



General Assembly

Distr.: General
18 January 2021

Original: English

Committee on the Peaceful Uses of Outer Space

International cooperation in the peaceful uses of outer space: activities of Member States

Note by the Secretariat

Addendum

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* Reissued for technical reasons on 4 May 2021.



II. Replies received from Member States

Malaysia

[Original: English]

[7 December 2020]

The Government of Malaysia established the Malaysian Space Agency (MYSA) in December 2019, following the merger of the National Space Agency and the Malaysian Remote Sensing Agency. The merger has enabled the Government to enhance the efficiency of delivering government services in the space sector. The main mission of MYSA is to develop the capabilities of the country's space sector to contribute to economic growth, knowledge development, sustainable development, national sovereignty and the well-being of the people. The operationalization of MYSA is guided by the National Space Policy 2030, which was approved by the Government of Malaysia on 30 December 2017. The policy consists of five pillars that cover the strategies needed to achieve the policy objectives to enhance the capabilities of the national space sector. The five pillars are as follows:

- (a) Reinforcing governance in optimizing the country's access to space capability;
- (b) Focusing on the space technology, infrastructure and applications significant to the nation;
- (c) Driving the development of space science and technology as well as building expertise;
- (d) Contributing to the economy and well-being of the country;
- (e) Improving and strengthening international cooperation and networks.

Recent activities carried out by Malaysia in the space sector include those described below.

National space legislation

Malaysia is working towards enacting national space legislation to regulate space activities in the country, in line with the first pillar of the National Space Policy 2030 and with General Assembly resolution 68/74, on recommendations on national legislation relevant to the peaceful exploration and use of outer space. Despite the disruption caused by the global coronavirus disease (COVID-19) pandemic, the legislative effort is still progressing and it is expected that the space bill will be passed by the end of 2020. The bill will help Malaysia to meet the international obligations and allow the country to ratify or accede to space-related international instruments, such as the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, and the 1968 Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space.

National Remote Sensing Satellite Programme

The Government of Malaysia, through MYSA, will continue its National Remote Sensing Satellite Programme for the purpose of security, societal well-being, defence, national sovereignty and sustainability of national development. In line with the second and third pillars of the National Space Policy 2030, this Programme is the Government's effort to ensure that the country's capacity and capability in space technology continues to be strengthened, as well as to increase local expertise. The satellite development will be implemented through a request for proposals, which will open up wider opportunities for strategic cooperation between the Government and local industries to strengthen the national space ecosystem, making it more competitive and conducive. The request for proposals document is expected to be

offered to industry by the first quarter of 2021, while the launch of the satellite is planned for 2024.

Multi-Sector Remote Sensing Application Systems

MYSA has developed centralized, comprehensive and integrated space-based remote sensing and geospatial application systems and database, known as Multi-sector Remote Sensing Application Systems (GovRS-Apps). These systems contain geospatial information in various sectors such as agriculture and fisheries, natural and environmental resources, disasters, environmental health, land development, property assessment and management, environmental auditing and physical development, security and national sovereignty. The purpose of these systems is to improve public service delivery and empowerment through the increased use of space technology. As of 2019, a total of 35 application systems had been developed through internal expertise in collaboration with various government user agencies. The application systems have been in operation since 2008.

Malaysia Space Explorations 2030 (Malaysia Space-X 2030)

In line with the strategic thrusts of the National Space Policy 2030, the Government of Malaysia has developed the Malaysia Space Exploration Blueprint 2030 (Malaysia Space-X 2030), with the aim of ensuring that the space sector could contribute to 0.3 per cent of the country's gross domestic product and create 500 knowledge workers by 2030. Several key initiatives in the Malaysia Space-X 2030 are as follows:

- (a) Development of home-grown satellites under the National Remote Sensing Satellite Programme;
- (b) Strengthening the Assembly, Integration and Test Facility in MYSA as regional hub for measurement and testing services for both space and commercial industries;
- (c) Enhancing national research infrastructure for Global Navigation Satellite System signal monitoring and testing;
- (d) Creating platforms for local firms and industries to participate in the global space industry value chain;
- (e) Promoting international partnerships to develop space science and technology with a vision of sending an unmanned space probe and contributing to the growth of the space economy in Malaysia.

