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**IP in space
Focus on patents**

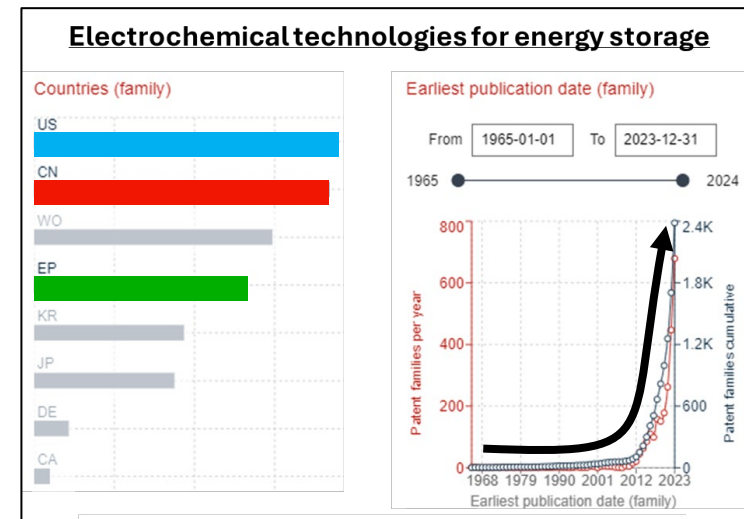
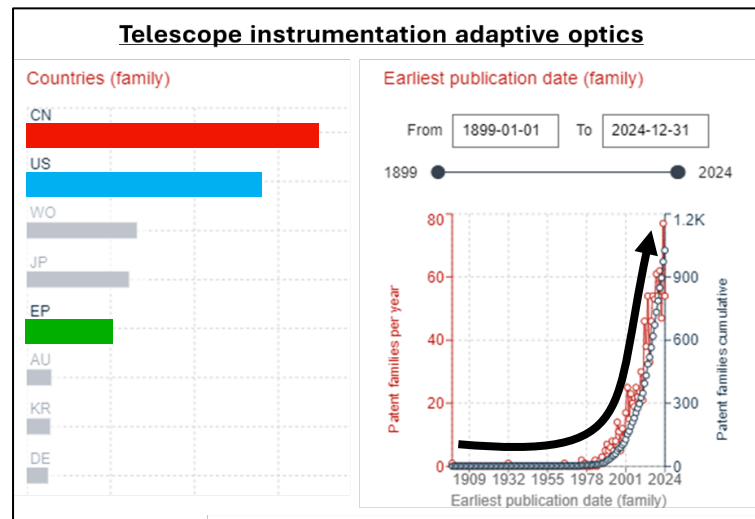
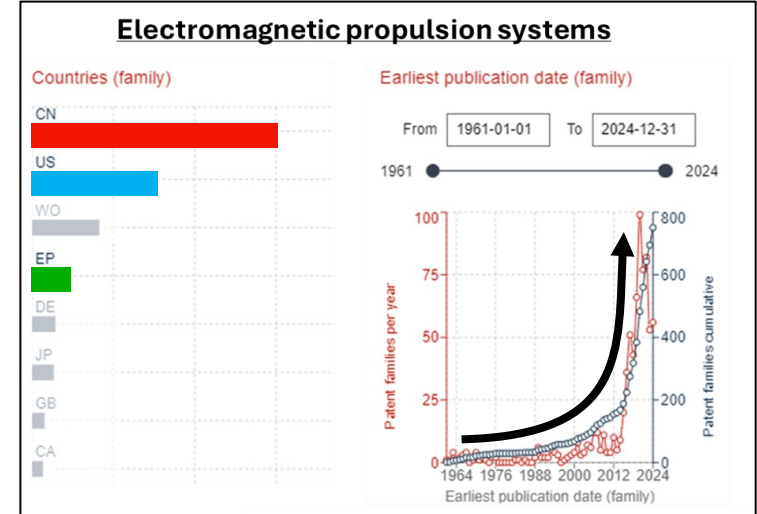
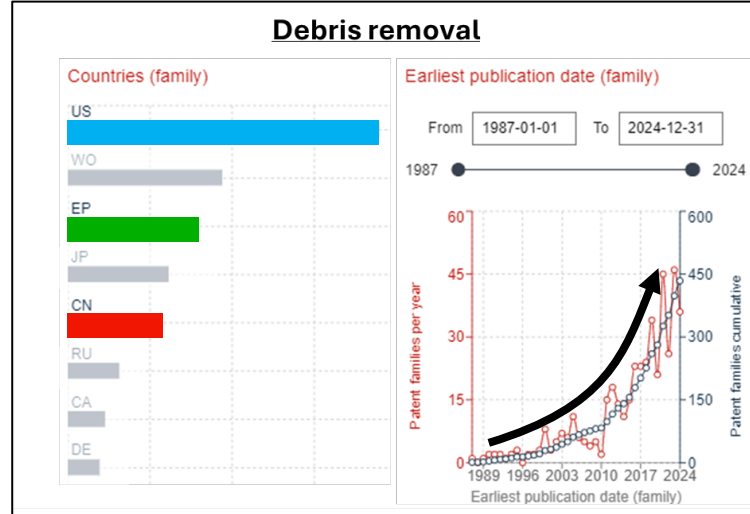
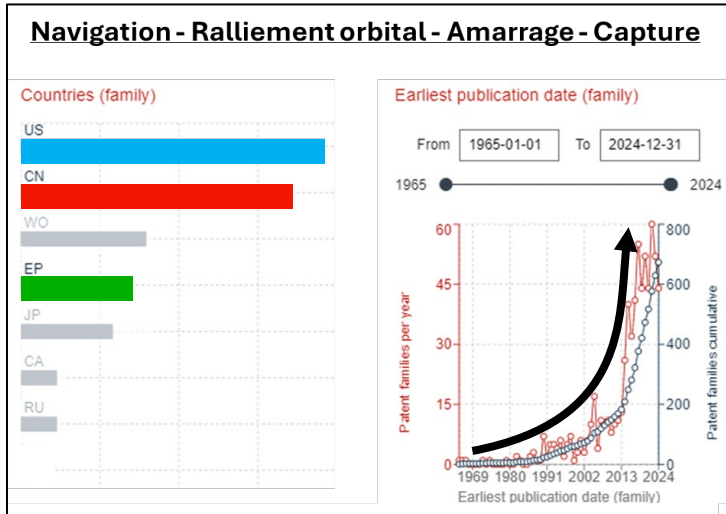
Francine Le Péchon-Joubert

