

# The Proposal for a « universal » restriction of PFAS under EU REACH

Information on regulatory process and European Space Sector response

Version 1.1, prepared by REACHLaw Ltd (Tim Becker) under ESA Frame Contract No. 4000139751/22/NL/AS  
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# Purpose of this presentation and further information

- This presentation aims to provide a **concise summary** of the EU REACH restriction process for "universal" PFAS and the European Space Sector joint response.
- The summary is provided to **facilitate and align communication** on the topic. It may be copied and pasted to inform about the topic.
- **Language versions** include English, French, German, Italian and Spanish.
- This presentation may be updated in the future, taking into account any changes.
- **Further information** is available as follows:
  - ECHA process page for the "Universal" PFAS restriction proposal: [LINK](#)
  - Eurospace News of 25 September 2023 ([LINK](#))
  - 5th ESA REACH Workshop, ESTEC, 19 June 2024 ([LINK](#), especially ESA presentation pages 24-26 - [LINK](#))
  - Eurospace point of contact: **Pierre Lionnet**, Research and Managing Director, [pierre.lionnet@eurospace.org](mailto:pierre.lionnet@eurospace.org), +33-(0)1 44 42 00 70
  - Subject matter expert: **Tim Becker**, Senior Legal Advisor, REACHLaw Ltd., [tim.becker@reachlaw.fi](mailto:tim.becker@reachlaw.fi); +358 (0)40 773 8143

# Introduction to the restriction proposal

- On 13 January 2023 the European Chemicals Agency (ECHA) has received a restriction proposal under the EU REACH Regulation (EC) No 1907/2006 from five national authorities of Denmark, Germany, the Netherlands, Norway and Sweden.
- The proposal aims to address the risks to human health and the environment posed by the manufacture and use of per- and polyfluoroalkyl substances (PFASs) due to their very high persistence (so-called “forever” chemicals).
- The group of PFAS to be restricted encompasses more than 10,000 substances, including fluoropolymers, perfluoropolyethers and non-polymeric PFASs such as F-gases; making it the broadest restriction proposal under REACH so far / in EU history!
- The ECHA 6-month public consultation of stakeholders on the restriction proposal closed on 25 September 2023; a record number of more than 5,600 comments have been received.
- ECHA’s scientific committees for Risk Assessment (RAC) and Socio-Economic Analysis (SEAC) are now to prepare their opinions on the proposal “in the shortest possible timeframe”. The European Commission, together with the EU Member States, will decide on the restriction.
- The restriction could be adopted and enter into force by **2027 at the earliest**, subject to a minimum transition period of 18 months after which all non-derogated/excluded uses will be banned!

# European Space Sector response to ECHA



Paris, 22 September 2023

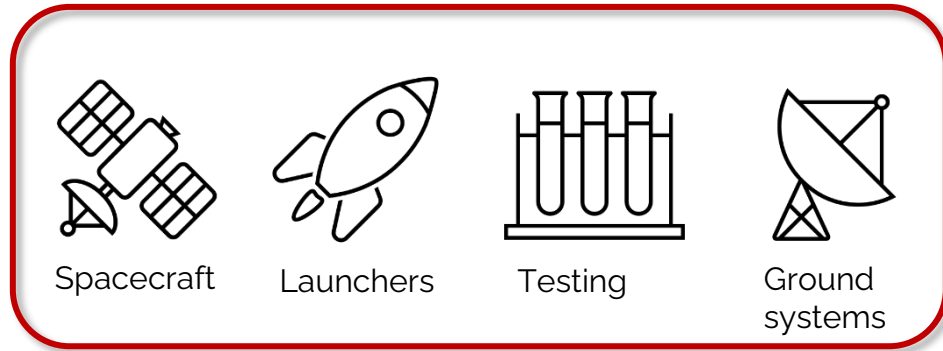
## EUROPEAN SPACE SECTOR COMMENTS ON THE ANNEX XV RESTRICTION REPORT FOR PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)