World Space Week

Malaysia celebrated World Space Week 2020 with various events led by the National Planetarium from 4 to 10 October 2020, under the theme "Satellites improve life". Among the programmes and activities organized by MYSA and other organizations, including universities, the space industry and civil society, were hands-on workshops about telescopes, satellites and rockets and webinars with local space professionals such as the first Malaysian astronaut, Datuk Dr Sheikh Muszaphar Shukor Sheikh Mustapha, and the first Malaysian astrophysicist, Professor Emeritus Datuk Dr. Mazlan Othman. There were also online quizzes, video premieres and special space exploration workshops.

Space activities in higher education institutions in Malaysia

MYSA has implemented a number of collaborative activities with the academic community for the purpose of strengthening research and innovation capabilities for the advancement of the national space sector. Among those activities are:

- (a) Microgravity science research on the International Space Station with University Putra Malaysia and University Malaya;

- (b) Parabolic flight programme for microgravity research with the involvement of the National University of Malaysia, Multimedia University and Sultan Idris University of Education;
- (c) Microsatellite and nanosatellite development programme with Multimedia University, Mara University of Technology and University Science Malaysia;
- (d) Space systems engineering in University Putra Malaysia.

International space cooperation

Malaysia recognizes the important role of the Committee on the Peaceful Uses of Outer Space in ensuring the use of outer space exclusively for peaceful purposes. In this regard, Malaysia is committed to collaborating with all the States members of the Committee, including working closely with the Working Group on the “Space2030” Agenda in consolidating the final draft of the Agenda, and with the new Working Group on the Long-Term Sustainability of Outer Space Activities. Malaysia has also been actively involved in the programmes organized by the Asia-Pacific Regional Space Agency Forum (APRSAF) and attended, among others, the APRSAF annual meetings, the most recent of which was held in Nagoya, Japan, from 26 to 29 November 2019, under the theme “Advancing Diverse Links toward a New Space Era”. Malaysia is a member of the National Space Legal Initiative under APRSAF. Malaysia has actively participated in many regional space initiatives, especially those involving human capital and expertise development through the Association of Southeast Asian Nations Subcommittee on Space Technology and Applications platform.

Philippines

[Original: English]
[19 November 2020]

The signing of the Philippine Space Act on 8 August 2019 led to the creation of the Philippine Space Agency (PhilSA). PhilSA is mandated to be the primary policymaking, planning, coordinating, implementing and administrative entity of the Government’s executive branch responsible for planning, developing and promoting the national space programme in line with the Philippine Space Policy.

To ensure sustained progress, the Philippine Space Policy will focus on six key development areas, namely, national security and development; hazard management and climate studies; space research and development; space industry capacity-building; space education and awareness; and international cooperation.

In line with those key development areas, the strategic thrust of PhilSA is as follows: to spur scientific growth that fosters patriotism and accelerates national progress; to promote improved public access to and resource-sharing for the utilization of space-borne data, space-enabled services and space-related facilities; to accelerate the transfer and diffusion of space technologies throughout Philippine society with a view to developing a robust and vibrant local space economy; to create a coherent and unified strategy for the development, utilization and promotion of space science and technology applications in line with the Philippine Space Policy; and to enhance the country’s official representation in and contribution to the international space community for the purposes of cooperation.

The Philippine Space Act also created the Philippine Space Council to serve as the principal advisory body for the coordination and integration of policies, programmes and resources relating to space science and technology applications. The Chairperson of the Council is the President of the Philippines and its vice-chairpersons are the Secretary of National Defence and the Secretary of Science and Technology. The Council members consist of heads of various government departments and representatives of the House of Representatives and the Senate of the Philippines. The

Council was convened for the first time in October 2020, marking another significant milestone in the history of space for the Philippines.

Prior to the establishment of PhilSA, a number of activities in the area of space science and technology, relating in particular to the development and utilization of small satellite technology and by-products, were under way in the form of project-based initiatives at the University of the Philippines and the Advanced Science and Technology Institute, with support from the Department of Science and Technology. Several of those activities are being transferred to PhilSA, which is to absorb relevant resources, capabilities and infrastructure. The following sections contain updates on the initiatives.