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FLEURANCE

LEGAL STEP **TO CHANGE**

Current trends on IP in the space sector

Patents: space odyssey instruments



Focus on particularities inherent to the space sector

Extended scope of protection for objects in outer space

1 Convention on Registration of objects in Outer Space

Article L611-1

All inventions may be subject to an industrial property title issued by the National Institute of Industrial Property Director who awards its holder or successors an exclusive exploitation right.

The issuance of the title gives rise to the legal dissemination provided for in Article L612-21.

Subject to the provisions of international treaties to which France is party, foreigners having their place of residence or business outside the territory in which this title is applicable shall enjoy the benefits of this title, provided that French nationals are granted reciprocal protection in the countries of which such foreigners are nationals.

Unless otherwise stipulated by an international agreement to which France is a party, the provisions of this Article shall apply to inventions made or used in outer space, including on celestial bodies or in or on space objects under national jurisdiction pursuant to Article VIII of the Treaty of January 27, 1967 on the principles governing the activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies.

35 U.S.C. 105 INVENTIONS IN OUTER SPACE.

(a) Any invention made, used, or sold in outer space on a space object or component thereof under the jurisdiction or control of the United States shall be considered to be made, used or sold within the United States for the purposes of this title, except with respect to any space object or component thereof that is specifically identified and otherwise provided for by an international agreement to which the United States is a party, or with respect to any space object or component thereof that is carried on the registry of a foreign state in accordance with the Convention on Registration of Objects Launched into Outer Space.

(b) Any invention made, used, or sold in outer space on a space object or component thereof that is carried on the registry of a foreign state in accordance with the Convention on Registration of Objects Launched into Outer Space, shall be considered to be made, used, or sold within the United States for the purposes of this title if specifically so agreed in an international agreement between the United States and the state of registry.

