UNITED NATIONS
OFFICE FOR OUTER SPACE AFFAIRS

2015

Annual Report

UNITED NATIONS

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Annual Report 2015

UNITED NATIONS
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Foreword

The year 2015 was an eventful and crucial year for the United Nations. Historic agreements, including the adoption of the 2030 Agenda for Sustainable Development, the Paris Agreement on climate change and the finalization of the Sendai Framework for Disaster Risk Reduction, perfectly underline the willingness of the international community to work as one, collaboratively addressing global issues and targeting our common concerns.

The envisioned goals are ambitious, and they come at a time when global issues call for innovative answers and breaking new ground.

Furthermore, the agreements will have a game-changing influence on the way we, as the United Nations, will work. It is now time to roll up our sleeves and truly start implementing these commitments.

Space can provide us with one of the many keys to achieve the agreed sustainable development targets. It has the transformative power to address our concerns in a fresh way. Space is a source of inspiration and gives us the feeling that everything is possible.

Space unifies, and a united international community will be essential if those targets are to be achieved.

Lastly, *Space* provides us with unique tools, new cutting-edge technology and innovative solutions.

All of this puts the United Nations Office for Outer Space Affairs (UNOOSA), with its unique mandate, at the centre of our joint problem-solving efforts, and 2015 can be seen as the first step in this direction. With the adoption of the Committee on the Peaceful Uses of Outer Space (COPUOS) to celebrate the fiftieth anniversary of the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space, UNISPACE+50 in Vienna in 2018, the spotlight is on UNOOSA to strengthen the unified efforts of the international community to shape global space governance and its contribution to a more sustainable, safer and prosperous future.

At a time when the space sector is becoming more and more contested and complex and the number of space activities is constantly rising, UNOOSA offers the place and opportunity to bring together all the relevant stakeholders working on the "sustainable future of space" and the "sustainable future of the Earth".

Mr. Yury Fedotov
Director-General
United Nations Office at Vienna

Foreword

At the United Nations Office for Outer Space Affairs (UNOOSA), 2015 will be remembered as the year we took stock of the achievements of the past 50 years in promoting international cooperation in the peaceful use and exploration of outer space. It was also the year we looked towards the future with the aim of keeping more in step with our rapidly changing world.

We at UNOOSA believe in change. We believe that our role as the secretariat to the Committee on the Peaceful Uses of Outer Space (COPUOS) and its subcommittees represents a considerable asset for Member States. Furthermore, we believe that our unique position as the gateway to space activities in the United Nations system will be of great assistance to Member States, in particular to developing countries.