The Space Technology and Applications Mastery, Innovation and Advancement (STAMINA4Space) Programme

Under the Space Technology and Applications Mastery, Innovation and Advancement (STAMINA4Space) Programme, the Philippines carries out research and capacity-building in relation to satellite development and operation. The programme components on payload development (Optical Payload Technology, In-depth Knowledge Acquisition and Localization (OPTIKAL) project) and bus development (Building PHL-50: Localizing the Diwata-1, 2 Bus System as the Country's Space Heritage 50 kg Microsatellite Bus project) involve the development of technologies for small satellites using more local materials and resources. With a view to increasing know-how, the programme component on establishing a university consortium (Space Science and Technology Proliferation through University Partnerships (STEP-UP) project) makes use of cube satellites and the ground station network as educational and research platforms for university collaboration. The operations component (Ground Receiving, Archiving, Science Product Development and Distribution (GRASPED) project) continues to manage the missions of Diwata-1 and Diwata-2, as well as developing remote sensing products. Lastly, the advanced satellite development component (Advanced Satellite Development and Know-How Transfer for the Philippines (A-SatDev) project) is aimed at building and launching a satellite system that provides data on a regular basis for applications relating to, inter alia, coastal habitat assessment; aquaculture monitoring; water quality monitoring; forestry management; wide area disaster damage assessment; land use and land change mapping; monitoring of crops and other agricultural products; ship and aircraft detection and tracking; infrastructure evolution mapping during crises; and situational awareness during crises. The STAMINA4Space Programme is funded by the Department of Science and Technology and is jointly implemented by the University of the Philippines Diliman and the Advanced Science and Technology Institute.

The OPTIKAL project is aimed at designing and constructing a scientific and operational payload for 50 kg-class microsatellites and improving the country's small satellite payload capacity through the building of laboratories and collaboration with local industries. In order to sustain satellite development in the country, collaboration with local electronics industries has also begun, in particular for the development of locally designed components for the space-borne payload.

The Building PHL-50: Localizing the Diwata-1, 2 Bus System as the Country's Space Heritage 50 kg Microsatellite Bus project is aimed at developing a 50 kg-class small satellite system through the leveraging of knowledge gained from past satellite development efforts and interaction with local industries that can manufacture space-grade products to be proven through rigid testing. The design for the satellite infrastructure's engineering model is currently being finalized in preparation for space qualification tests.

In July 2020, the assembly and testing of the flight model for the Maya-2 cube satellite was completed by Philippine PhD scholars enrolled at the Kyushu Institute of Technology in Japan as part of the BIRDS-4 project. Master's degree scholars were also sent to National Cheng Kung University in Taiwan to participate in the Interface

Region Imaging Spectrograph satellite constellation project. Under the STEP-UP component, graduate student scholars studying at the University of the Philippines have developed the engineering model for the first locally developed cube satellites, Maya-3 and Maya-4, and have already carried out testing at the Kyushu Institute of Technology. These researchers are working on the flight models on the basis of the results of the space environment tests. The aim is to launch the Maya cube satellites in the second quarter of 2021.

In addition to routine mission planning and maintenance of the satellite's ground and space segments, the GRASPED project performs systematic calibration of the cameras and altitude sensors of the Diwata-2 microsatellite. The project conducts optimization of image processing algorithms from the raw data images of Diwata satellites and explores novel applications for the Diwata-2 images. The data processing, archiving and distribution subsystems that support the Diwata satellites and future microsatellites are also being enhanced in order to ensure the compatibility of those satellites with existing ground receiving stations.

The A-SatDev project is aimed at building an operational small satellite that further strengthens the nascent space technology research, development and innovation activities in the Philippines. The objective is to carry out a preliminary design review of a 100 to 150 kg-class multispectral satellite and to provide theoretical and hands-on training activities for Philippine engineers.

The STAMINA4Space Programme conducts its operations at the University Laboratory for Small Satellites and Space Engineering Systems, an interdisciplinary facility that serves as a pioneering academic hub for research and development and instruction innovations in space science and technology. The first graduate programme in the Philippines with a specialized course on nanosatellite engineering is supported through the Laboratory, with research and scholarship grants provided by the Department of Science and Technology and its Science Education Institute.