ECHA Public Consultation of 22 March 2023 on the proposed restriction on  
the manufacture, placing on the market and use of PFASs



- **Potential impacts:** Given its very broad scope, the proposal presents significant risks of widespread obsolescence affecting critical materials and processes and unpredictable side effects within the space and other industrial supply chains.
- **Response:** An industry-agency **Restrictions Task Force (RTF)** was kicked off on 10 February 2023 under the **Materials and Processes Technology Board of the European Space Components Coordination (ESCC MPTB)**, presently chaired by ESA, to identify the main PFAS uses, challenges, and possible solutions, including suitable derogation claims.
  - Between March – September 2023, a joint Space Sector-specific response (MPTB-ES-PO-0131, [LINK](#)) to the ECHA public consultation was prepared, in co-ordination with the **Aerospace, Security and Defence Industries Association of Europe (ASD)**, based on dedicated surveys and five task force meetings.

# PFAS uses identified



- A myriad of space applications reliant on PFAS were identified by the RTF, many of which concern fluoropolymers → close to 70 sub-use/space application cases of common interest, **most of them without an existing derogation proposal!**
- **Examples:** Lubricants, coatings, creep barriers, functionalised polymer surfaces, coolant fluids, fluoro-elastomeric sealants, cable insulation, shrink sleeves, Printed Circuit Boards (PCBs), processes for electronic assembly **and many others**
- The identified uses were compiled in a dedicated Appendix #1 to the [Eurospace comments](#), which was submitted confidentially to ECHA.

- In addition, eight Case Studies were prepared to illustrate the criticality of PFAS use for different applications in satellite and launcher programmes (see Appendix #2 in the [Eurospace comments](#))
  - **#1 Ariane 6 launcher**
  - **#2 Orbital propulsion systems as satellite subsystems**
  - **#3 Scientific mission for ESA: The ATHENA Wide Field Imager (by Max Planck Institute for Extraterrestrial Physics)**
  - **#4, 5 Use cases specific for ESA projects**
  - **#6 Vapor phase soldering for electronic assemblies**
  - **#7 Lubricants for space mechanisms**
  - **#8 Power wires and cables**

# PFAS uses identified: Illustration of impact

NOTE: The list of impacted materials/systems is not exhaustive and serves for illustration purposes only. All spacecraft and launchers are equally impacted!

## Ariane 6



### PFAS is in some form used in following:

- Lubricants,
- Coatings,
- Creep barriers,
- Functionalised polymer surfaces,
- Cleaning agents,
- Coolant fluids,
- Fluoro-elastomeric sealants,
- Pyrotechnic compositions,
- Blowing agents for thermal insulation,
- Adhesives,
- Fire suppressants,
- Cables insulation,
- Shrink sleeves,
- PCBs,
- Processes for electronic assembly
- ...

## Exemplar spacecraft: EarthCare



**Where are PFAS used in spacecraft?:** MLI, PCBs, lubricants, cables, connectors, insulation, gaskets, tubes, ...

> 110 out of 2700 DML items, mostly **PTFE, ETFE, FEP, PVDF, FKM\***-based (5-10% of all declared material uses )

\*FKM= fluoro-rubber (Fluorine Kautchuk Material)

If EU REACH PFAS restriction is adopted without space-specific derogation, the European Space Sector would face serious issues!  
(worst case scenario: to comply within 18 months period after PFAS restriction adoption)