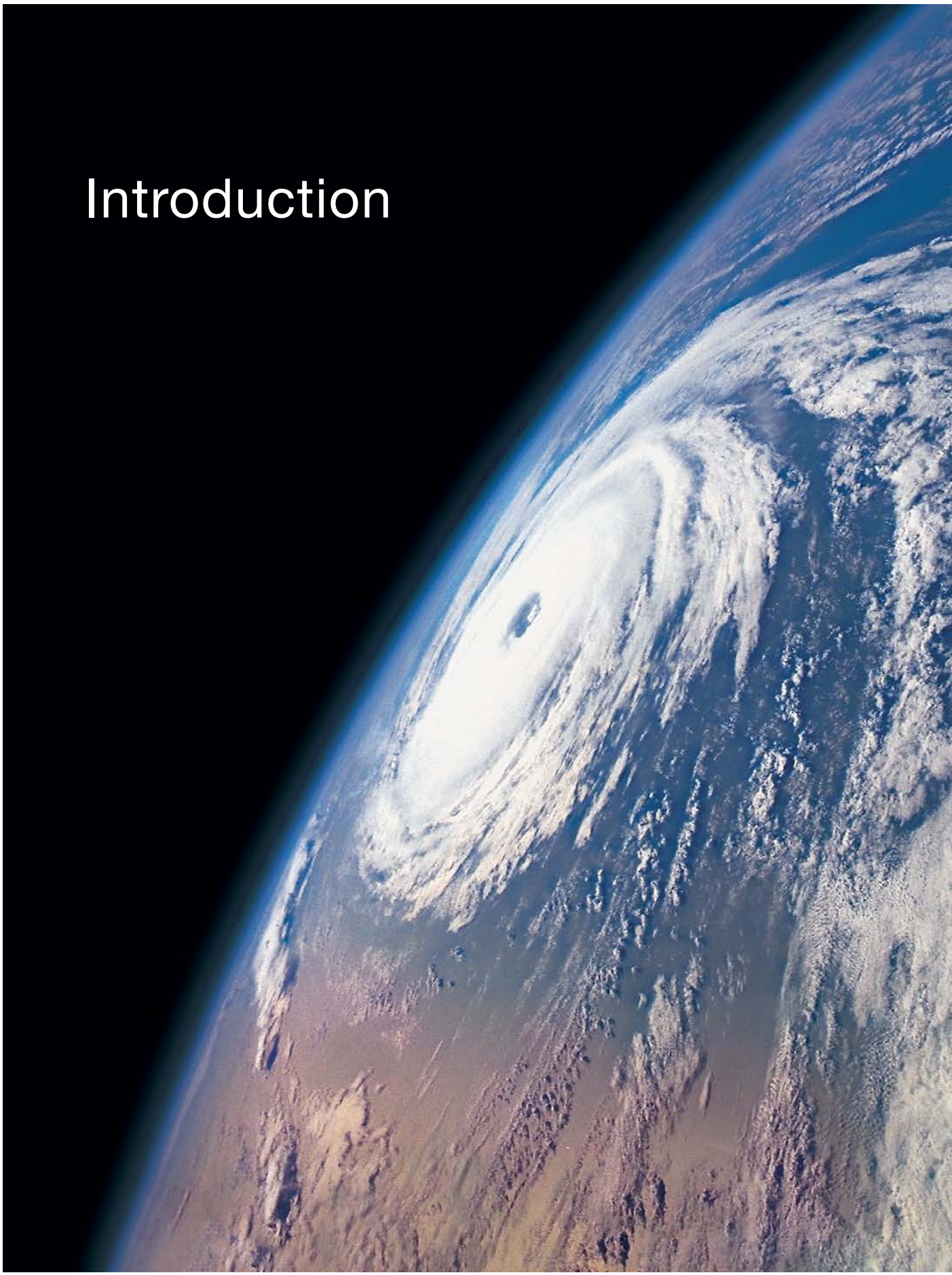
Throughout 2015 UNOOSA was involved in a flurry of activity. Our website was revamped, making it more user-friendly for both Member States and the public at large; new partnerships increased the number of stakeholders working closely with us, and landmark decisions were taken, in particular COPUOS gave the go-ahead for UNISPACE+50, which will allow Member States in June 2018 to shape important issues in the future. All in all, there were a number of first-time achievements and challenges.

This annual report is also a "first", in that it is the first time that UNOOSA has reviewed its achievements in this format. This approach will mark the beginning of a new phase, in which the general public will also get a better understanding of the important role the United Nations plays in the use of space research, technology and applications for the benefit of our day-to-day lives. This is even more true when we consider how space can open new markets and develop economic benefits (space economy), how we as citizens of planet Earth can benefit from space activities (space society), how we can support sustainable development worldwide (space accessibility), and how we can support international cooperation through our activities (space diplomacy).

Looking back on an eventful and successful year, my thoughts turn to the future. Our goals for UNOOSA are to continue promoting its unique role as a key organization, addressing questions concerning the peaceful use of outer space, fostering international cooperation in outer space activities, and functioning as a hub to streamline the United Nations' efforts when it comes to outer space, for the benefit of humankind. The information contained in this first UNOOSA Annual Report will serve us well in this endeavour.

Ms. Simonetta Di Pippo
Director
Office for Outer Space Affairs

Introduction



About us

The United Nations Office for Outer Space Affairs (UNOOSA) works to promote international cooperation in the peaceful use and exploration of space, and in the utilization of space science and technology for sustainable economic and social development.
The Office supports all United Nations Member States in establishing legal and regulatory frameworks to govern space activities and assists in strengthening the capacity of developing countries to use space science, technology and applications for development by helping to integrate space capabilities into national development programmes.

Over 6.1 billion people are represented by the 83 members of COPUOS

Roles and responsibilities

UNOOSA is the sole United Nations office responsible for promoting international cooperation in the peaceful uses of outer space. The Office serves as the secretariat for the General Assembly's only committee dealing exclusively with international cooperation in the peaceful uses of outer space: the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS). The Committee has two subsidiary bodies: the Scientific and Technical Subcommittee, and the Legal Subcommittee, both established in 1961. The Committee reports to the Fourth Committee of the General Assembly, which adopts an annual resolution on international cooperation in the peaceful uses of outer space. UNOOSA also discharges the Secretary-General's responsibilities under international space law and maintains the United Nations Register of Objects Launched into Outer Space.

