

SPACE POLICY



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

2023

PURPOSE

Switzerland's space policy was last revised in 2008. Since then, the space sector has developed dynamically worldwide, including in Switzerland. For this reason, in February 2022 the Federal Council instructed the EAER to work with the FDFA, the FDHA, the FDF, the DETEC and the DDPS to submit an updated space policy by the end of April 2023.

The Federal Council's 2023 Space Policy sets the course for the future and makes it possible to define an effective overall policy that is coordinated with Switzerland's players in the space sector and embedded in its international context. The Space Policy provides a basis on which the Confederation can build strategies, provides industry and science with a way to orient itself, and makes it possible to evaluate and assess the impact of government measures.

The 2023 Space Policy provides a general framework for the Confederation's commitment to space. It takes into account different strategic documents of the Federal Council,

such as the 2016 and 2021 Security Policy Reports, the 2020-2023 Foreign Policy Strategy, the 2022-2025 Arms Control and Disarmament Strategy and the 2030 Sustainable Development Strategy. The 2023 Space Policy serves as a guide for future activities. The Space Policy will be implemented by the departments in their respective areas of responsibility; programmes and projects will be funded through targeted instruments (e.g. the respective Federal Council Dispatches on the Promotion of Education, Research and Innovation). The implementation of the 2023 Space Policy is reviewed by the responsible departments; the EAER, in cooperation with the FDFA, the FDHA, the FDF, the DETEC and the DDPS report to the Federal Council.



Switzerland contributes to Europe's independent and reliable access to space. Launch of the Meteosat Third Generation (MTG) weather satellite from an Ariane 5 launcher at the European Spaceport in French Guiana.

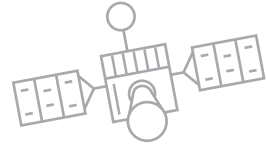
Credits: ESA-M. Pedoussaut

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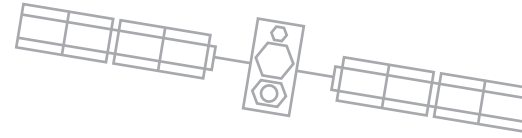
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WE BENEFIT EVERY DAY

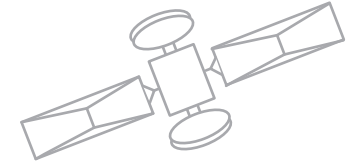
In Switzerland's space environment, space-based data and services are used every day, our players in business and science are highly competitive, and we are internationally committed to space.



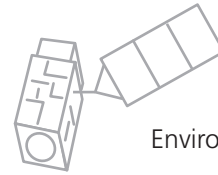
Weather observation



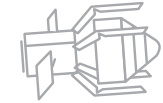
Navigation, positioning, timing



Communication



Environmental monitoring



- Strategic priorities
- Areas of activity

ACCESS AND RESILIENCY

Securing access

Strengthening security

Promoting sustainability in outer space

COMPETIT

Promoting excellence in science



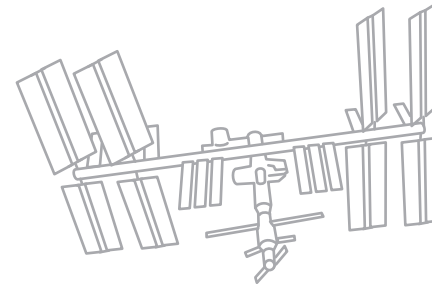
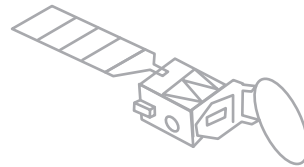
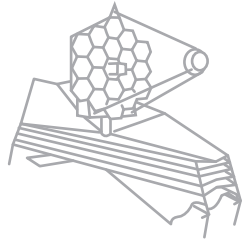
AIMS

Switzerland's endeavours in space will:

- contribute to the quality of life and security of citizens by making full use of the potential inherent in space activities;
- push the frontiers of science and technology by promoting excellence and innovation, which will give Swiss players a competitive edge;
- enable future generations to benefit fully from the opportunities provided by space activities.

Together with its partners, Switzerland will shape European and international space activities as well as global space governance, and pursue its space policy objectives in a way that is open, reliable and in highest quality.

Research and innovation



Exploration

IVENESS AND RELEVANCE

Strengthening competitiveness

Intensifying cooperation

Strengthening international law and global governance

PARTNERSHIP AND RELIABILITY

Contributing to shaping European space governance

Developing national framework conditions



SWITZERLAND'S CURRENT ACTIVITIES IN SPACE

Switzerland has been active in space since the beginning of the space age. Switzerland is where it is today because of sixty years of commitment: space-based data and services are used every day, our players in business and science are competitive, and our country is internationally involved in space activities.

Everyday benefits

In a country as highly developed as Switzerland, satellite-based applications are part of everyday life. Weather forecasting, global communication and digital networking, communication monitoring and control, transport and energy networks, natural disaster prevention and damage mitigation, climate and environmental monitoring, navigation applications (e.g. for rescue helicopters to navigate in poor visibility, or navigation apps for smartphones) – these and many other applications on Earth are based on data provided via satellites in space. Satellites are the only way for us to observe the entire globe consistently and in high resolution, and this can help us learn more about climate change, for example, or how we can use our planet's

resources more sustainably. Satellite data serves as a basis for decision-making in diverse sectoral policies, e.g. on agriculture, environment, defence, and digitalisation. Space-based infrastructures serve a large number of users: they contribute not only to security in the broadest sense, but also to overall quality of life. In addition to their economic benefits, space activities also significantly increase scientific knowledge about outer space, our planet, and humanity. Finally, space is fascinating to young people, who may be motivated to study scientific subjects or pursue vocational qualifications in the sciences.

