

ESA AGENDA 2025

Executive summary



#SpaceCare

MAKE SPACE FOR EUROPE

5 ESA PRIORITIES FOR 2025



Strengthen ESA–EU relations



Boost commercialisation for a green and digital Europe



Strengthen space for safety and security



Address programme challenges



Complete the ESA transformation

Space is everywhere for every citizen in Europe.

We are proud of our rich heritage in space science, navigation, monitoring the Earth, exploring beyond Earth and developing world-class space technologies and systems.

But what will happen next? Space activities worldwide are witnessing a rapid revolution thanks to new entrants, game-changing technologies and increased competition.

THE TIME FOR EUROPE TO ACT IS NOW

To meet our ambitions for a green, digital, safe and inclusive Europe and world, Europe needs to step up its game in space. We as Europeans must have the ambition for our space programme and space agency to be world-class and world-leading. Investing in space is investing in people, and in the science and technology required to create inclusive growth.

ESA Agenda 2025 is a plan for Europe to maintain and expand its excellence in space, for the benefit of everyone on Earth and in Europe in particular.

Europe means not just ESA but all those involved in space in Europe: ESA Member States, the European Commission and all of the innovative companies and bright minds working on creating space missions and using space data and services.



EUROPE AND SPACE

22 ESA Member States

27 EU Member States

16% of global space public funding

230 000 Jobs

Revenues:

€9 billion upstream (35% of global market)

€70 billion downstream (25% of global market)



STRENGTHEN ESA–EU RELATIONS

The connection between ESA and the European Union is fundamental for space activities in Europe.

ESA will closely work with the European Commission to develop a joint ambition for space in Europe and to implement space programmes for European citizens.

The European Commission provides important political leadership to space activities including initiating and funding flagships addressing societal needs such as Copernicus and Galileo, which work extremely well.

While ESA serves as the space agency of its Member States implementing mandatory and optional programmes, it must also be able to serve as the implementing agency of the EU space programmes.

ESA envisages the creation of new flagship space projects, expanding European cooperation in space to address the ever-evolving needs of society.



BOOST COMMERCIALISATION FOR A GREEN AND DIGITAL EUROPE

Commercial space activities are growing quickly. New Space approaches have led to smaller, narrowly focused satellites and reduced launch costs. This has opened up space to new players and has led to lower prices of space products and services, and faster innovation.

To benefit from the growing space economy in Europe, ESA must be more forceful, more dynamic and faster to interact with start-ups and companies to help them to succeed.

Space applications on the ground, such as connectivity, navigation, and the vital observation of Earth and its climate, help our everyday lives. The new fast-growing markets of green and digital economic recovery offer huge opportunities for business that we must not miss.

European space companies should be among the biggest and best space companies, strongly contributing to a greener and more digital economic recovery.



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The EU and ESA must, and will, work hand in hand to make sure we are responding to the challenges ahead of us.

Thierry Breton

Josef Aschbacher

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STRENGTHEN SPACE FOR SAFETY AND SECURITY

Europe must address new domains in safety and security to make sure that our space programmes continue to be at the service of all citizens.

People should feel safe and be secure, and receive the information and services they need.

Data from space is vital for weather forecasts that are important for the safety and security of people and their activities. The Galileo signals that power satellite navigation also play an important role here, while cyber resilience is vital for the integrity of our space data and communications. ESA will work with its Member States to improve safety and security in space, as well as from space, for everyday life.

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ESA should become the natural technical partner at European level for developing space infrastructure with safety and security purposes.

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ADDRESS PROGRAMME CHALLENGES

In Europe, ESA has the unique ability to implement, together with industry, complex and ambitious space missions and programmes on an equal footing with other leading space agencies worldwide. We will ensure that this ESA strength and value is further reinforced.

In Agenda 2025, we look particularly to the future of our launchers, which must continue to provide reliable access to space at a reasonable price in an ever more competitive environment.

In our digital global village, we rely completely on being connected – space is an important link in this chain and ESA will continue to work on secure and fast connections that can also enable technology such as driverless vehicles and smarter cities.

We will strive to have the first European on the Moon's surface by the end of this decade, define our role for human Mars exploration and prepare for a renewed presence in low Earth orbit.

At the heart of our Agency is the human desire to understand our place in the Universe. We will never stop looking up and questioning what we see in space, and we are building ever better missions to go and answer our questions.

Our skills in mission control and technology development support everything we do and we are ready to take the next steps in using machine learning, big datasets and quantum technology to work faster and smarter.



TECHNOLOGY



EXPLORATION



SCIENCE



APPLICATIONS



OPERATIONS



LAUNCHERS



COMPLETE THE ESA TRANSFORMATION

ESA as an organisation must adapt to be ready for new challenges ahead. Together we have to become more responsive, faster, and more dynamic to implement this vision. We must do this in a way that includes all sectors of society and respects the resources of our planet.

We need to organise our processes internally with our Member States to make sure that we are ready for the challenges of the future. We want to ensure that ESA will be among the top space agencies in the world in the next decade.

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ESA in 2025 will be a greener, younger and more diverse organisation. Women will be better represented in our staff, including at management level. ESA shall become a model for the space community and beyond.

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TAKING EUROPEAN SPACE TO THE NEXT LEVEL

The five priorities of ESA Agenda 2025 will ensure that Europe can stay at the forefront of space in the coming years. However, to ensure long-term growth, Europe needs to up its game in space.

How do we get there?

First, Europe needs to reach a common understanding of where it boldly wants its space sector to go. This will be done through a political process and strong stakeholder interaction, including the development of a common European industrial policy. New flagship programmes shall be identified and initiated.

A dedicated European Space Summit and the ESA Council at Ministerial Level will be held in 2022. These high-level events should announce and kick off a new growth path for European space. ESA – with its highly skilled and motivated workforce – is ready for this challenge.

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Europe needs a space ambition for 2035+

We want Europe to benefit from space as much as the US and China. We already have the required expertise, knowhow and industrial capacity. What we need now is a common European space vision and ambition.

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TOP ACTIONS



Read ESA Agenda 2025
in full.

ESA will work closely together with the EU and jointly propose the creation of new flagship programmes expanding European cooperation in space in the interests of European space, citizens and society.

ESA will help create markets for space technologies serving the green and digital agendas by acting as technical partner for interaction with investors such as venture capital funds and business angels. Further, ESA will boost commercialisation by:

- opening up access to its unique technical facilities
- sharing responsibility and risk with industry
- simplifying access to ESA programmes and activities
- updating ESA procurement and technology strategy
- reducing the average time-to-contract significantly for contracts below €1 million by the end of 2022
- boosting the Technology Strategy to achieve 30% faster development and adoption of innovative technologies
- doubling spending on game-changing technologies

ESA will expand its Safety and Security activities with its Member States and the EU to address shared safety and security challenges using space assets, in space and on Earth through applications and services. The resource of Earth's orbit will be conserved by in-orbit servicing and recycling capabilities.

ESA will accelerate the transformation of space data to actionable information using advanced modelling, high-performance computing and machine learning, and allowing the development of 'what if' simulations to support decision-making.

ESA will negotiate with NASA to land the first European on the surface of the Moon.

ESA will streamline its internal functioning, complete digitalisation and emphasise a business-led strategy. The Agency will also fully embrace a modern workplace culture, reduce its greenhouse gas emissions (halving emissions from the 2019 level by 2030) and better ensure equal opportunities, in particular to improve the gender balance in STEM and in managerial positions.

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