The Programme on Space Applications is mandated to promote greater cooperation and build capacity in space science and technology. The priorities of the Programme include building indigenous capability in the areas of basic space sciences, basic space technology and human space technology, and promoting the Global Navigation Satellite System and integrated space technology applications in the areas of global health, disaster management, climate change, humanitarian assistance, environmental monitoring and natural resource management.

The Office works closely with United Nations Member States to support their capacity-building efforts in space activities and their development of national space infrastructure. The Office does this by organizing workshops on space-based technology subjects, space law and policy, as well as on questions relating to international cooperation in space activities and on United Nations space-related activities.

Furthermore, UNOOSA is the executive secretariat of the International Committee on Global Navigation Satellite Systems (ICG), which promotes voluntary cooperation on matters of interest related to civil satellite-based positioning, navigation, timing and value-added services.

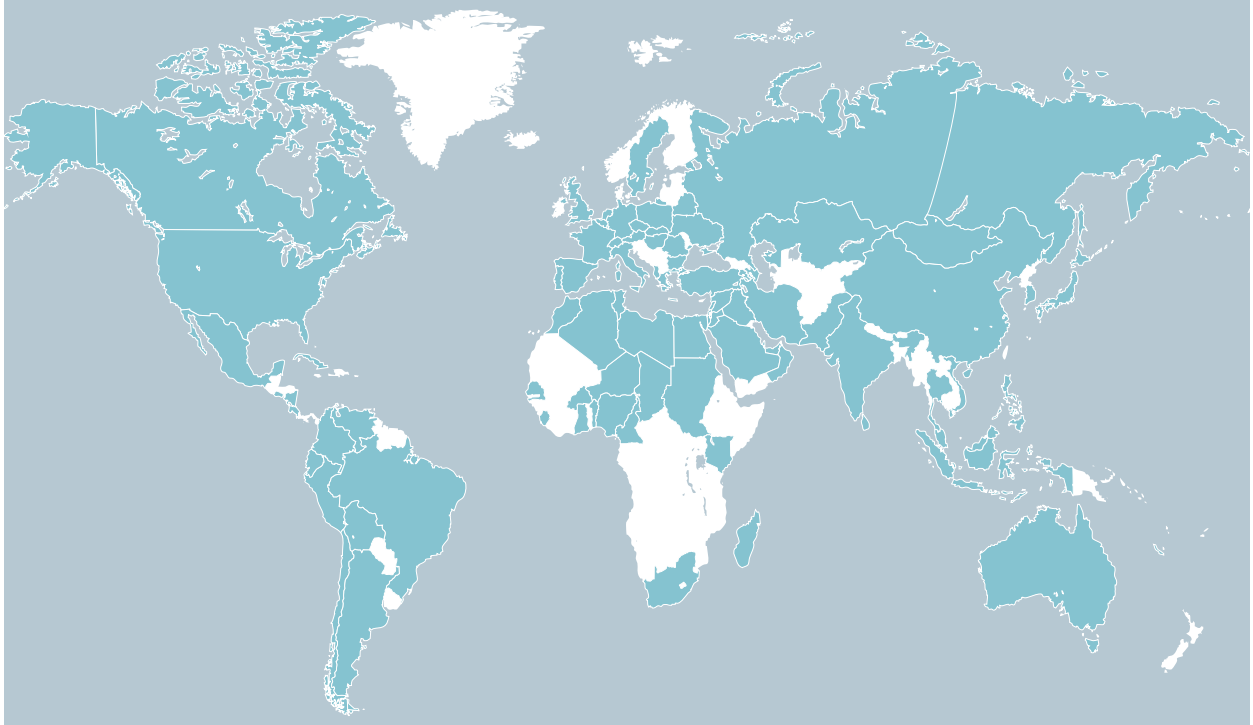
UNOOSA prepares and distributes reports, studies and publications on various fields of space science, technology applications and international space law. These documents and reports are available through the UNOOSA website.

UNOOSA is located at the United Nations Office at Vienna (UNOV), and has satellite offices in Beijing and Bonn, Germany.

