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Which legal framework for a sustainable space industry in Europe?

Vera Pinto DG DEFIS,

2026/11/09



Space Sector as an Enabler and a Responsible Actor

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- Space as an Enabler of Sustainable Activities
- Space as an Economic Activity with Environmental Impacts

Pathway to Space Sustainable Innovation

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Clear technical criteria

Robust environmental data

Lifecycle impact assessments

Regulatory coherence

Industry engagement



The EU environmental policy framework

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Instrument	Environmental role	Status
Applicable environmental law	Chemical safety and obligations for terrestrial activities, within their scope	Binding rules, including REACH
Environmental Footprint methods	Common approach to life cycle environmental performance	Commission Recommendation (EU) 2021/2279
PEFCR4Space	Space-specific modelling rules and EF-compliant datasets	Technical development under way
EU Space Act	Proposed environmental requirements for space activities	Commission proposal under negotiation

EU current approach for Space

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EU space programme
Regulation (EU) 2021/696
Article 14: apply appropriate **social** and **environmental** criteria in procurements

- **EU secure connectivity programme - IRIS²**
- Regulation (EU) 2023/588
- Article 8 : ensure **environmental** and space sustainability
- KPI 11.1: monitor the Programme's **greenhouse gas footprint**

Regulation (EC) No 1221/2009 on voluntary Environmental management and audit scheme (**EMAS**)

Applicable to **DEFIS** and **EUSPA**

Commission Recommendation (EU) 2021/2279 of 15 December 2021 on the use of the **Environmental Footprint methods** to measure and communicate the life cycle environmental performance of products and organisations

Commission proposal for an **EU Space Act** from July 2025

Title IV Chapter III – Environmental Sustainability

EU inter-institutional negotiations ongoing

EU Space Act: a proposal for a set of “rules of the road”

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Space is congested

- Collision avoidance services
- Trackability
- Debris mitigation plans
- Coordination: air traffic/maritime authorities

Space is contested

- Risk Assessment
- Key Risk Management Measures:
  - Detection
  - Protection
  - Business Continuity
  - Supply Chain Measures

Building on NIS 2 Directive

Earth and space are polluted

- Environmental Footprint Declaration
- Calculation rules of environmental impacts
- Common database to use for calculation data

PEFCR4Space: the Commission's technical work

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Space-specific rules and dedicated datasets

A common methodological basis for environmental assessment across the space value chain.

Supporting studies test applicability.
External review checks robustness.
Consultations bring stakeholder expertise.

Environmental Footprint method
The EU recommended way of assessing environmental performance

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Environmental Footprint = **Product Environmental Footprint (PEF)** + **Organisation Environmental Footprint (OEF)**

Methodological foundation
Life Cycle Assessment (ISO 14040 + ILCD guidelines)

PEFCR (Product Environmental Footprint Category Rules)

- **Sector-specific** implementation rules
- Ensure studies are robust, consistent, reproductible and **transparent** across the sector
- Required for comparative environmental claims

And the PEFCR for Space?

- Need for a common methodology to assess **specificities** of space activities in LCA
- Important **European momentum** for sustainable space
- Enabler for access to sustainable finance

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Latest PEF recommendations (2021): Commission Recommendation (EU) 2021/2279 on the use of the Environmental Footprint methods

ADVANCING SUSTAINABILITY

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Key Milestones

October 2024
Technical Secretariat established & definition of PEFCR4Space scope

January 2025
5 Sub-working groups formed

February 2025
Set-up of the external review panel

April - June 2025
Definition of modelling rules and data collection

June - Sep 2025
Call of expression to participate in the supporting studies of the PEFCR4Space

15 Oct - 1 Dec 2025
Open consultation on the first draft of the PEFCR4Space

Current Phase
2026
- Start the development of EF compliant datasets
- Conduct supporting studies

2027
- Open consultation on second draft of the PEFCR4Space
- Release of final PEFCR for the space sector

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PEFCR FOR THE SPACE SECTOR | WHO DEVELOPS PEFCR4Space

Technical Secretariat and five sub-working groups

AIRBUS · ALPHA IMPULSION · ArianeGroup · cnes · COSMOS FOR HUMANITY · DAWN AEROSPACE · EUTELSAT GROUP

EPFL · esa · maiaspace · nlr · OHB · SES · ThalesAlenia Space (a Thales / Leonardo company)

The Exploration Company · Universität Stuttgart · exotrail · REDWIRE · TELESPAZIO a LEONARDO and THALES company

Assisted by:
Consortium mandated by EC DG DEFIS

vito · PRé · ecoinnovazione spin off ENEA

ecomatters · NOVASPACE · GCU Glasgow Caledonian University

>56% of the total European market share represented
(only considering launch, manufacturing, and operations)

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SELECTED STAKEHOLDERS FOR THE PEFCR4Space DRY-RUN PER SUB-CATEGORY

AIRBUS

Satellite communication – connectivity services

creotech

Earth Observation

hispasat

Satellite communication – video services

D-ORBIT

In-space transport services

Latitude

Launch services from Earth to space

U/SPACE

Position, Navigation and timing services

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A framework industry can use

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Proportionate implementation	Requirements and assessment effort need to reflect the relevant activities and available capabilities.
Practical support	Guidance, accessible data and technical expertise help smaller companies participate.
Credible information	A shared method can support environmental claims and inform procurement or investment decisions.

Strong EU and ESA cooperation

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esa

- Working together **deliver a common and co-ordinated approach**
- Active cooperation to **reduce cost and administrative burdens** on space industry



Examples:
- *Harmonised Data Collection Template:* Common structure - Tailored to the specific scopes, even when requirements differ
- DEFIS-ESA technical working group on methodological alignment

Building Europe's framework together, Advancing global space sustainability

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