French Intellectual Property Code
States party to the treaty retain jurisdiction over corresponding registered objects launched into space.
U.S. Patent Act

Focus on particularities inherent to the space sector

Extended scope of protection for objects in outer space

What about the ISS ?

Article 5

Registration; Jurisdiction and Control

1. In accordance with Article II of the Registration Convention, each Partner shall register as space objects the flight elements listed in the Annex which it provides, the European Partner having delegated this responsibility to ESA, acting in its name and on its behalf.
2. Pursuant to Article VIII of the Outer Space Treaty and Article II of the Registration Convention, each Partner shall retain jurisdiction and control over the elements it registers in accordance with paragraph 1 above and over personnel in or on the Space Station who are its nationals. The exercise of such jurisdiction and control shall be subject to any relevant provisions of this Agreement, the MOUs, and implementing arrangements, including relevant procedural mechanisms established therein.

Source: NASA.

"Columbus" Orbital Facility "Harmony" Node 2 PMA2

Focus on particularities inherent to the space sector

Beware of misleading information

Article L613-5

The rights awarded by the patent shall not extend to:

- a) Activities carried out privately and for non-commercial purposes;
- b) Activities carried out for experimental purposes relating to the subject matter of the patented invention;
- c) Extemporaneous preparation of medical prescriptions in pharmacies, nor the acts on medicines thus prepared;
- d) Mandatory studies and trials to obtain a marketing authorization for a medicinal product, as well as the actions necessary for the acquisition and execution of the said authorization;
- da) Actions necessary to obtain a stamp authorizing advertising as referred to in Article L5122-9 of the Code of Public Health;
- e) Objects intended to be launched into outer space and introduced to the French territory.

French Intellectual Property Code

Risk analysis recommended
for space sector



“temporary presence”
exception **only**



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TO CHANGE



Space Sustainability & Space Debris

ESA S4I / , Luxembourg 4/5 December



What ...?



Environmental
related
Sustainability



Sustainability of
Space Utilisation



Space Safety



Zero Debris



Debris Mitigation



Where ... ?

- Interntl. Level**
- National. Level**
- ...hey, upcoming...**



How... ?

- **Binding requirements**
- **Room for discretion**
- **Incentivizing Guidelines**
- **Funding Programs**



Practical Impact ?

- **Idea / Use Case**
- **Design**
- **Funding / Financing**
- **Staff and Co-Operations**
- **Insurance**
- **Daily Operations**
- **Long Term Planning**





Data Protection and Cyber Security in Space

Space for Inspiration Conference on December 5, 2024

Cécile Théard-Jallu from De Gaulle Fleurance and

Dr. Thomas Jansen from Heuking

Why Cybersecurity in Space Matters

Global Cybercrime Overview (2023):

- The average financial cost of a cyber attack for an SME is estimated at between €300K and €500K.
- The cost of monetary damages linked to cybercrime is \$8 trillion, rising to 10.5 trillion by 2025.
- Data breach costs: 4.45 million average per incident.
- Global cybersecurity spending topped \$1 trillion by 2021. The rise of cybercrime pushed information security spending to more than \$86.4 billion in 2017.

Expanding Space Sector:

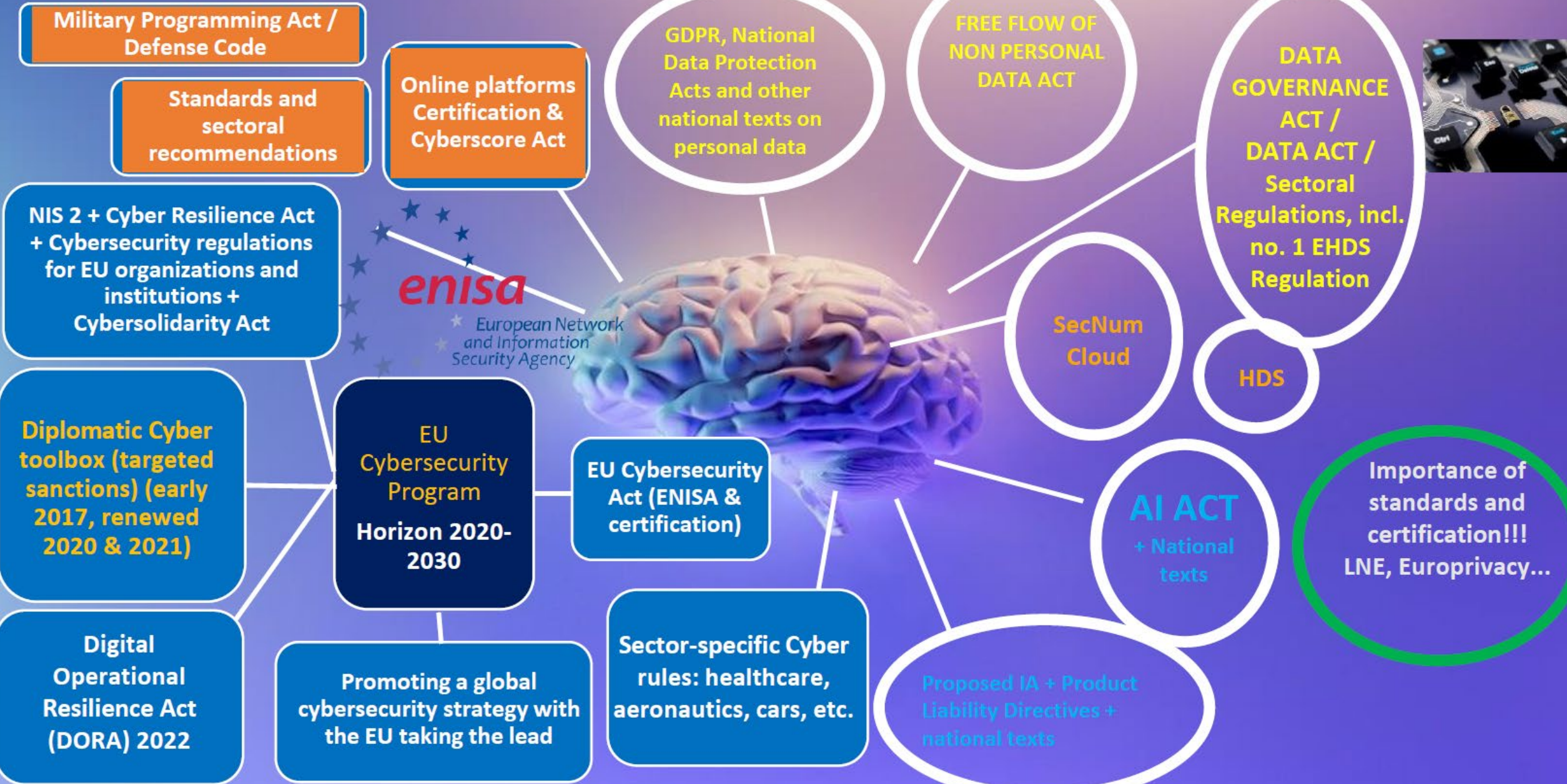
- Number of satellites in orbit: 7,500 (2023) → 10,019 (June 2024) (17% annual increase).

Cyber Threats in the Space Sector:

- Satellites increasingly targeted for ransomware, espionage, and jamming. By 2023, 330,000 successful ransomware attacks against SMEs were reported.
- 357 cyber attacks were publicly reported from 1977 to 2024, in the space sector.

A single space cyber incident could compromise critical global infrastructure (Viasat Cyberattack in 2022).

Regulatory Framework



GDPR: Key Facts



First Draft on
15. December 2015.

Entry into Force on
24. May 2016.



Start of Validity:
25. May 2018.



Applies to:

- data generated by connected objects (“products”) such as connected household appliances, cars connected to the internet, or the software of a fitness watch.



Obligations on:

- data holders (e.g., manufacturers, service providers).
- public and private sector organizations.
- cloud service providers and data intermediaries.