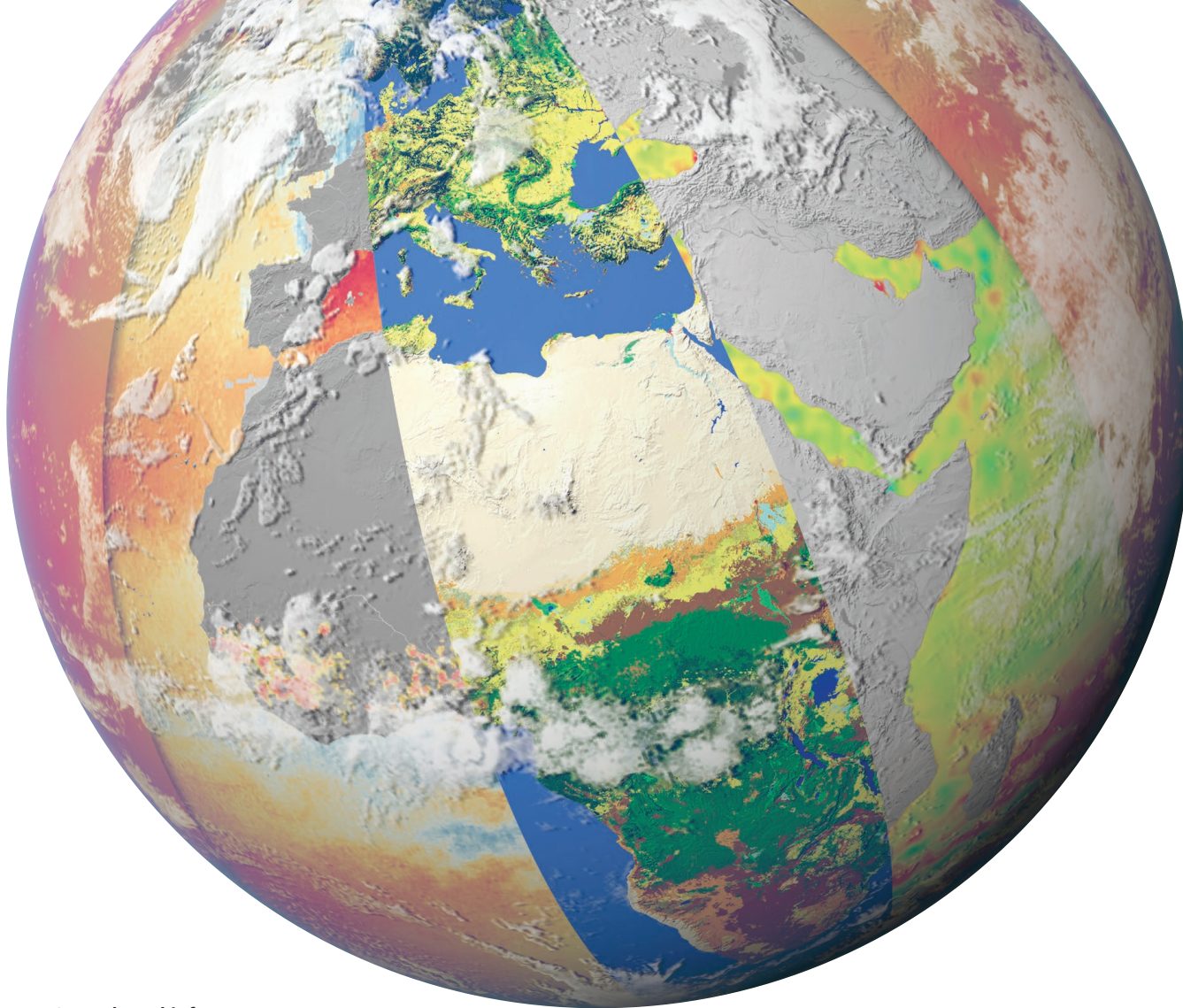
Communication about space activities usually focuses on singular events and does not address the importance of outer space for the everyday functioning of society. Because of this, many people in Switzerland are unaware of the many different ways we benefit from space every day, and do not realise how much we depend on it.

Competitive players

Innovative companies

Space companies offer good job opportunities for engineers, scientists and skilled workers from a wide range of fields. The space sector carries out more research and development and generates more value compared with other industries. The around CHF 305 million the Confederation invests annually in space¹ make the everyday benefits described above possible. What is more, the invested money flows back into the Swiss economy, for the most part in the form of industrial and research contracts, and directly helps secure around 1,500 jobs in the high-tech sector. Many of these companies are highly specialised. In addition, there is a growing number of established companies and start-ups for which space is only one of several business areas. Switzerland's space ecosystem consists of around 250 players spread across all parts of the country (start-ups, SMEs, large companies, universities) that cover a wide range of

¹ Contributions according to the 2023 budget for ESA, EUMETSAT, Galileo/EGNOS, National Activities in the Space Sector, Horizon Europe transitional measures.



Space-based infrastructures serve a large number of users. They contribute not only to security in the broadest sense, but also to overall quality of life. Because they can cover the entire globe, satellites are able to provide us with the data we need to identify trends and document the condition of the global climate system.

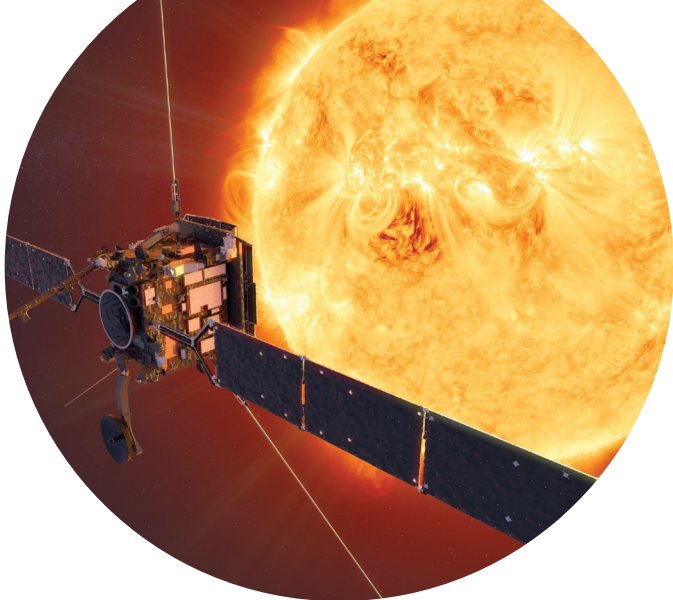
Credits: ESA

activities. Swiss companies are part of international supply chains, offer niche products and are globally competitive. Individual companies even operate satellites that they have designed and built themselves.

While space projects directly create jobs (e.g. in research and development, the manufacture of satellites, components, and launchers, infrastructure operation), space infrastructures also create exponentially more jobs that have to do with the development and everyday use of these services and applications.

Excellence in science

Space science offers researchers undreamt-of opportunities to learn more about the origin of life and the universe. But it also allows us to understand Earth and our solar system much better. Switzerland's space research, Earth observation and engineering institutes are among the best in the world. Because of the scientific excellence of these institutions and Switzerland's participation in programmes with ESA and other partners, they play important and often leading roles in numerous space science missions, including the Rosetta comet mission, CHEOPS (CHaracterising



Switzerland's space research, Earth observation and engineering institutes are among the best in the world. One of the aims of the Solar Orbiter space probe is to examine the poles of the sun. Several Swiss research groups are taking part in this unique research mission.

Credits: ESA/ATG medialab

ExOPlanet Satellite), and the James Webb telescope² – currently the world's largest space telescope. In Earth observation, Swiss researchers contribute to new discoveries and services in scientific and application areas, e.g. glaciology, Earth's energy budget, weather and climate, natural hazards. Participation (also via ESA) in the International Space Station (ISS) and the US lunar programme Artemis opens up unique opportunities for Swiss researchers in human and robotic exploration, and in various other scientific disciplines. In addition, Swiss researchers are internationally recognised in areas such as space weather and space situational awareness (SSA). Scientific papers from Switzerland are cited more often than average by international comparison. This is evidence of their high quality. With the International Space Science Institute (ISSI) in Bern, a platform with global reach is based in Switzerland. Close cooperation between

researchers and industry ensures intensive knowledge and technology transfer in either direction.