Number of satellites and other functional space objects registered in 2015

Argentina	2
Australia	1
Azerbaijan	1
China	2
France	3
Japan	6
Mexico	2
Norway	1
Republic of Korea	1
Russian Federation	40
United Kingdom	11
United States	135
European Space Agency (ESA)	1
European Organization for the Exploitation of Meteorological Satellites (EUMETSAT)	1
TOTAL	**207**

Members of the Committee on the Peaceful Uses of Outer Space



Albania
Algeria
Argentina
Armenia
Australia
Austria
Azerbaijan
Belgium
Belarus
Benin
Bolivia (Plurinational State of)
Brazil
Bulgaria
Burkina Faso
Cameroon
Canada
Chad
Chile
China
Colombia
Costa Rica
Cuba
Czech Republic
Ecuador
Egypt
El Salvador
France
Hungary
Germany
Ghana
Greece
India
Indonesia
Iran (Islamic Rep. of)
Iraq
Israel
Italy
Japan
Jordan
Kazakhstan
Kenya
Lebanon
Libya
Luxembourg
Malaysia
Mexico
Mongolia
Morocco
Netherlands
Nicaragua
Niger
Nigeria
Oman
Pakistan
Peru
Philippines
Poland
Portugal
Qatar
Republic of Korea
Romania
Russian Federation
Saudi Arabia
Senegal
Sierra Leone
Slovakia
South Africa
Spain
Sri Lanka
Sudan
Sweden
Switzerland
Syrian Arab Republic
Thailand
Tunisia
Turkey
United Arab Emirates
United Kingdom of Great Britain and Northern Ireland
United States of America
Ukraine
Uruguay
Venezuela (Bolivarian Rep. of)
Viet Nam

Organizational structure

UNOOSA Director

The Office is headed by Director Simonetta Di Pippo, who leads the Office's strategies, policies and activities, ensuring that they are implemented in accordance with the mandates of the General Assembly, COPUOS, and the established policies of the United Nations. Furthermore, she supervises the implementation of the United Nations Programme on Space Applications, and the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER). The Director advises the Secretary-General of the United Nations and the Director-General of the United Nations Office at Vienna, provides expertise on matters relating to the peaceful uses of outer space, and discharges the Secretary-General's obligations under international space law.

Office of the Director

The Office of the Director holds responsibility for administrative as well as budgetary oversight of the Office, and oversees and maintains the United Nations Register of Objects Launched into Outer Space. The Office of the Director also handles UNOOSA's public relations, including awareness-raising and outreach activities.

Committee, Policy and Legal Affairs Section

As part of UNOOSA's efforts to support the intergovernmental processes in the area of space activities that take place within the United Nations framework, the Committee, Policy and Legal Affairs Section (CPLA) of UNOOSA provides substantive secretariat services to COPUOS, its Scientific and Technical Subcommittee and Legal Subcommittee, and related working groups. Just as UNOOSA leads UN-Space (the Inter-Agency Meeting on outer space activities), CPLA convenes and services the sessions of UN-Space. Mr. Niklas Hedman has served as Chief of the Committee, Policy and Legal Affairs Section since January 2006.