Penalties:

- penalties are set by national authorities. These penalties will be based on the severity of the violation, including fines for failing to meet the Data Act's standards and obligations.
- Amazon fine in 2021 - €746 million.



First Proposal before the Parliament on 13. April 2023.

Entry into Force on 16. January 2023.



Start of Validity:

Transposition until 17. October 2024.

Only 3 Member States met the deadline: Belgium, Croatia, Hungary.



Applies to:

- medium-sized and large entities (50+ employees or €10M+ annual turnover).
- Companies whose disruption could significantly impact societal or economic stability.
- 18 regulated sectors



Obligations on:

- Essential Entities (EE), inter alia, in the Energy, Transport, Health, Financial Services, Space and Water Supply Sector.
- Important Entities (IE) in Digital Infrastructure, IT and Digital Services, and Others.



Penalties:

- Essential Entities (EE) face penalties of up to €10 million or 2% of their global annual turnover.
- Important Entities (IE) face penalties of up to €7 million or 1.4% of their global annual turnover, whichever is higher.

Data Governance Act: Key Facts



First Draft on
25. November 2020.

Entry into Force on
22. June 2022.



Start of Validity:
01. September 2023.



Applies to:

- the sharing,
- re-use, and
- intermediation

of data across the EU.



Obligations on:

- Public sector bodies.
- Data intermediation service providers.
- Private Organizations.



Penalties:

- Penalties under the DGA include fines for non-compliance with transparency, security, and data governance obligations, with amounts determined at the Member State level, depending on the nature and severity of the breach.

Data Act: Key Facts



First Draft on
Early 2022.

Entry into Force on
11. January 2024.



Start of Validity:
12. September 2025.



Applies to:

- data generated by connected objects (“products”) such as connected household appliances, cars connected to the internet, or the software of a fitness watch.



Obligations on:

- data holders (e.g., manufacturers, service providers).
- public and private sector organizations.
- cloud service providers and data intermediaries.



Penalties:

- Penalties are set by national authorities.
- Additional administrative fines of up to 20 million euros, or 4% of the company's worldwide turnover, whichever is the highest.

Progress on the Space Data Space

Key Milestones in SDS Development:

- August 2022: Launch of the preliminary SDS study.
- Early 2023: Study results reported to ESA, covering:
 - Regulatory environment (EU Data Strategy, GDPR, DGA, DA, DSA, DMA, AI Act).
 - Use cases, business models, governance, and key stakeholders.
- November 22–23, 2023: ESA-ESPI SDS Workshop at the EU Satellite Centre, Madrid.
- **SDS Working Group (March–June 2024):** 25 entities representing 40+ experts working on the first implementation of SDS through
 - Identification of use scenarios and description of associated use cases, starting with civil protection,
 - Defining SDS governance,
 - Examination of legal issues, including the creation of a legal entity to manage and operate the SDS,
 - Designing the first technical architecture, and finalization of SDS Blueprint version 1.0.

Next Steps: Financing and phase planning and building synergies with existing EU programs and stakeholders.

Space Data Space Governance

Governance Structure – Three Options:

- Option 1: Establish a formal legal entity for the Data Space Governance Authority:
Potential structures: Government Agency (public sector control), Association/Non-Profit Organization (collaborative management), Private Company (with or without limited liability), Cooperative (shared stakeholder interests), Interest Group or other flexible models.
- Option 2: Rely on contractual arrangements for governance.
- Option 3: Use a hybrid model, combining formal legal entities with contractual arrangements for flexibility.

Key Agreements Governing the Data Space´ (inter alia):

- ✓ Organizational Agreements
- ✓ Functional Agreements
- ✓ Technical Agreements
- ✓ Regulatory Compliance Agreements

"The Law Governs Everything!"