International commitment

Participation in and access to space infrastructures

Switzerland is a founding member of ESA and EUMETSAT, two independent intergovernmental organisations. ESA develops space infrastructures for Europe that are then deployed and operated by EUMETSAT or the EU. Thanks to our membership in ESA, we can help shape the development of these systems. Participating in EUMETSAT's programmes gives us access to meteorology data and services. In the area of navigation, positioning and precision timing, our participation in the Galileo and EGNOS components of

the EU space programme³ enables us to use these corresponding infrastructures. Switzerland participates in other EU flagship programmes such as Copernicus and Secure Connectivity within the framework of the ESA. In addition to the end benefits, our participation in the development and, where appropriate, in the operational phases of such programmes makes it possible for Swiss players to access public tenders in the space sector.

Through international cooperation in the development and operation of space infrastructures, individual states are able to fully access systems while only having to fund part of them. However, Switzerland also contributes key technologies that ensure European infrastructures are globally competitive. With the payload fairings for the Ariane and Vega launchers or the atomic clocks used by the Galileo satellite

² 'Space Research in Switzerland 2020–2022', Swiss Academies Communications Vol. 17, No. 7 (2022).

³ Cooperation Agreement between the Swiss Confederation, of the one part, and the European Union and its Member States, of the other, on the European Satellite Navigation Programmes, 18 December 2013, SR 0.741.826.8.



Switzerland is a founding member of ESA and EUMETSAT, two independent intergovernmental organisations. ESA Council meeting at ministerial level in Lucerne in 2016. Ministers from ESA's member states making decisions on Europe's future space activities.

Credits: ESA – Stephane Corvaja

navigation system, we are making important contributions to Europe's autonomy in space.

A networked and reliable international player

Switzerland depends on international cooperation to safeguard its interests. Thanks to our membership in multilateral and European organisations, we can help shape organisations' activities and global space governance. Switzerland is a recognised, reliable player. Measured by the volume of government investments, we are now one of the twenty most active space nations in the world. Our country is an active and respected member of United Nations bodies and organisations such as the UN General Assembly, the Committee on the Peaceful Uses of Outer Space (COPUOS) and the World Meteorological Organisation (WMO). With our work within the International Telecommunication Union (ITU) and the European Conference of Postal and Telecommunications Administrations (CEPT), we ensure that the allocation, regulation and use of frequencies, and the

management of orbital positions meet both the civil and military needs of Switzerland's players in space.

Overall, Switzerland is well positioned today. However, the space sector is in a state of flux: there are various developments already underway or on the horizon that will pose challenges to Switzerland.

TRENDS

In recent years, there have been rapid developments in the space sector, in particular regarding policy, markets, technology and how this technology is used. Radical changes are happening or have already happened. The following trends, some of which overlap, lie in the foreground:

Space is becoming more accessible

At the beginning of the space age, space travel was the preserve of superpowers. Today, miniaturisation, developments in other technological fields and cheaper launch costs for satellites have made it possible for an increasing number of states to become active in the space sector and to develop, launch and operate their own satellites. In addition to countries, there is a growing number of research institutions and private companies that are contributing to developments in space. These companies are often privately owned by venture capitalists whose space commitments are backed by major government contracts. Nevertheless, the commercialisation of space activities is increasing in many sectors – telecommunications and navigation currently being the

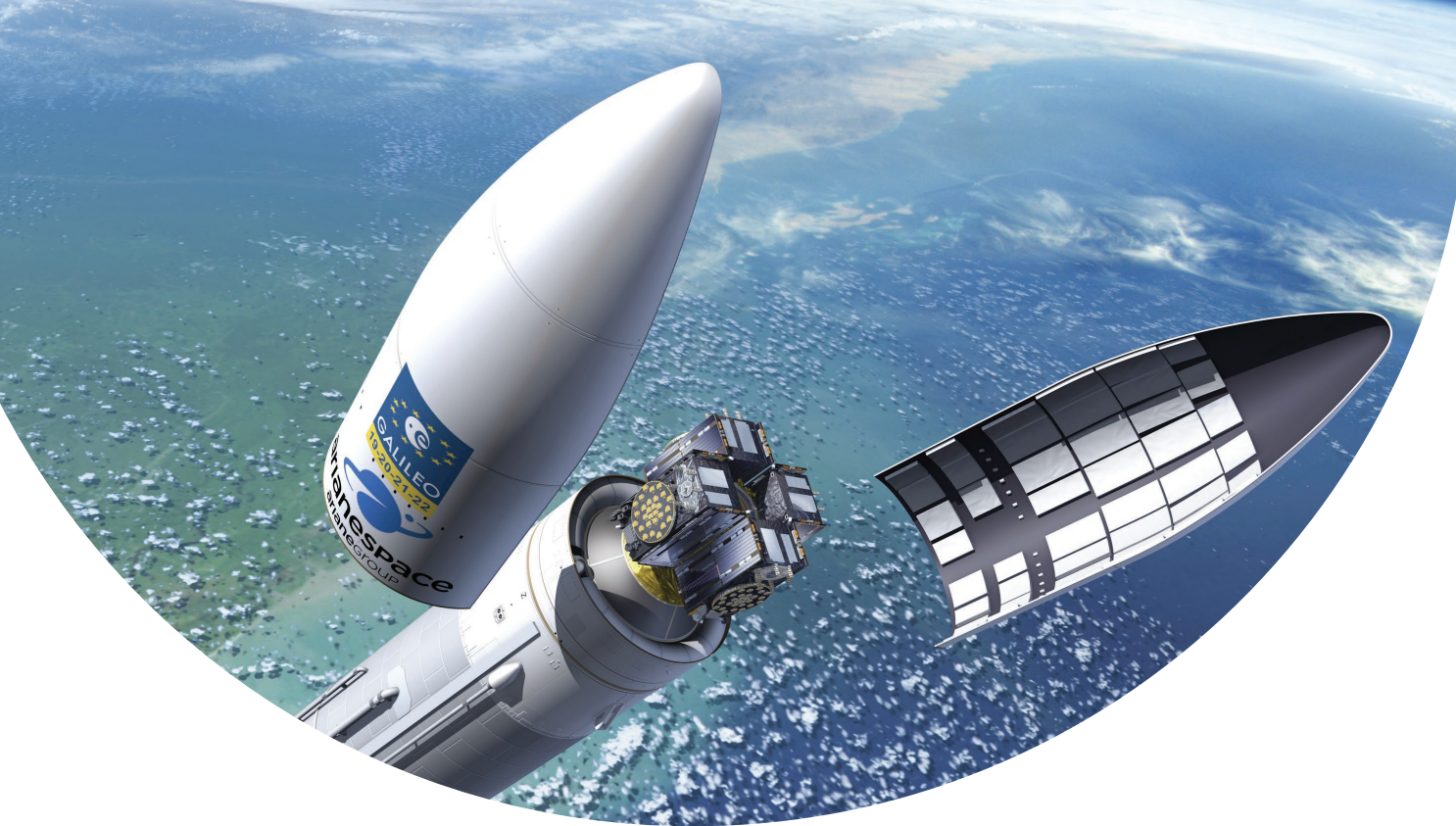
most advanced in terms of usage. This means more satellite launches – which means more objects in outer space.

