PFAS identification based on structural analysis and accounting for diverging PFAS definitions across multiple jurisdictions that REACHLaw Ltd. is making available soon at IsItPFAS.com. He warmly invited participants to join the waitlist until the IsItPFAS.com application is fully operational.		
#9	Léo FOURNIER (ESA)	PFAS use mapping across ESA projects & update on obsolescence risk mitigation activities

¹ Germany's second legislative chamber representing the Länder at the federal level.

Léo FOURNIER, a chemical engineer and graduate trainee at ESA since 2024, provided an overview of the PFAS mapping and mass estimation he has been conducting at ESA over the past years. Additionally, he also illustrated obsolescence risk mitigation activities using Beta®Cloth and PFPE fluids as practical examples.

After outlining the methodology, results, limitations and strengths of the PFAS mapping and mass estimation, he highlighted that even though a rather stable 10 % of declared materials are impacted by PFAS for each application, due to the critical functions such applications perform, usually the whole spacecraft would be affected if PFAS were phased out. Overall, the PFAS use mapping and mass estimation constituted an important part of the Eurospace contribution to the SEAC Draft Opinion public consultation as it provided measurable and quantifiable impacts to be considered by SEAC.

Turning to obsolescence risk, Léo first provided the context in which the characterisation and testing of the “new” Versiv Beta®Cloth, PTFE-impregnated high-performance fabric, even became necessary (technology and production fully transferred from the US to the EU facility). He outlined the tests performed and the experimental conditions achieved. Having demonstrated the first practical case for mitigating obsolescence, ESA now intends to conduct a similar study for specific to PFPE fluids which have been announced to be discontinued by the US manufacturer. All interim risk mitigation solutions will still depend on PFAS-based technologies.

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Q&A

Q: Is the PFAS mass estimation exclusive to satellites?

A: Yes, satellites and their payloads.

Q: Can the results from the mass estimation be generalised for launchers?

A: No, since the launches are too different in terms of product and components, but ESA is in touch with companies producing launchers, we are ready to receive their inputs to assess them further.

Q: Would not accounting for volume percent make an even stronger point than mass-percent concerning PFAS-content?

A: No, since not the exact mass percentage of total PFAS has been determined but the percentage of individual PFAS-containing material or part item, based on its entire mass.

Q: What is the rationale to use PTFE coatings, such as on the Beta®Cloth fabric?

A: PTFE helps to protect substrates, is UV-resistant and preserves materials against atomic oxygen (ATOX) degradation and containment of fibres, thus essential for handling and cleanliness.

#10	David LIU (NASA)	Impact of PFAS-related regulations on the global space material supply chain
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David LIU, Environmental Management Division at NASA presented a general overview of the Chemical and Material Risk Management Programme at NASA (CMRM) and especially how PFAS are regulated in the US in relation to the EU REACH situation. Within the regulatory landscape, the CMRM represents the main interface between NASA and relevant national agencies and industry.

David then moved on to provide a structured overview of PFAS uses in the space sector (i.e. space and defence industry in the US) and reiterated similar challenges that Premysl, Elisa and Tim had already highlighted.

When it comes to regulatory activities, in the US one must differentiate between the federal and state level. While the former only sparsely regulates PFAS (mainly PFOA and PFOS), on the latter as a reaction to increasing public concern by now 49 states have started regulating PFAS including through drinking water limits, cleanup standards, consumer product and packaging and labelling requirements. This has led to a patchwork of limit values, definitions and requirements without any discernible degree of harmonization.

Concluding his presentation, David stressed the same concerns with regard to supply chain complexities and challenges that the space and aerospace industry would face if PFAS were to be phased out or regulatory pressure increased. He also raised the issue of dependence on supplies from ‘adversarial countries’.

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Q&A

Q: Regarding the EPA maximum contaminant levels for PFOA and PFOS of 4 ppt under the Safe Drinking Water Act, is such a low limit value in drinking water even achievable? Or is it below the detection level?

A: David has been involved himself in purification operations and knows that it is achievable. Existing removal technology can achieve such low levels, however at high costs.

Q: How relevant are reporting requirements on PFAS in products (articles) at the moment? Does it also cover import of products?

