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Industry Space Days 2026

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EUROPEAN SPACE AGENCY

ESTEC: The technical Heart of ESA

11 Directorates	**3.700** People	**40** Nationalities	**150.000** Visitors
35 Laboratories	**10.800** Sqm² Laboratories	**All** Missions Supported	**2** Objectives

> ESTEC Developments

Developing an ESTEC Campus

- IMF Welcoming Industry and host large conferences (ISD 28)

Constant Investments in Testing/Laboratories

- One Lab Modernising testing facilities
  - Hertz 2, Clean Rooms, ..

> Supporting ESA Missions & Industry

Major Influence in Technology

- Increasing Defence and Commercial Budgets
- Disruption, Industrialisation and Risk Taking
- Space Race (Dual-Use, Security, AI, Exploration..)
- Importance of Space Assets for Geopolitics
- Systems of Systems and Interoperability

Successful Ministerial 2025

CM25 22,3 Bn € » ESA Technology 5 Bn€

ESA Technology, Engineering & Quality Directorate

50 Different fields of Expertise

35 Laboratories

ONE ESA Technology Governance

>1B€ R&D Budget

100+ Missions Supported every year

300 Technologies Investigated each Year

1300 EXPERTS

15 YOUNG TALENTS

Major Industry Feedback Collected since ISD24

- Improve Speed & Time to contract > Supporting a dynamic Industry
- Reduce number of requirements > According to Mission & R&D needs
- Provide visibility to Calls for tenders > Allowing Industry to Plan
- Simplify ESA R&D programmes > Easy to understand & work with ESA

Process Initiatives

Accelerate Initiative

Technical Authority

Centers of Competence

Speed, Focus, Efficiency

2022 > 2025 -50%

Time to Contract

One ESA Technology Governance

GSTP: 220M€ of comitments by end 2026 = 2x faster (than post Cmin22)