Satellites are becoming smaller and production costs are dropping. This is opening up new and previously unimaginable possibilities, e.g. large constellations consisting of hundreds or even thousands of platforms allowing for global communication networks, or high-resolution, near real-time Earth observation systems. These opportunities, however, bring with them new challenges, e.g. the monopolisation of orbital planes and frequency bands, the disruptive overlapping of radio waves, light pollution obscuring the night sky and impairing astronomical observations, or the need for space traffic management at an international level.

Unilateralism and increasing geopolitical tension

Multilateralism has been in crisis for years; while some states seek cooperation, others may be more confrontational, and this creates conflict. There is a growing trend towards unilateralism all over the world, and competition between major powers and emerging regional powers is increasing, as are geopolitical tensions. This has an impact on the situation in outer space. Where there is a lack of transparency and trust, it is more difficult to work out rules across borders. In addition, the fact that space products and technologies can by their nature be applied both in civilian and military contexts ('dual-use') means that security and economic policy measures and trade controls also apply to international cooperation projects in science.

Developing global space governance further is becoming a challenge as tensions and conflicts increase. This also has implications for smaller nations that are active in space, e.g. Switzerland.



Navigation, positioning and precision timing are indispensable to our everyday lives. Switzerland contributes to the Galileo/EGNOS component of the EU space programme. Graphic representation of Ariane 5 flight VA-240 with four Galileo satellites. The satellites are mounted on a specially adapted Ariane 5 launcher, underneath the payload fairing, which was developed in Switzerland.

Credits: ESA-Pierre Carril, 2017

EU taking on a stronger role

Over the past twenty years, the EU has significantly increased its activities in space as a way to ensure its strategic autonomy and technological sovereignty. To accomplish this, the EU Space Programme and the corresponding EU Space Programme Agency (EUSPA) are essential. The current flagships Galileo/EGNOS (navigation) and Copernicus (Earth observation) will be followed by other programmes, e.g. in space-based secure communications or space traffic management. The space-related element of the Research Framework Programmes has also been steadily expanded. Third countries – and this includes Switzerland – can participate in the EU's space activities by concluding corresponding agreements. However, the EU's efforts to become more

autonomous can make cooperation more difficult in certain areas, for instance for third parties wanting to participate in activities the EU considers strategically important, or because there is a growing influence of the EU on intergovernmental organisations such as ESA or EUMETSAT due to the EU's extensive delegation of programme implementation to these organisations.

The increased role of the EU creates new opportunities for Switzerland in terms of infrastructure access, market expansion and societal benefits, but also disadvantages and risks due to restrictions on our country's participation in EU programmes. Switzerland's current status as a non-associated third country with the EU Framework Programmes for Research and Innovation has a direct impact on Swiss

participation opportunities in European space-related programmes. It affects not only the Confederation but also players in science and economy active in research, innovation and space technologies, which may face competitive disadvantages vis-à-vis their European competitors. As space programmes generally run for many years, programme participation needs to be secured for the long term.

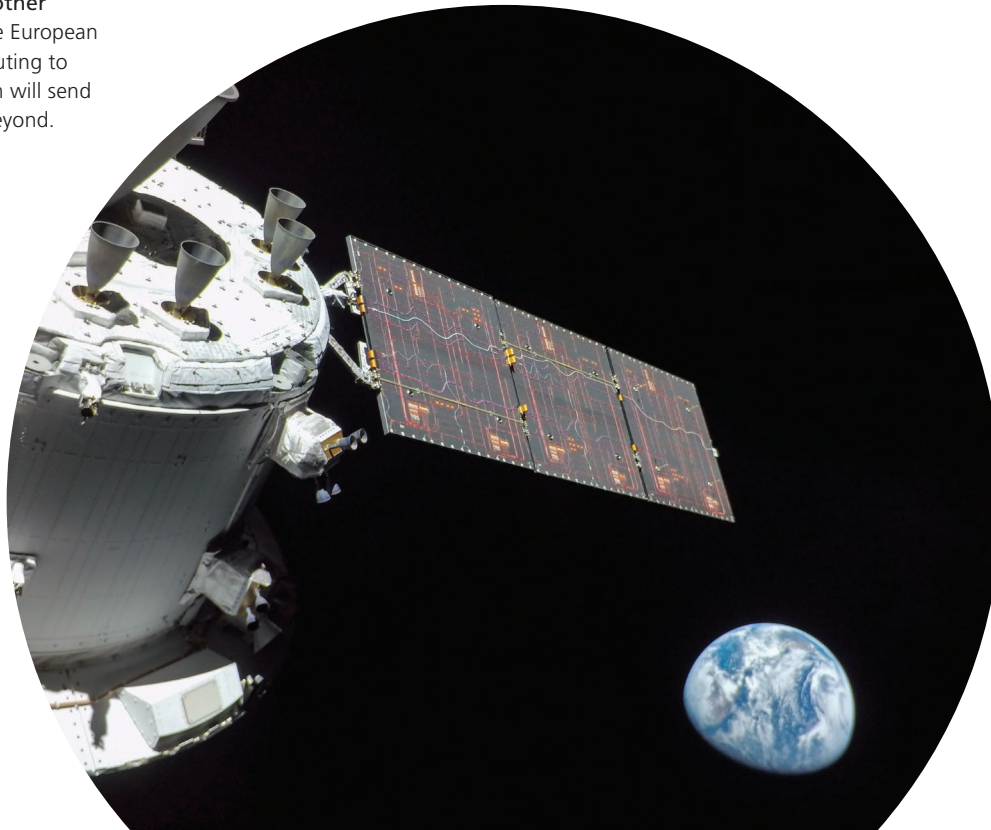


Switzerland contributes key technologies that ensure European infrastructures are globally competitive. Integration of a satellite structure for Metop Second Generation by a Swiss company.

Credits: Beyond Gravity

Participation in the International Space Station (ISS) and the US lunar programme Artemis via ESA opens up unique opportunities for Swiss researchers in human and robotic exploration, and in various other scientific disciplines. With the European Service Module, ESA is contributing to NASA's Orion spacecraft, which will send astronauts to the Moon and beyond.

Credits: ESA



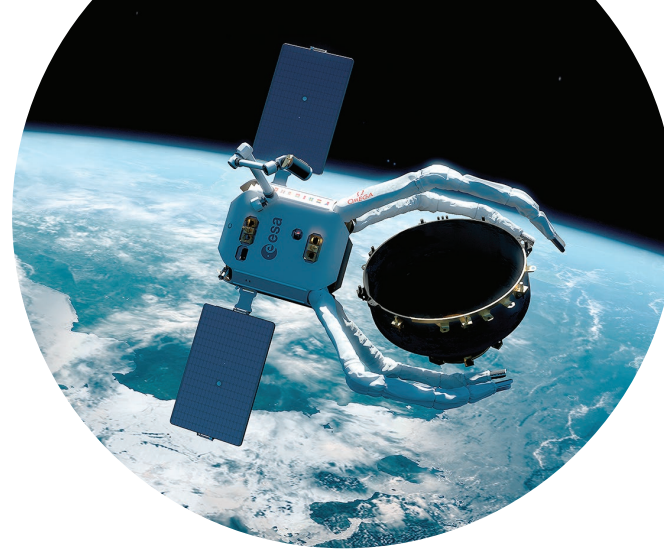
Security and defence

In addition to scientific and economic interests, military interests are often what drives and shapes space activities. In recent years, we have been seeing an actual militarisation of space: several countries have developed space forces and command structures for outer space, and NATO has declared space an operational domain. Today's military capabilities make it possible to take hostile action on targets in space or on Earth, for example to launch satellites or cyber attacks. In the coming years, space is likely to remain a theatre of increased militarisation and confrontation.