The Philippine Earth Data Resource Observation Centre

The Philippine Earth Data Resource Observation Centre operates three ground receiving stations in the country, in metropolitan Manila, Davao and Iloilo. The Centre, which is currently operated by the Advanced Science and Technology Institute, is one of the infrastructure components intended to be transferred to PhilSA. The facility is instrumental in gathering satellite images during calamitous events. The Centre and the STAMINA4Space Programme closely monitored Typhoon Goni (known locally as Super Typhoon Rolly) and distributed images and analysis of affected areas to key national disaster risk reduction and management agencies. Satellite images of major metropolitan areas were also captured during the lockdown implemented as a result of the global coronavirus disease (COVID-19) pandemic in order to monitor the situation with regard to traffic and other ground activities.

Signal Assessment using Geospatial Applications project

Radio coverage maps that indicate the extent of mobile telephone services in the various regions are being generated in order to help address the buildout of communications infrastructure in unserved and underserved areas of the country. The project also explores different methods of generating digital elevation models using satellite images such as stereo imaging and interferometric synthetic aperture radar technologies. One of the research outputs of the project is the assessment of unused television channels (or television whitespaces) in the metropolitan Manila area.

The Remote Sensing and Data Science Help Desk project

The Remote Sensing and Data Science Help Desk (DATOS) project produces outputs for data-driven decision support systems. DATOS provides Filipinos and various agencies with advanced, quick and understandable earth observation data solutions for disaster risk reduction and management challenges and other applications. One of its research thrusts is artificial intelligence for mapping, or the use of artificial

intelligence with satellite images in order to automate the country's nationwide mapping initiatives. In anticipation of the transfer of the project's initiatives to PhilSA, the project has secured agreements with key government agencies so as to facilitate the adoption of the automated mapping techniques it has developed.

The Synthetic Aperture Radar and Automatic Identification System project

The Synthetic Aperture Radar and Automatic Identification System project focuses on maritime and terrestrial monitoring using the country's acquired capacity of the NovaSAR-1 satellite. The official online portal for the project, SIYASAT, provides a secure data archive, visualization and distribution system for radar images and automatic identification system data. The project is heavily involved in mapping activities in partnership with various government agencies. During the eruption of the Taal Volcano in January 2020, images of the volcano and nearby areas were provided to concerned agencies in order to help estimate the extent of damage from the eruption. The project also helped the Philippine Statistics Authority to map and automatically detect aquaculture resources in preparation for the 2022 Census of Agriculture and Fisheries. In addition to providing maritime surveillance and terrestrial monitoring reports to key government agencies, technical project personnel also work on other image applications, such as object detection, change detection and land cover mapping.

Conclusion

The establishment of PhilSA reflects the commitment of the Philippines to actively participating in and contributing to the development and peaceful uses of outer space. The initial efforts of the Department of Science and Technology have yielded significant results in the area of space science and technology applications in the country; PhilSA will build on, institutionalize and expand that work. PhilSA, the Department of Science and Technology, the Philippine Space Council and partners in academia, the Government and private sectors continue to work together in developing space science and technology applications and sharing their benefits to Filipinos. Through international cooperation in space, the Philippines hopes that it can build a vibrant and productive local space ecosystem that adds to and creates value for society. The challenges that the world currently faces in the COVID-19 pandemic further strengthen the resolve of the country to contribute to effective and sustainable solutions through relevant national space programmes and activities.

The present report was prepared by the Department of Science and Technology, the Advanced Science and Technology Institute, the Philippine Council for Industry, Energy and Emerging Technology Research and Development, the Philippine Earth Data Resource Observation Centre, PhilSA, the Remote Sensing and Data Science Help Desk, the STAMINA4Space Programme and the University of the Philippines Diliman.

Republic of Korea

[Original: English]
[9 December 2020]

Through its outer space activities, the Republic of Korea seeks to facilitate the peaceful use of outer space, promote exploration and accumulate space science and industrial capacity in order to improve the quality of life of its citizens and to achieve national security and economic growth. Currently, the Republic of Korea is working to secure the continuity of its space activities amid the challenges posed by the global coronavirus disease (COVID-19) pandemic by modifying the mid- to long-term space development plan.

Launch vehicle

The Republic of Korea is developing the KSLV-II (Nuri) space launch vehicle, which can put a satellite into a designated orbit when necessary. The test launch vehicle – the second phase of the three-stage space launch vehicle development plan – was successfully launched on November 2018. The next launch of the KSLV-II (Nuri) space launch vehicle, capable of delivering a 1.5-ton payload, is scheduled for 2021.