A: Reporting requirements also applies to importers, however, there might be an exclusion for articles or certain uses. EPA is currently revising and amending the final legal act.

Q: What is NASA’s short-term strategy for handling PFAS? Is there funding for research to mitigate the loss of access to those highly performing materials?

A: NASA does not have a unified strategy. Research is scattered across individual projects and NASA is highly reliant on external contractors. Consequently, NASA has little insight into materials used by contractors and their upstream suppliers. Awareness of PFAS obsolescence however is increasing.

Q: What is NASA’s perspective on Chinese suppliers for space products?

A: With potential loss of access to PFAS in the US and EU market, reliance on Chinese manufacturers will increase, if only as a transitional solution which represents a great concern for national security.

#11	Mentimeter – interactive session	Have your say and give us feedback on the most challenging topics in regulatory landscape!
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See the Mentimeter responses at the end of this Report.

Panel discussion

#12	Panel Discussion - Josef DENZEL (Airbus Defence and Space) - Thomas ROHR (ESA) - Elisabeth LAURENT (CNES) - Fabian SCHÜLER (Materiales GmbH) - Agustin COELLO-VERA (Senior Consultant, REACHLaw) – moderator Topics: PFAS and beyond: Impacts of wide group restriction initiatives and updates to the EU chemicals regulatory agenda on the European Space Sector
	The panel discussion was conducted as an ongoing conversation with targeted interventions from the moderator and interactive with questions from workshop participants. European launch capabilities amidst PFAS regulation and international competition Panellists were asked how European launch capabilities can persist in the face of increasing regulatory burden, potential PFAS unavailability in growing international competition. Josef DENZEL opened the round of responses by emphasising that there is still factual and regulatory uncertainty due to the ongoing restriction proposal. It would have been better to start with other PFAS uses outside the high-tech sector and focus on consumer uses. Currently, the industry is still busy complying with the authorisation requirements for Cr(VI) compounds and there is a general lack of capacity to explore PFAS alternatives. Fabian SCHÜLER agreed. He added that material management is not prepared to identify PFAS across all uses in the space sector. Already under the assumption that substitution is possible, it would take a long time to develop such alternatives and usually substitution is not perfect. Consequently, to preserve functionality, re-design would be necessary. Thomas ROHR, being asked whether research and development should start right away or whether it is better to wait for the restriction proposal of the Commission to be published, stated that replacement and redesign is always a black box since it is unknown what the outcome could be. In the worst case such efforts could also lead to existing systems to be grounded. While funding restraints also must be considered, ESA is looking into replacement already. Elisabeth LAURENT added that there is a commission at CNES looking into environmental aspects including PFAS wholistically covering a range of uses from pesticides containing PFAS on CNES premises to satellites and highlights that a differentiated approach is needed. Christian PUIG (Airbus Defence and Space) intervened from the audience and brought to the panellists' attention that people at the level of project management must be aware of PFAS. Many project managers are already using more than half of their time on non-operative tasks and PFAS would add to this burden. Josef DENZEL agreed and provided the example of a project manager who was trying to develop a "REACH compliant product", by which he only meant free of Cr(VI) compounds. However, their efforts were overtaken by regulatory developments. He made the point that it is important to target, whenever possible, mature solutions available, use derogations and only when necessary, explore alternatives that focus on being hazard free but these are not yet mature. Any approach must be focused on technology readiness levels (TLR) because the risks change as a product moves up the TLR ladder. Fabian SCHUELLER added that criticality assessments might also help establishing clear pathways for testing alternative solutions while being mindful of the economic and safety aspects of project development gateways. Having heard from industry actors, Agustin COELLO-VERA inquired from the institutional panellists what the agencies' perspective is. Elisabeth LAURENT explained that there is cross-cutting support within CNES for everyone to be aware of regulatory risks. Knowledge of materials and knowledge of the corresponding supply

chains is crucial. Such awareness also helps in achieving other Agency objectives, such as emissions reductions and security of supply. Thomas ROHR emphasized that one must have an understanding of long-term timelines keeping in mind when production and when regulation can become relevant. These strategic considerations must be made upfront before product development starts and can potentially be incorporated in the project development pathway.

Obsolescence originating from substance phase-out on the industry side

Panellists were then asked, how the obsolescence risk originating from manufacturers phasing out the production of specific substances should be managed.