We have become dependent on space infrastructure to provide data and services that we use in many different ways every day. This dependence leaves us vulnerable to outages and impairments – in particular when it affects national security.

In addition to regulatory efforts, technical solutions are being developed to dispose of space debris. A Swiss start-up is developing a system to dispose of space debris on behalf of ESA.

Credits: ClearSpace



Sustainability of outer space activities

A growing number of private and state actors are beginning to pursue increasingly ambitious goals in outer space. This poses challenges to the long-term sustainability of our outer space activities.⁴ In particular, as the volume of satellites and debris in space increases, so does the risk of collisions. This will limit the orbits and orbital positions that can be used to provide services.

In order to ensure space can continue to be explored and used safely and sustainably, efforts are being made internationally, some of them within the framework of the UN, to reach agreements and define enforceable rules and to

⁴ What is meant by 'sustainability of outer space activities' is defined in the UN's Guidelines for the Long-term Sustainability of Outer Space Activities, which have been approved by the UN General Assembly (A/RES/74/82): 'The long-term sustainability of outer space activities is defined as the ability to maintain the conduct of space activities indefinitely into the future in a manner that realizes the objectives of equitable access to the benefits of the exploration and use of outer space for peaceful purposes, in order to meet the needs of the present generations while preserving the outer space environment for future generations.', (A/74/20, Annex II).

further develop global oversight of space activities. Similarly to aviation, outer space also needs to be systematically monitored and internationally coordinated (i.e. Space Traffic Management, STM). Ideally, this should be set up and respected by all states. In addition to regulatory efforts, scientific research and observation capabilities are also being advanced and technical solutions developed, e.g. to identify, avoid, minimise and dispose of space debris.

Result: state action remains necessary

Despite increasing privatisation and commercialisation, space continues to be primarily shaped by state action, in particular when it comes to infrastructure and regulation:

- As in other policy areas, e.g. transport, in space it is still largely states that provide infrastructure and services from which society as a whole can benefit. The only way the economically important application and service sector can develop is if its infrastructure is secured in the long term. For Switzerland, it is important we secure our access to Europe's space infrastructure, as it will become increasingly important in the future.

- Only states can ensure compliance with and enforcement of well-balanced global rules. At an international level, Switzerland can help to promote responsible behaviour in space and serve as a mediator and bridge builder where possible.

In Switzerland, too, the space sector depends on the commitment of politicians, the administration and industry associations. There is a growing number of federal offices that are involved in space activities or applications, which calls for adequate interdepartmental coordination and consultations.

STRATEGIC PRIORITIES

The trends described above will shape Switzerland's space policy for the coming years and affect our players in space. Combined with the aims stated at the beginning of this document, the following three strategic priorities have been set:

Access and resiliency through targeted programme participation, contributions to support Switzerland's capacity to act, and a commitment to the sustainable and responsible use of outer space.

As space infrastructures are being used increasingly, it is becoming even more important we secure our ability to access these infrastructures. We can do so by participating in space activities and programmes. This allows us to access data, expertise and services, influence the direction of programmes, and ensure Switzerland's interests are represented when programmes are designed.

We are already using space-based services to increase our security (e.g. in communication, navigation, positioning, time measurement, reconnaissance). We can expand this use further; however, this will also increase our dependence on space-based services and their infrastructures. As dependencies are particularly critical in the security sector,

it is important for Switzerland and Europe as a whole to achieve a high degree of autonomy. Switzerland contributes key elements to European systems. Where necessary, participation in European programmes can be supplemented with complementary solutions.

For satellite-based services to be provided reliably, it must be possible to use outer space sustainably, safely and without unnecessary restrictions. Switzerland is committed to preserving and protecting outer space for future generations.

Competitiveness and relevance through excellence in science and competitive companies.

Swiss space companies are internationally competitive today. In the face of increasing international competition, the aim is to maintain and, where possible, expand competitiveness. The bottom-up approach that made Swiss players leaders in specialised areas has proven itself and must be continued, and internationally applicable and enforceable rules must be put in place to ensure competition remains undistorted.

Space offers unique research opportunities. Switzerland is an attractive location for research and innovation. It is important that researchers in Switzerland are able to

participate in science and exploration programmes and are given the chance to prove themselves against international competition.

Closer cooperation between players in science and business increases knowledge and technology transfer and the promotion of young talent – and this improves competitiveness.

Partnership and reliability in international cooperation and to support Swiss businesses, science and user groups.

Switzerland depends on international cooperation for its space activities. It is therefore in our interest that international law and multilateralism are strengthened and that outer space can continue to be used peacefully and sustainably. Switzerland participates in the global governance of space activities within the framework of the UN.

Switzerland has helped shape Europe's space activities since the 1960s. Europe is where it is today in part because of Switzerland's political, regulatory, technological and financial contributions. As a founding member of ESA and as a participating state in the European Space Council, which brings together the member states of ESA and the EU, Switzerland is involved in shaping European space policy.

Participation in ESA and EUMETSAT programmes and activities will continue to be central for our country in the future. Switzerland will continue to want to participate in European space programmes.

Our existing national framework conditions will need to be developed further to ensure we remain an attractive location for science and business in the future. This will include a legal framework for space activities, agile governance and seamlessly coordinated funding instruments. Furthermore, there needs to be clear communication about how using outer space creates both benefits and dependencies. Clear and effective communication will also lead to a deeper understanding of the importance of outer space.



As a research and innovation hub, it is important for Switzerland to enable researchers to participate in science and exploration programmes. Test of the ESA CHEOPS satellite, a science mission led by a Swiss university.

Credits: ESA – G. Porter

AREAS OF ACTIVITY

1

Access and resiliency

through targeted programme participation, contributions to support Switzerland's capacity to act, and a commitment to the sustainable and responsible use of outer space.

In order to implement the three strategic priorities and within the approved budget, the Federal Council will be taking action in the following areas of activity.

1.1 Securing access

Securing Switzerland's access to knowledge, data and services that are in the country's interest.