Mission Classification: Requirements & Project Management

esa mission classification

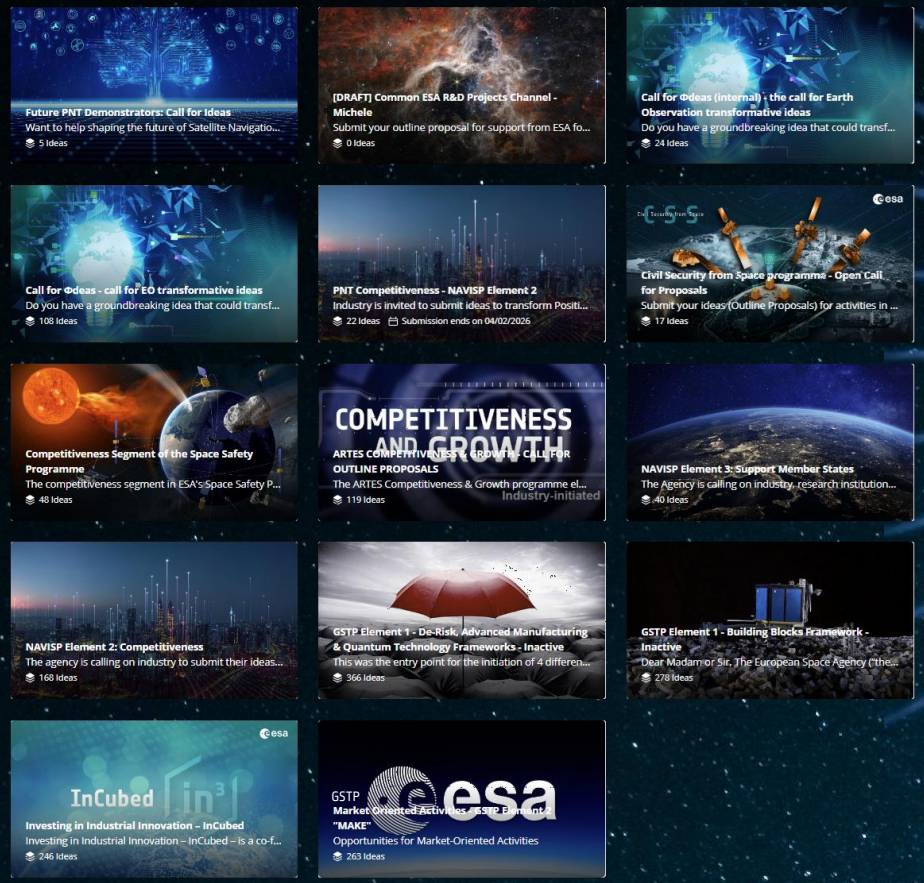
Modernise Standards

ECSS NextGen

Industrialisation Branch

ORBIT PORTAL – Your Single-Entry Point on OSIP to Industry Driven ESA R&D

Previously: Many channels



From Now: One unified entry

PROVIDING SIMPLICITY

Simplifying ESA R&D

Answering to identified needs

Anticipating future needs

Bottom-up & Technology Push R&D

R&D for ESA Missions

Main Drivers: Project metrics of Time, Cost and **Performance**

R&D for MS, ESA and EU Capability Building & Policy Needs

Main Drivers: **Industry Support,** Confidentiality, Policies, external KPIs

Industry and market-driven R&D

Main Drivers: **Speed,** Cost Efficiency, scaling up

Advanced Technology for Future needs

- **Activities:** General R&D
- **Main Drivers:** Readiness

ESA Technology Focus

Artificial Intelligence

AI for mission design
AI for mission operations
AI for operational efficiency
AI for autonomous systems

Quantum Technologies

Quantum Sensors
Quantum Communication
Quantum positioning, navigation and timing
Quantum Computing

Cybersecurity

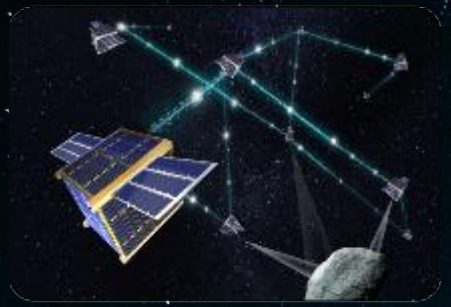
Advancing space system capabilities.
On-board security protection
RF and optical link protection
Quantum-resistant crypto units

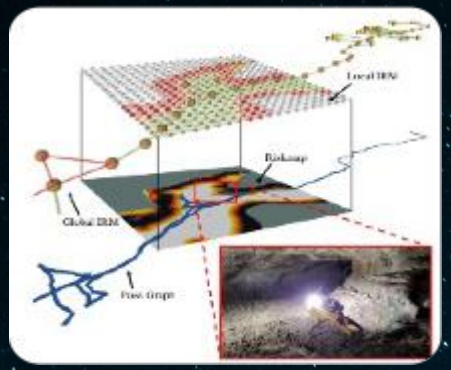
Dual-Use

Resilient space infrastructures
Space domain awareness
Rapid response & operational support
Earth observation & surveillance

+ Innovative propulsion, materials, robotics, additive manufacturing, thermal ...

Technology Vision 2040





Key Technologies

- AI-based planning/ controlling/ processing
- Low Energy / High-data processing
- Direct to Device
- Photonics and Sensing
- Quantum Technologies
- Robotics for very large structures
- Material Physics
- Vision/event-based navigation
- Systems of Systems of Systems of ...
- Innovative & Green Propulsion
- Advanced and In-situ Additive Manufacturing

Industrialisation: From Prototype to Production

Driving European industrial scale-up

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Industrialisation

Federate industry efforts
Support industrialisation developments
Strengthen competitiveness

Interoperability

Promote interoperable equipment
Interface Standardisation
Support industrialisation developments

Focus areas:

01 PRODUCT + INTEROPERABILITY
Common interfaces; reusable product families for mid-size LEO.

02 INDUSTRIAL PILOTS
Industry alignment achieved on pilot use cases and concrete production improvements, leading to industrial pilots through ESA's Industrialisation / Serialisation Support Campaign (OSIP).

03 MRL ASSESSMENT + PRODUCTION SCALE-UP TARGETS
MRL (Manufacturing Readiness Level) assessments and production scale-up targets.

04 CENTRE OF COMPETENCE
Focus: MAIT design; infrastructure and data; industrial roadmapping; digital backbone; supply-chain intelligence; production scaling; policy and standardisation.

05 SUPPLY-CHAIN RESILIENCE
Tier 1, 2, 3 and 4 supply-chain visibility

Summary

- Space Sector and Industry is significantly changing and Growing
- ESA is driving and benefitting from this change (see colleagues!)
- We are transforming to support you in that change
- Visit the Technology Tent to get all the information

- Enjoy the Industry Space Days 2026

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Thank you !
I wish you a successful ISD 2026 !