There was consensus that it is not sufficient to take a space sector perspective only, because the space sector is simply too small to matter economically and its substance needs too specific. Instead, it should be considered to effectively manage emissions at source so that production amounts can remain higher and economically viable as multiple sectors continue to use space-relevant substances. This would also represent the more cost-effective alternative approach to regulating PFAS than banning their use in non-consumer products. Josef DENZEL also recalled the specific end of life and lack of waste generation / end use phase on Earth, specific to space products.

AI in the search for alternatives

A workshop participant asked whether there are plans to invest in AI facilities to ensure the fast development of alternatives, since in one way or another, investment in alternatives is inevitable.

Thomas ROHR explained that there are efforts to deploy AI solutions but it is more challenging than one might assume. For example, regarding polymers AI does not yet produce useful results. Fabian SCHÜLER added that it does not suffice to design the material as potential alternative but that also proper simulation of performance is needed. Especially multi-parameter systems and simulations still represent a challenge even to AI.

Digital Product Passport

Finally, panellists were asked about their perspective on digitalisation and a digital product passport for satellites along the supply chain.

Thomas ROHR raised security concerns with sensitive information being fed into a publicly administered database. Fabian SCHÜLER added that industry is currently lacking material information to start with and so it is still a long way to a digital product passport for satellites.

Josef DENZEL shared that Airbus Defence and Space is already using digital twins internally, but these solutions are not for publication. Seeing how much time and resources were consumed for the battery passport, he was curious to see what the digital product passport to be introduced by February 2027 will encompass.

Asked by a workshop participant if AI could help with the digital product passport, Fabian SCHÜLER and Josef DENZEL both agreed that a carefully chosen starting point might help rather than using AI. As a model, tracing tools developed by automobile manufacturers could be used, with reference to Full Declared Material Lists, starting with the broad picture and substances and then refining the system as processes mature.

Attendee feedback

The real time Mentimeter responses by workshop attendees showed the following results:²

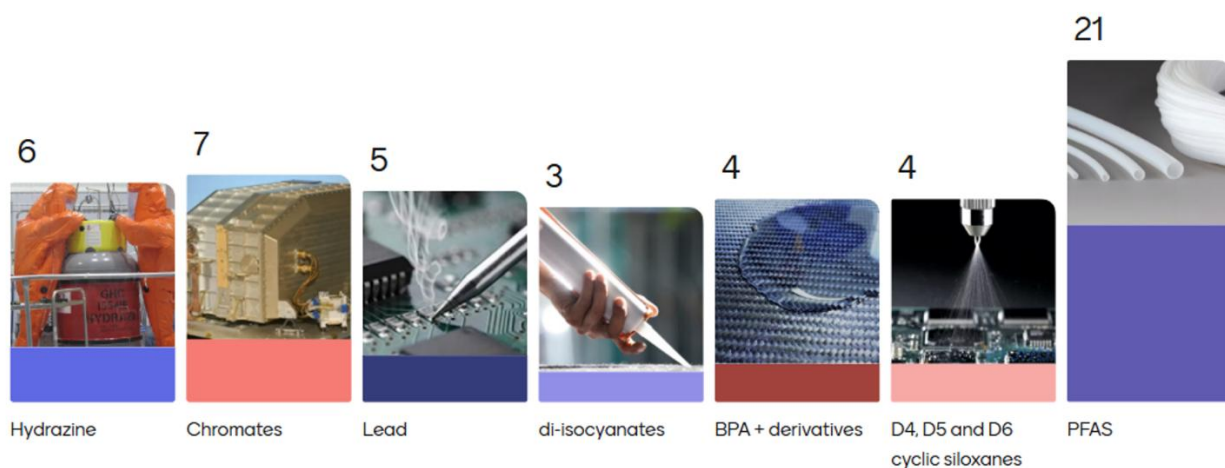
Note: *The number of respondents varied between questions, as participants answered the real-time polling questions on a voluntary basis. Some questions enabled multiple answers.*

² Only surveys on regulatory questions are reflected. Attendee feedback also provided on workshop contents and suggestions for improvement will be taken aboard for future events by the organiser.