Your Contacts



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EXPORT CONTROLS

**SPACE FOR INSPIRATION
ANNUAL CONFERENCE ON
COMMERCIAL SPACE EXPLORATION**

5th edition

Luxembourg

4-5 December 2024

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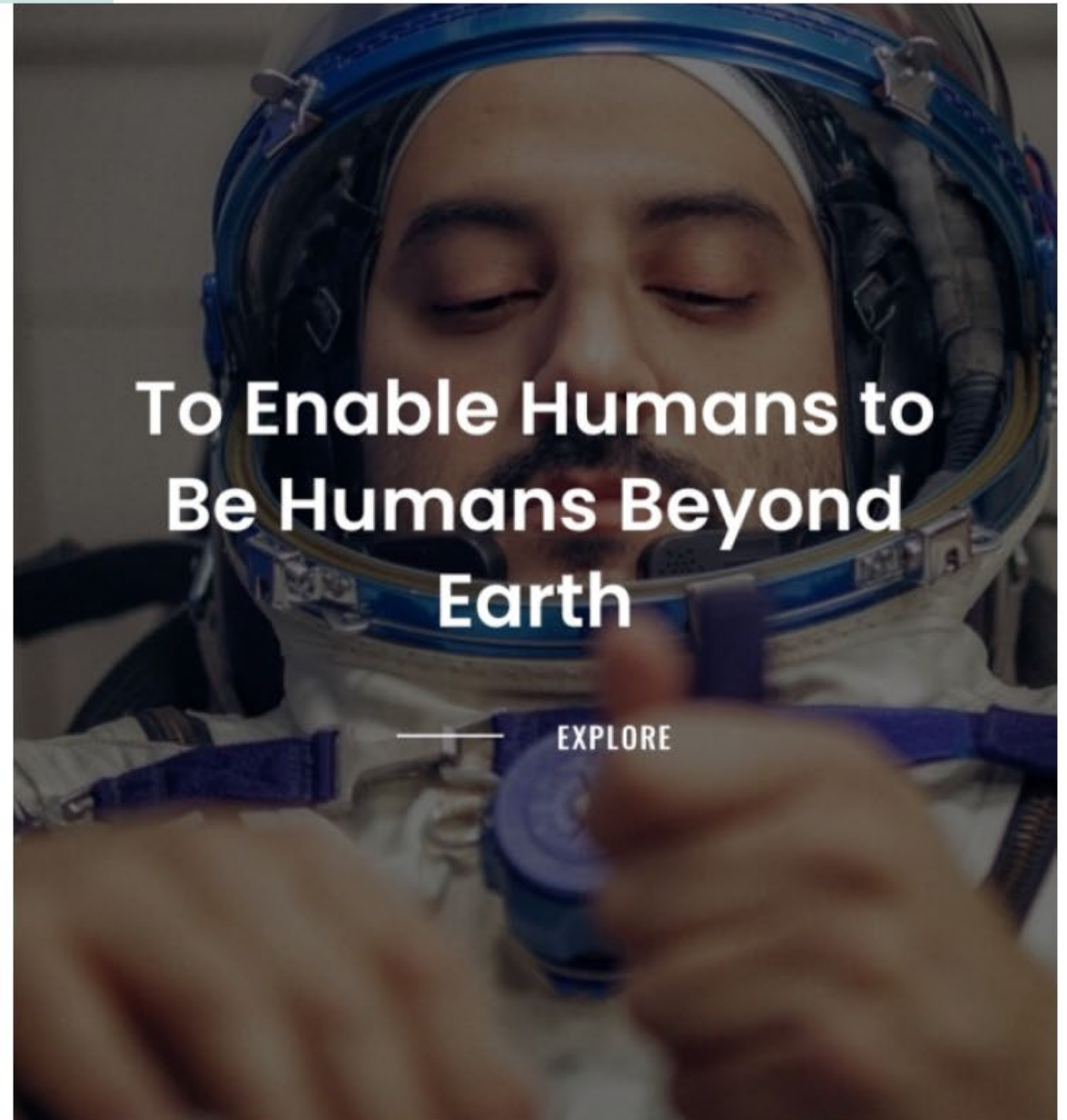
Space for Inspiration, Luxembourg, December 2024 – What is an astronaut?