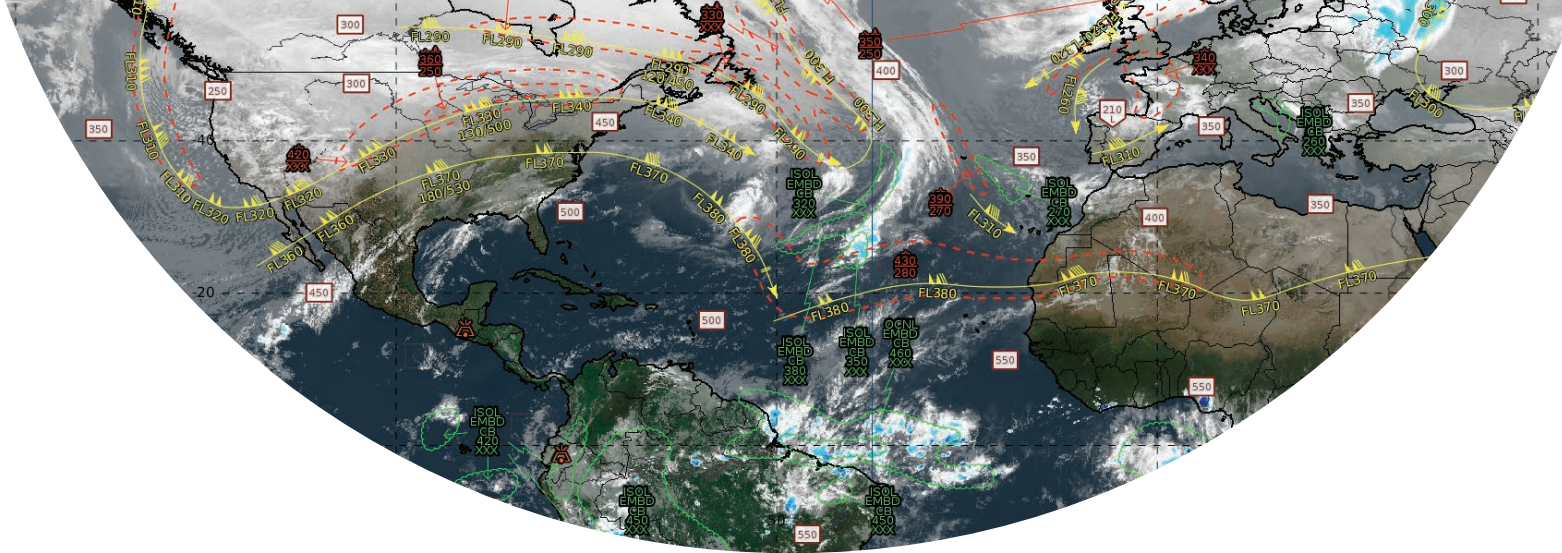
In principle, Switzerland will aim to participate comprehensively in infrastructure programmes that are important to the country.

Before committing to a programme, the importance of its space-based data and services for science, industry and government will be determined, and a cost-benefit analysis made of the investment and ensuing operational costs. The Federal Council may take measures in the run-up to satellite infrastructure and launch vehicle programmes to ensure representatives from science, industry and government are able to participate in the development of these systems and in their subsequent use.

Switzerland will foster the development and maintenance of key skills; this will have benefits for activities and programmes along their entire value chain. Access to international procurement procedures will be ensured for players in business and science. In addition, by participating in the European launch vehicle programmes, Switzerland will help ensure Europe can continue to access outer space independently and reliably.

Switzerland will intensify cooperation with organisations in the space sector, in particular with ESA, EUMETSAT and the EU, and create synergies with national organisations. Switzerland will be active in various committees in order to be able to represent its national interests in the design, management and development of programmes, and will therefore contribute to the implementation of the UN's Sustainable Development Goals (SDGs). Switzerland will also represent its national interests in radio regulatory bodies (CEPT, ECC).

At a national level, the Confederation will promote the provision of data, expertise and services to meet the needs of



At a national level, the Confederation promotes the provision of data, expertise and services to meet the needs of the population, industry and the administration, and helps improve networking between the various user groups. Aviation weather map used by pilots in their daily briefings.

Credits: MeteoSchweiz / EUMETSAT

the population, industry and the administration, and will help improve networking between the various user groups.

1.2 Strengthening security

Ensuring Switzerland is aware of its dependence on space infrastructure and addressing risks with targeted measures.

Space infrastructures will be examined in order to identify dependencies and vulnerabilities. Autonomy and resilience can be increased with (space-based or terrestrial) fallback solutions and through the targeted development of our own capabilities and national infrastructures. Switzerland will develop its own capabilities in particular in the areas of space situational awareness (SSA) and GNSS signal assessment. In addition to participation in international programmes and national activities, bilateral and multilateral strategic partnerships will be considered and expanded as required.

In order to strengthen security, Switzerland will make a commitment to reducing threats in and from space, as well

as to transparency and responsibility in all its space-related activities.

Developments in the military use of outer space will be increasingly monitored and assessed and, where needed, suitable measures will be put in place.

1.3 Promoting sustainability in outer space

Promoting the sustainable and secure use of outer space.

At a national level, the aspect of sustainability in space will be taken into account in the future Space Act. The Act will include measures that are practicable for players in the space sector but that are also effective at avoiding the creation of space debris in order to preserve long-term and peaceful access to space for future generations. The legal framework will be aligned with internationally harmonised guidelines and standards.

At an international level, including in cooperation with the UN, Switzerland commits itself to the peaceful and safe use of space and the long-term sustainability of space activities. We will continue to contribute to international initiatives and programmes, e.g. in orbit characterisation or collision risk reduction. We will promote transparency and the exchange of information on objects in space.

2

Competitiveness and relevance

through excellence in science and competitive companies

2.1 Promoting excellence in science

Strengthening Switzerland's status as a hub for research and innovation in space activities.

Switzerland will create optimal framework conditions for players in the space sector to participate in research and innovation programmes. Research and exploration projects will be carried out bilaterally and multilaterally within and outside Europe. Switzerland will support space projects to which Swiss science, research and innovation players will be able to make important contributions, while making sure participants' scientific freedom is protected, and promoting high-performing areas in a targeted way.

Switzerland's activities in space inspire younger generations and contribute to the development of our knowledge society. Particular attention will be paid to the promotion of young talent in academia and vocational training, e.g. by improving mobility.

2.2 Strengthening competitiveness

Positioning Switzerland as a global hub for specialised and innovative space companies.

Switzerland will advocate the creation of and respect for internationally recognised conditions of competition on the basis of multilateral solutions. We may promote space projects that have the potential for future commercial application, and will participate in European space innovation programmes and promote our country's economic interests.

With its contributions to programmes and funding instruments, the Confederation will ensure that positive framework conditions are provided for a wide range of businesses (e.g. start-ups, SMEs, large companies), technologies and business models.

Switzerland will position itself as an appealing location for innovative space companies.