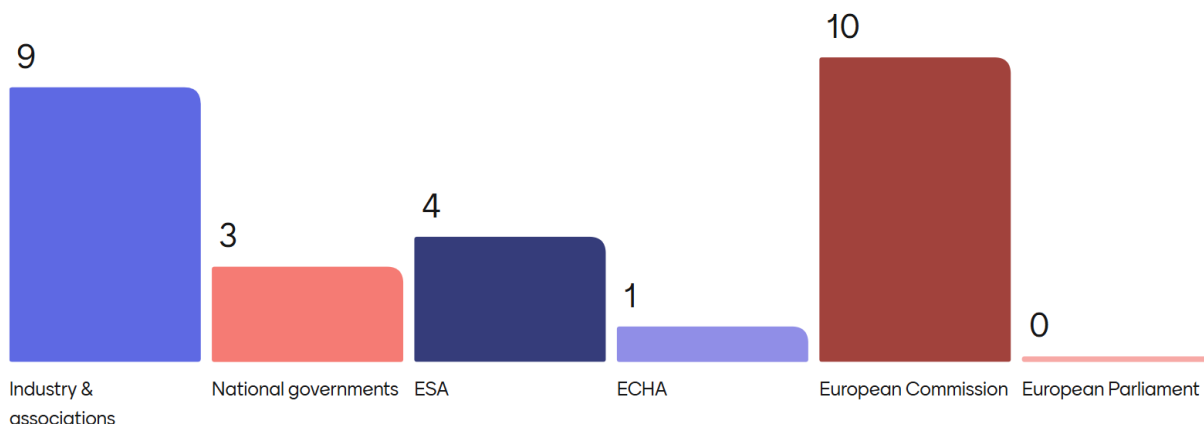
What is currently the biggest regulatory challenge for your business?



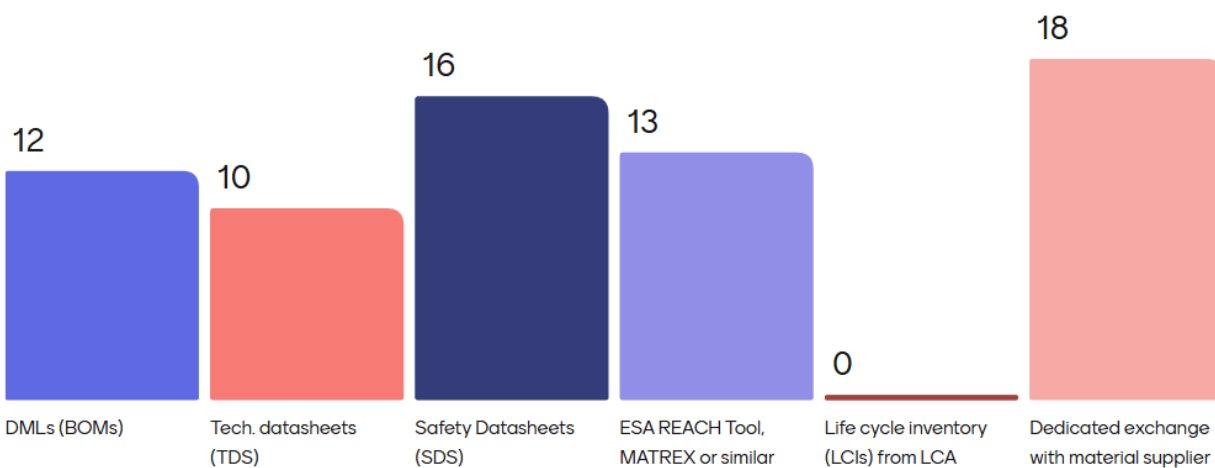
Which substance(s) would drag the biggest uncertainty for future use in space products?



Which entity do you think could be the most influential to minimise the impact of EU REACH regulation on the strategic space missions?(single choice!)



Identify top 3 sources of information for PFAS identification



Which priorities should we focus on to boost European competitiveness in space?



Overall, the Mentimeter results suggest that the issue of PFAS dominates uncertainty, suggesting future sessions should go deeper on identification, alternatives, and restriction pathways. The audience wants more concrete roadmaps and industry examples, in addition to discussion of regulation. The workshop landed well on relevance, pacing, and enjoyment, indicating the format supported strong engagement.

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End of report