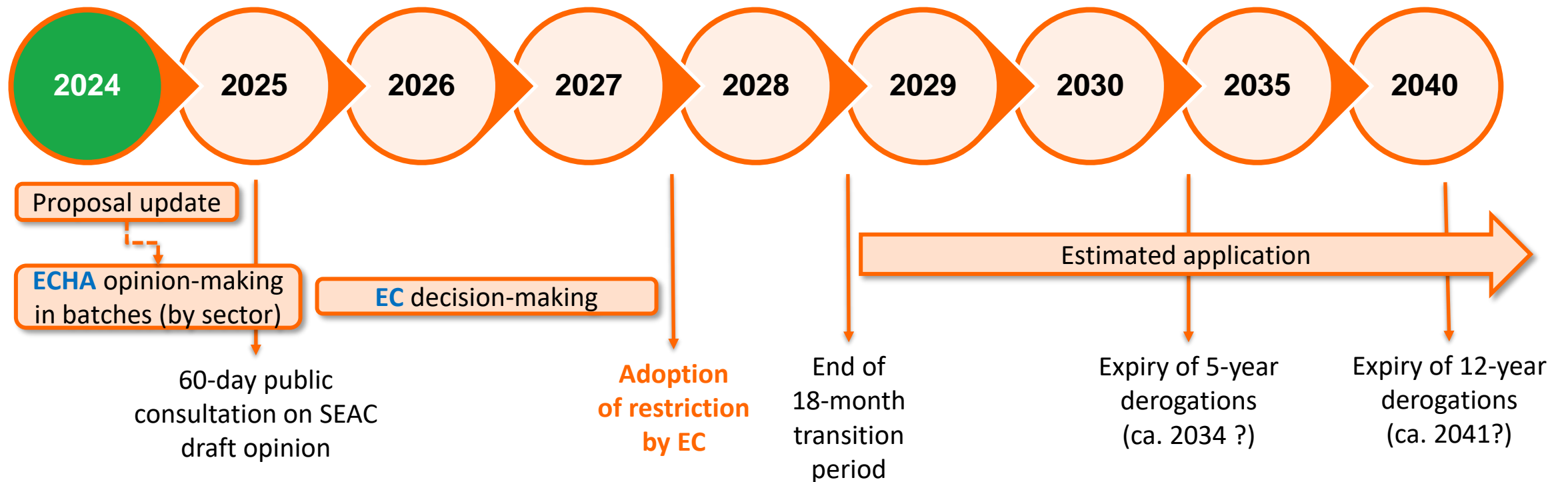
# Requests for Exemption

- Taking into account the breadth of the PFAS uses identified, as well as space sector specificities (*such as harsh space environmental conditions, compatibility requirements and numerous customer requirements such as ECSS standards and ESCC specifications calling for PFAS; niche sector characterised by very small volumes and with products sent to space; no/negligible PFAS emissions on Earth /within the EU territory; PFAS are strategic for the EU & access to space = high tech. enablers, essential for the functioning of our society*), **the following requests for exemption have been submitted to ECHA:**

- ❖ **Fluoropolymers**, including fluoroelastomers, should be **entirely excluded from the scope** of the universal PFAS restriction, at least for industrial applications
- ❖ A **derogation** for all remaining PFAS uses in **equipment designed to be sent into space**, as long as no successful transition to space qualified alternatives can be achieved → in line with other EU legislation (e.g. RoHS, Batteries)
- ❖ **Further derogations** are necessary to enable our chemicals and component suppliers to maintain a business viable market in the EU for aerospace and defence, electronics and related sectors

# Tentative timeline for the restriction

**NOTE:** This updated "worst-case" timeline is based on the European Commission Updated Regulatory Roadmap of 2024 (available [here](#)) and the initial restriction proposal of 2023. Constant monitoring and adjustment is required.



Legend: **SEAC:** Committee for Socio-Economic Analysis, **EC:** European Commission

# Version history

Version	Changes
1.0 (31 October 2023)	N/A
1.1 (11 July 2024)	<ul style="list-style-type: none"><li>- Added reference and links to 5th ESA REACH Workshop (p. 2)</li><li>- Update of tentative restriction timeline (delay by ca. 2 years) (p. 3, 8)</li><li>- Added illustration of impact (p. 6)</li></ul>