Satellites

Since the 1990s, the Republic of Korea has developed 15 national satellites and is currently operating 7 satellites. It plans to launch up to 100 satellites by 2040, depending on public demand. Two geostationary orbit satellites were launched, in 2018 and 2020. GEO-KOMPSAT 2A is equipped with Advanced Meteorological Imager and Korean Space Environment Monitor payloads for meteorological and space weather monitoring missions. GEO-KOMPSAT-2B is equipped with Geostationary Ocean Colour Imager-II and Geostationary Environmental Monitoring Sensor payloads for ocean and environment monitoring missions. The two satellites monitor the Earth's environment and the Korean Peninsula and share data with the international community.

The Republic of Korea also aims to effectively respond to public sector demands (land management, disaster management, etc.) through the development of two compact advanced satellites (CAS-500). It aims to develop standardized 500 kg satellites by 2020 that can be equipped with various payloads, including a 0.5-metre optical payload.

Navigation

The Republic of Korea plans to establish the Korean Satellite Navigation System to improve position, navigation and timing on the Korean Peninsula and is conducting a preliminary feasibility study with the aim of providing services in 2035. The Republic of Korea will develop the Korean Satellite Navigation System through cooperation with the International Committee on Global Navigation Satellite Systems community to ensure openness, cooperation, sharing of resources, transparency, compatibility and interoperability with existing global satellite navigation systems.

Space exploration

The Korea Pathfinder Lunar Orbiter, which is scheduled to be launched in 2022, is a joint lunar exploration mission with support from the National Aeronautics and Space Administration (NASA) for mission design and deep space communication and navigation. It will be equipped with an array of experiments, including a NASA payload, so that it can scan the Moon's permanent shadow area.

In addition, the Republic of Korea is seeking to participate in various global space exploration projects through international cooperation. To take part in the Commercial Lunar Payload Services initiative, part of the NASA Artemis programme, the Korea Astronomy and Space Science Institute (KASI) signed an agreement with NASA in 2019 and has been developing payloads since 2020. The Korea Aerospace Research Institute is also discussing ways to cooperate with the Indian Space Research Organisation after signing a letter of intent in 2019 to promote joint Moon exploration projects.

Space science

KASI has been developing a next-generation solar coronagraph on the International Space Station in cooperation with NASA since 2017. It is a compact coronagraph measuring the temperature of solar corona and the velocity of solar wind using four temperature- and velocity-sensitive filters. This project will be implemented as three subprojects by 2023. KASI is developing the software for the command and data-handling system in accordance with the International Space Station interface

standard, as well as the hardware, including optical mechanics, filters and filter wheels, detectors (charge-coupled devices) and main electronics.

KASI is also participating in the NASA MIDEX programme as part of the first all-sky infrared spectro-photometric surveyor SPHEREx (the Spectro-Photometer for the History of the Universe, Epoch of Reionization and Ices Explorer) mission. SPHEREx was funded in February 2019 and the aim is to launch it in 2023. KASI is contributing system calibration and scientific research to the SPHEREx mission.

Space debris mitigation

The Republic of Korea is undertaking to mitigate space debris and promote the development of related technologies. In order to enhance awareness of space debris mitigation, the “Recommendations for the development and operation of spacecraft to reduce space debris” were established in 2020. To minimize the occurrence of space debris, the recommendations contain a call for technical recommendations, including design criteria from the planning stage to spacecraft disposal, manoeuvres to avoid collision risk, and disposal measures considering the remaining orbital life after the mission’s termination.

Capacity-building

The Republic of Korea is expanding its capacity-building programme to contribute to the Sustainable Development Goals and the “Space2030” Agenda. The Korea Aerospace Research Institute has invited some 30 to 40 researchers from emerging space-faring nations every year over the past decade to participate in the International Space Education Program, which shares the country’s experiences with satellite production, satellite image utilization and commercial use of remote sensing. However, owing to the COVID-19 pandemic, the next programme is planned to be held in 2021.

In 2020, the Republic of Korea has also agreed to host a workshop in 2021 as part of its contributions to the “Space for women” initiative of the Office for Outer Space Affairs, which is aimed at broadening the possibilities for women to pursue space-related education and careers.