2.3 Intensifying cooperation

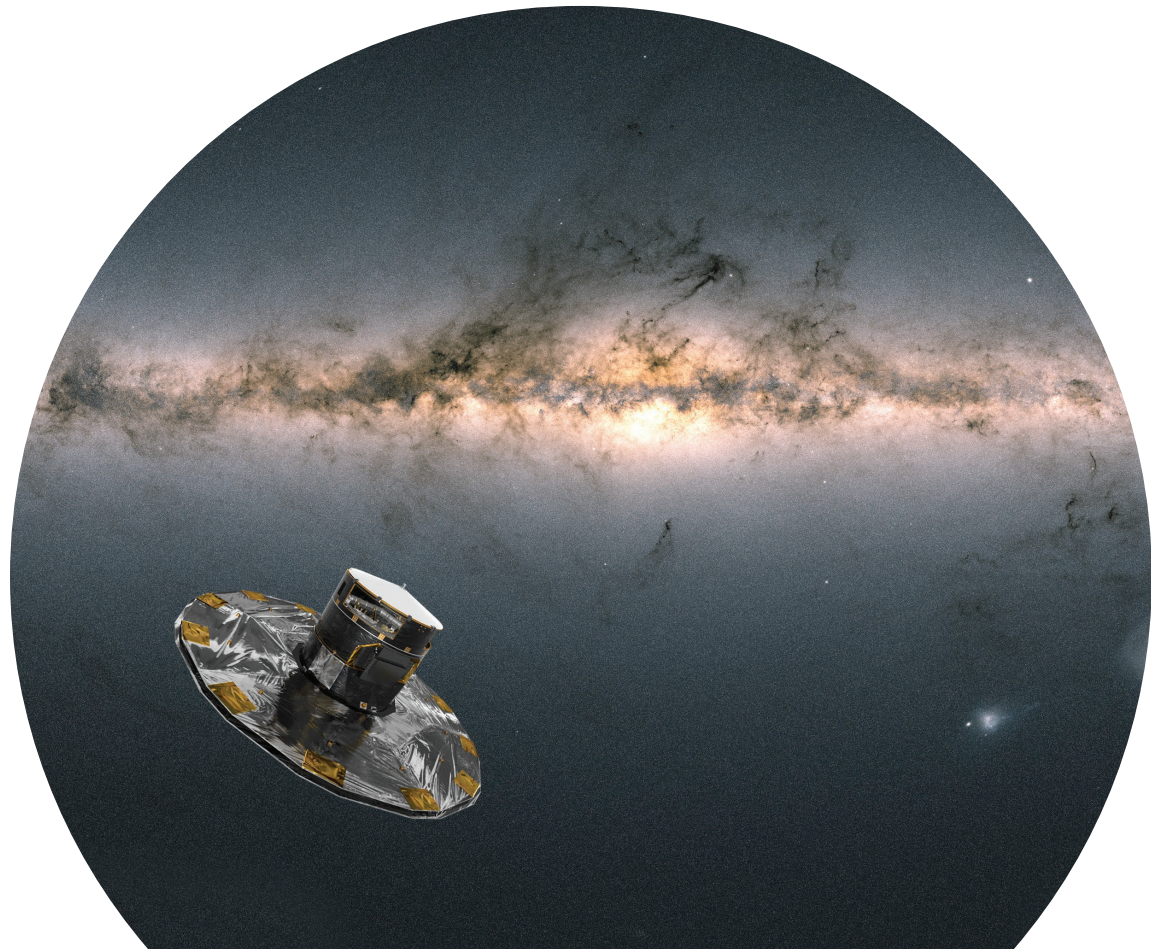
Ensuring Swiss players in the space sector, including user groups, are well networked and work together closely.

The Confederation will promote networking and knowledge and technology transfer between science and businesses, as well as interdisciplinary research and innovation cooperation. This can be achieved namely through flagship projects that bring together many different players in Switzerland (e.g. within the framework of ESA projects) that contribute to the country's competitiveness and relevance and have both national and international appeal. In addition, Switzerland will promote networks and alliances that anticipate developments in space, explore new forms of cooperation, and build bridges between key and niche players. Projects may be bilateral or multilateral.

For space projects to be successful, networking and knowledge and technology transfer between science and businesses is key. Graphic representation of ESA's Gaia satellite observing the Milky Way. The background image of space was compiled from the data of more than 1.8 billion stars.

Credits: ESA/ATG medialab; ESA / Gaia / DPAC; CC BY-SA 3.0 IGO.

Switzerland will increase its presence and visibility in international forums and at international events. The Confederation will strengthen its external network in order to facilitate economic and scientific activities.



3

Partnership and reliability

in international cooperation and to support Swiss businesses, science and user groups.

3.1 Strengthening international law and global governance

Ensuring Switzerland is appreciated as a well networked and reliable player in global space governance.

Switzerland will make a commitment to the observance of international law and to its development within the community of states, and to globally applicable rules and guidelines that promote the responsible, peaceful and sustainable use of outer space. Switzerland will act as a bridge builder in global governance development.

Switzerland will also be committed to ensuring space infrastructures continue to be secure and resilient.

With regard to the use of radio frequencies and orbital positions, Switzerland will safeguard its interests by actively contributing to the definition of global regulations.

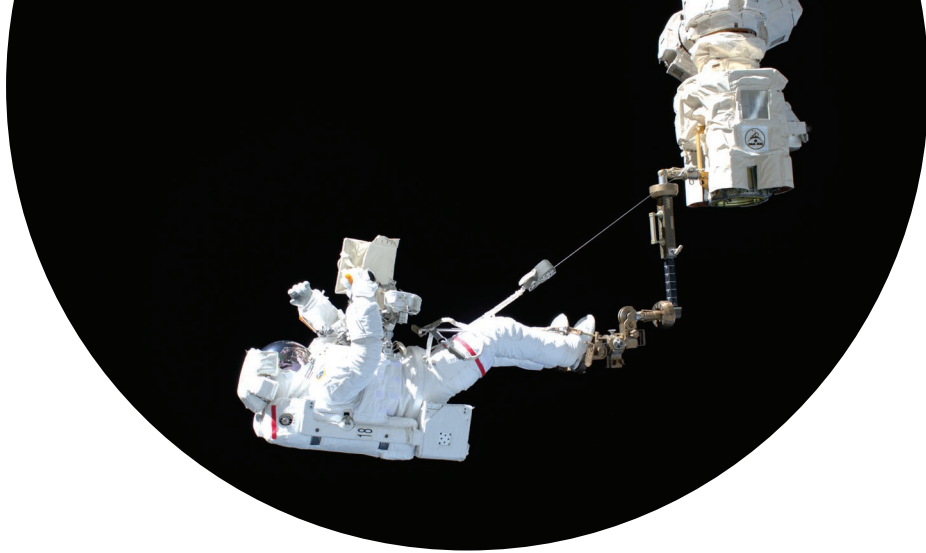
3.2 Contributing to shaping European space governance

Positioning Switzerland as a reliable partner for space activities in Europe and contributing to the development of these activities.

Cooperation with European partners will continue to be a focus in Switzerland's space activities. Our long-term and solidary participation in European space programmes will serve to underscore this commitment.

Efforts will be made to preserve the independence and freedom of action of intergovernmental organisations such as ESA and EUMETSAT in all areas of activity.

Switzerland will make a commitment to strengthening forums that help coordinate European space policy.