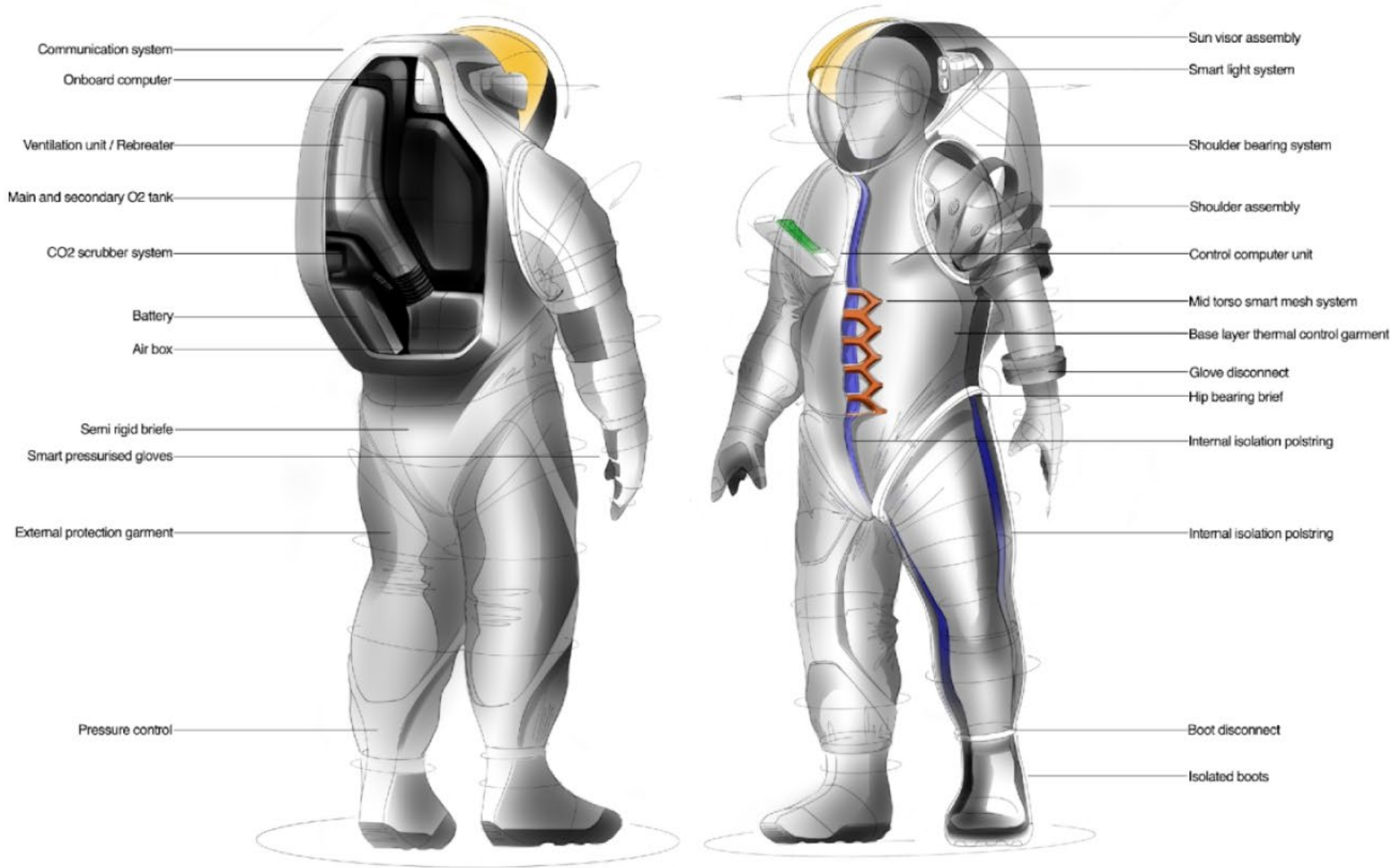




What is an astronaut?