Meanwhile, in November 2020, the second Korea Space Forum was held to promote international cooperation. The forum is a place to discuss global trends in space innovation, including space security, space exploration and technological development trends in emerging economies and private sectors.

Ukraine

[Original: English]

[29 December 2020]

International activities by Ukraine are aimed at promoting its interests in the space domain, including the introduction of products and services of space companies to foreign markets. Such activities are implemented in the following areas:

(a) Development of bilateral cooperation with countries all over the world (in particular, the United States of America, Canada, Japan, Mexico, Italy, France, the Netherlands, India, the Republic of Korea, China, Egypt and Kazakhstan), support of constant dialogue with partner space agencies and companies, and expansion and renewal of the legal bases of cooperation;

(b) Implementation of measures on the integration of Ukraine into European space activities, development of cooperation in space activities with the European Union, in particular, expanding opportunities for participation by Ukraine in European space projects (in accordance with the Ukraine-European Union Association Agreement);

- (c) Development of cooperation by Ukraine with the European Space Agency (ESA);
- (d) Participation in international space organizations and multilateral space initiatives;
- (e) Participation in international non-proliferation and export control regimes.

The State Space Agency of Ukraine (SSAU) (www.nkau.gov.ua/en/) is the government body of Ukraine that carries out international cooperation and implementation of foreign policy in space activities.

Owing to restrictions related to the global coronavirus disease (COVID-19) pandemic, a number of visits and international events (international organization forums and exhibitions) scheduled for 2020 were not held.

Bilateral cooperation

As of today, international agreements have been concluded with 28 countries. Cooperation agreements with Italy, Portugal, Japan, Malaysia and Viet Nam are being prepared for signature.

There is also ongoing interaction with space agencies in more than 30 countries to implement joint space projects.

United States of America

For more than 10 years, Ukrainian companies have been involved in the Antares project, making the core unit of the first stage for the launch vehicle of the American company Northrop Grumman, which delivers the Cygnus cargo spacecraft to the International Space Station.

On 12 November 2020, SSAU signed the Artemis Accords on the Principles for Cooperation in the Civil Exploration and Use of the Moon, Mars, Comets, and Asteroids for Peaceful Purposes.

Canada

Ukrainian companies take part in the commercial project of the Canadian company Maritime Launch Services on building a launch site for space launches in the Province of Nova Scotia. In the framework of cooperation, Ukrainian companies create and will supply the Cyclone-4M launch vehicle for the Canadian side. The launch vehicle's features are:

- (a) Focus on bringing the payload to low Earth orbits (including solar synchronous and, if necessary, launching into the International Space Station orbit);
- (b) The ability to launch one or more satellites to deploy their constellations;
- (c) A new two-stage design of the rocket, which is based on elements and solutions with a high level of development;
- (d) Environmentally friendly fuel components.

Italy

For almost 10 years, Ukrainian companies have been supplying an Italian company with a cruise engine of the stage IV (RD-843) for the European Space Agency's Vega launch vehicle.

Netherlands

A dialogue has been initiated between Delft Technical University and Yuzhnoye State Design Office regarding the participation of the Ukrainian company in an innovative project on the development of the LunarZebro nano lunar rover. The relevant memorandum of understanding is currently being agreed.

The Dutch remote sensing data-processing company OTP/NET has started cooperation with the Ukrainian aerospace company Eos Data Analytics within the framework of a consortium created by the Dutch partners to participate in the Horizon 2020 programme. The project, with a total cost of about 10 million euros, is designed for three years and is aimed at developing the latest space systems to ensure safe and efficient mining.

China

The Ukraine-China programme of cooperation in the space domain for the period 2016–2020 is being implemented. It includes 83 projects in the areas of rocketry, satellite technologies, remote sensing, satellite navigation, etc. The Ukraine-China programme of cooperation for the period 2021–2025 has been signed (it contains 69 items); it will be reviewed and supplemented annually in accordance with the needs of bilateral cooperation.

India

A contract for the provision of engineering services for fire tests of the semi-cryogenic rocket engine SE2000 material part at the Yuzhmash plant facilities is at the stage of implementation.

Kazakhstan

An agreement has been reached with the Aerospace Committee of the Ministry of Digital Development, Innovation and Aerospace Industry of Kazakhstan on the establishment of a joint working group on Earth remote sensing cooperation.