Switzerland is committed to globally applicable rules and guidelines that promote the responsible, peaceful and sustainable use of outer space. This also helps protect astronauts in space. ESA astronaut on a spacewalk on the ISS.

Credits: ESA / NASA

3.3 Developing national framework conditions

Increasing Switzerland's appeal as a hub for space activities and providing for legal certainty.

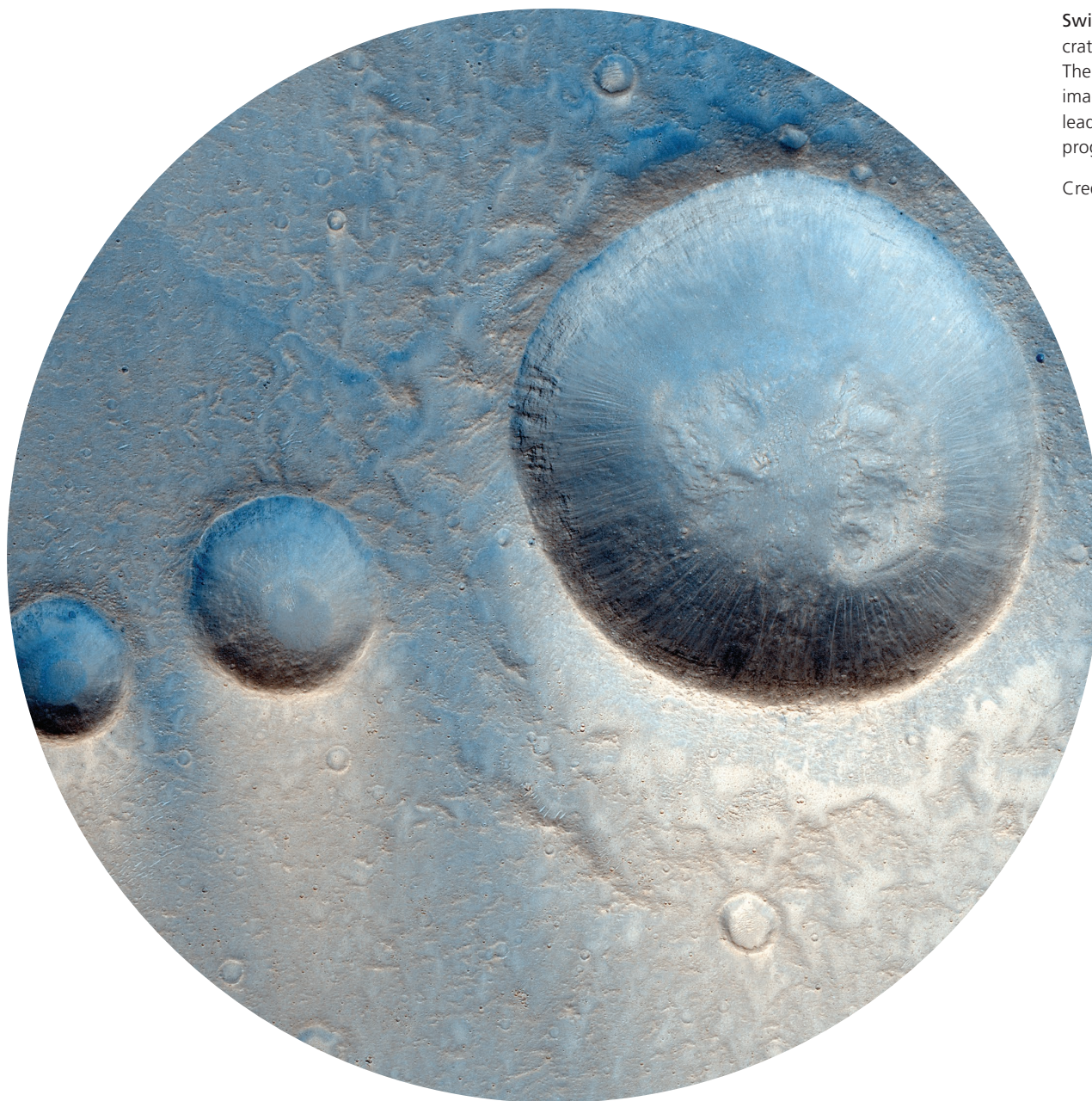
Switzerland will create a national legal framework for the UN space treaties it has ratified, which will include the authorisation and supervision of space activities, matters relating to liability and a register for space objects. Switzerland's legal framework will contain a clear set of rules that will ensure legal certainty for the Confederation, businesses and science. It will also contribute to Switzerland's status as a competitive and appealing location for businesses in the space sector. The legal framework will be designed to be flexible so that developments in science, technology and in the legal situation can be taken into account.

The coordination of the various sectoral funding instruments and procurement mechanisms will be further improved so that procedures can be sped up and redundancies avoided.

Communication on the advantages of existing and upcoming space applications will be improved so that potential users can be made aware of the applications early on and benefit from them sooner. This will increase the socio-economic effects of investments in space.

ABBREVIATIONS

CEPT	Conférence Européenne des Administrations des Postes et des Télécommunications European Conference of Postal and Telecommunications Administrations	EU	European Union	NASA	National Aeronautics and Space Administration
		EUMETSAT	European Organisation for the Exploitation of Meteorological Satellites	SDG	Sustainable Development Goals
		EUSPA	EU Agency for the Space Programme	SMEs	Small and medium-sized enterprises
DDPS	Federal Department of Defence, Civil Protection and Sport	FDFA	Federal Department of Foreign Affairs	SSA	Space Situational Awareness
DETEC	Federal Department of the Environment, Transport, Energy and Communications	FDFA	Federal Department of Foreign Affairs	SST	Space Surveillance and Tracking
EAER	Federal Department of Economic Affairs, Education and Research	FDHA	Federal Department of Home Affairs	STM	Space Traffic Management
ECC	Electronic Communications Committee (of the CEPT)	Galileo	Global satellite navigation system of the EU	UN COPUOS	United Nations Committee on the Peaceful Uses of Outer Space
EGNOS	European Geostationary Navigation Overlay Service	GNSS	Global Navigation Satellite System	UN	United Nations Organization
ESA	European Space Agency	GPS	Global Positioning System (of the USA)	WMO	World Meteorological Organization
		IoT	Internet of Things		
		ISS	International Space Station		
		ITU	International Telecommunication Union		



Switzerland is a space nation. Three craters in Mars's Lunae Planum region. The stereo camera used to take this image was developed under Swiss leadership as part of ESA's ExoMars programme.

Credits: ESA / CaSSIS

Imprint

Editor: Federal Council

Project management: State Secretariat for Education,
Research and Innovation SERI

Swiss Space Office
www.sbf.admin.ch

Design: Grafikatelier Saxer, Berne

Download of the electronic version in German, French,
Italian and English: www.sbf.admin.ch > Research and
Innovation > Space > Swiss Space Policy

Berne, 19.04.2023

Contact

Federal Department of Economic Affairs, Education and Research

State Secretariat for Education, Research and Innovation SERI

Swiss Space Office

space@sbfi.admin.ch

www.sbfi.admin.ch > Research and Innovation > Space