- OST article V
- Envoys of mankind
- Shall be given assistance
- ARRA: “personnel of a spacecraft”
- Moon Agreement: any person on the moon



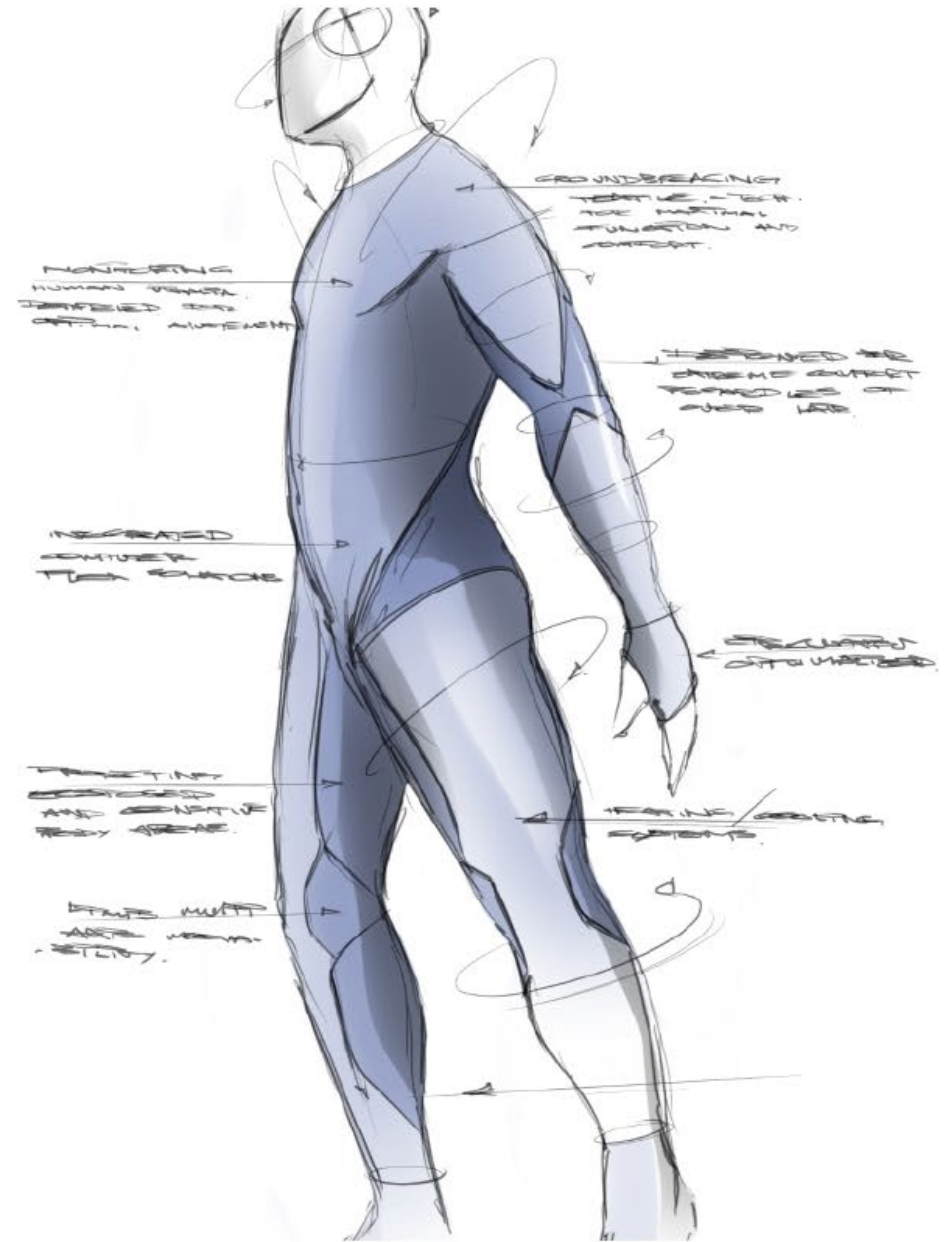




Thermal Control and Health Monitoring Garmin – a human digital twin?

Design features:

- AI temperature control
- High comfort
- Health monitoring and assessment
- Digital twin





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Our Space services

Regulatory advice

Licensing and approval for launch and satellite operations

Contract design and negotiations

Protection of patents, trademarks and copyrights

Liability issues

Investments and financing of space projects

Claim settlements and disputes

Handling and protection of data collected from satellites

Privacy in accordance with current legislation

Environmental regulations, impact analyzes and compliance

Insurance advice

Creation and operation of commercial space enterprises



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