European integration

The development of cooperation between Ukraine and the European Union is a priority of the Ukrainian space industry and is carried out in accordance with the Ukraine-European Union Association Agreement. Currently, this cooperation is most active in the areas of Earth remote sensing (under the European programme Copernicus), space navigation (under the European programme European Geostationary Navigation Overlay Service (EGNOS)) and in the context of the participation of Ukraine in the European Union Framework Programme for Research and Innovation Horizon 2020.

Copernicus

Cooperation within the European Earth remote sensing satellite system Copernicus includes the organization and further exchange of remote sensing data between Ukraine and the European Union on a mutual, free, complete and open basis. The decision was made during a meeting of the Ukraine-European Union Working Group in December 2011.

On 25 May 2018, the Agreement between the State Space Agency of Ukraine and the European Commission on cooperation in the field of access to and use of Sentinel satellite data of the Copernicus programme was signed in Brussels. In pursuance of the agreement, in February 2019, SSAU and ESA concluded an agreement on the technical operation of the space component of the Copernicus programme.

In December 2019, on the basis of the National Space Facilities Control and Test Centre of SSAU, the main data access point of the regional mirror website of Copernicus was created (<http://sentinel.spacecenter.gov.ua>). Thus, starting from 1 December 2019, images of the territory of Ukraine obtained by the Sentinel-1, Sentinel-2 and Sentinel-C satellites are available on this site. In the future, it is planned that data from the Sentinel-SP satellite will also be obtained.

European Geostationary Navigation Overlay Service project

Cooperation within the EGNOS project includes measures to expand the operation of satellite systems that complement EGNOS on the territory of Ukraine.

On 12 March 2020, the first round of negotiations was held on the draft agreement between Ukraine and the European Union on expanding the coverage of the EGNOS system and providing access to the safety of life service. During the negotiations, the parties agreed on key aspects of the future agreement and discussed the technical features of the system implementation and the terms of the system's operation.

Horizon 2020

The Horizon 2020 national point of contact operates in SSAU, which provides informational and consulting assistance to relevant institutions on participation in the programme, current and future competitions, searching for European partners, etc.

SSAU also signed the COSMOS2020plus Consortium Agreement and joined the network of European points of contact of the Horizon 2020 programme.

At present, the enterprises of the space industry of Ukraine are implementing two projects under the Horizon 2020 programme.

Cooperation with the European Space Agency

The interaction between SSAU and ESA is carried out within the framework of the 2008 agreement between the Government of Ukraine and the European Space Agency on cooperation in the peaceful uses of outer space.

On 16 October 2020, an online meeting was held between SSAU-ESA, with the participation of their leaders, following which the parties were to identify several specific joint projects.

In addition, SSAU and ESA work together under the Copernicus programme (see above).

Participation in the work of international organizations

Ukraine took part in the work of the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space. A representative of Ukraine has been nominated for the position of Second Vice-Chair of the Committee for the period 2022–2023. Ukraine took part in the 71st International Astronautical Congress online, at which Yuzhnoye SDO gave six presentations on topical research in the rocket development and space area.

In August 2020, SSAU signed a memorandum with the Moon Village Association to ensure participation in the development of lunar projects.

SSAU is also a signatory to the Joint Declaration of Interest in the Space Climate Observatory, which is aimed at studying, monitoring and adapting to the effects of climate change, especially at the local level, using satellite Earth observation tools in combination with field data and models. Currently, SSAU carries out information support activities on the participation of Ukrainian companies in international Space Climate Observatory projects.

In early September 2020, SSAU participated in a meeting of the International Space Exploration Coordination Group. The Lunar Surface Exploration Scenario Update of the Global Exploration Roadmap includes opportunities for Ukraine to contribute to the NASA Artemis programme, as well as the following Moon Village Association initiatives: (a) creation of a power plant for the lunar base; (b) development of a Cubesat that will provide images of the Moon from several viewpoints; and (c) the creation of a solar thermoelectric generator designed for the production of renewable energy.

In October 2020, a meeting of the working subgroup on science and innovation of the Organization for Democracy and Economic Development (GUAM) Working Group on Science and Education was held, at which SSAU proposed studying the creation of a joint regional integrated structure that would ensure the most efficient use of the resources of each participating State for their national programmes and future joint projects.