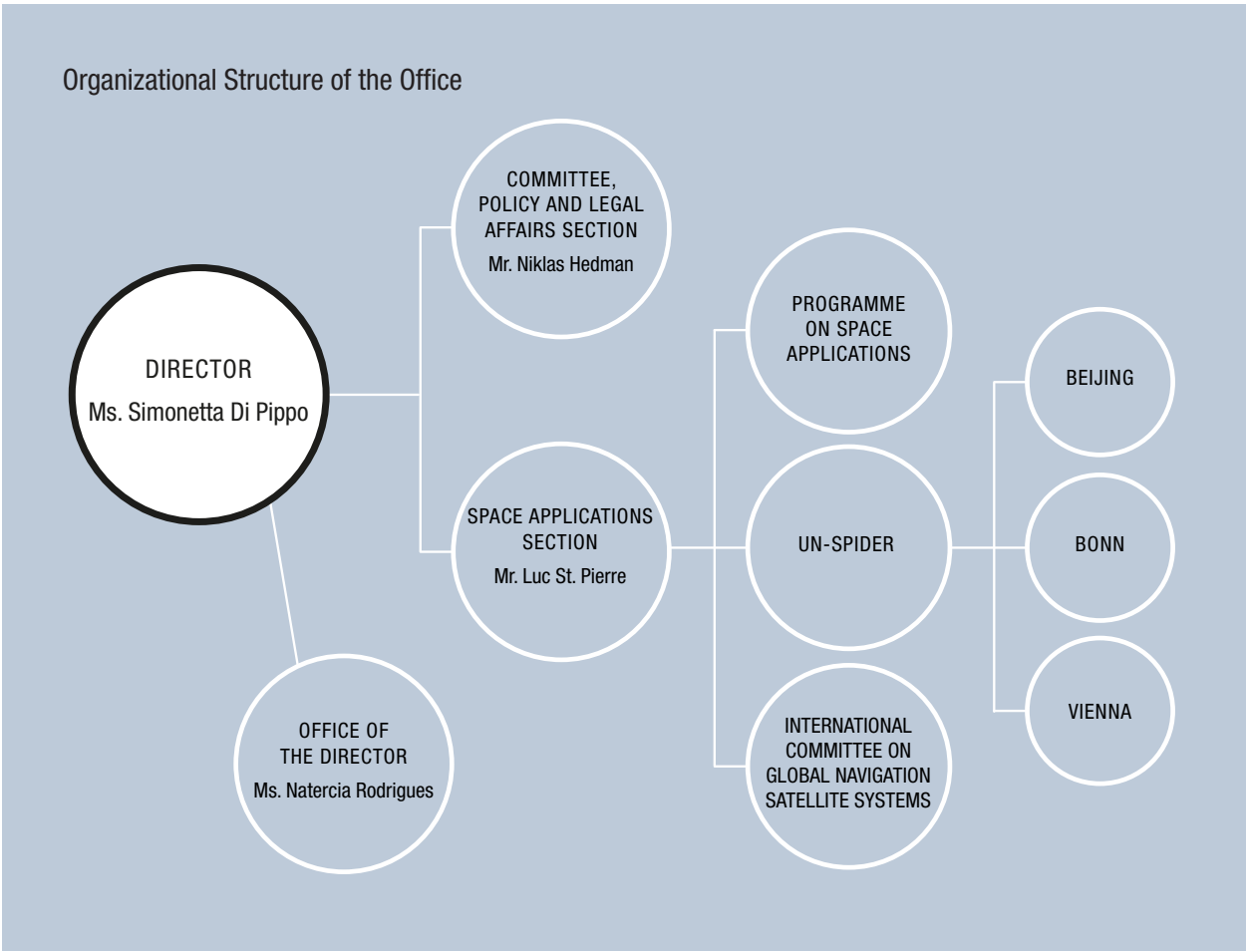
Space Applications Section

As a result of the increasing emphasis on the practical applications of space technology, the Office has been more and more involved in implementing decisions of COPUOS and its subsidiary bodies related to the promotion of international cooperation in the uses of space research and technology for economic and social development. Starting with the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE) in 1968, the Office, through its Space Applications Section, carries out programmes designed to raise awareness and provide training on the practical applications of space technology, in particular for developing countries. In the course of 2015, Mr. Takao Doi served as the Chief of the Space Applications Section.[1]

UN-Space is a coordination mechanism for United Nations System space activities

[1]Mr. Luc St-Pierre serves as of April 2016 as Chief of the Space Applications Section.

Organizational Structure of the Office



I. Highlights

The year 2015 was a major milestone for both the international community and UNOOSA. International cooperation in the peaceful uses of outer space is rapidly growing in importance as space technology is able to provide innovative solutions with transformative power to help implement the Sustainable Development Goals (SDGs), the Sendai Framework for Disaster Risk Reduction 2015-2030, and the Paris Agreement on climate change. The official start of the "UNISPACE+50" strategic plan in 2015 will guide the future role of UNOOSA and COPUOS in global space governance.

COPUOS identified in 2015 the following cross-cutting topics to present the unique role of UNOOSA: *Governance, Capacity-building, Resiliency, Interoperability* and *Space for sustainable development.* Moreover, the Committee and its subsidiary bodies decided that "UNISPACE+50" should address a set of thematic priorities to be agreed in the preparatory years 2015-2017.

Additionally, in the lead-up to UNISPACE+50, a High-level Forum on the theme *Space as a Driver for Socioeconomic Sustainable Development*, to be held each year from 2016-2018, will provide an opportunity for the space community as a whole to address the cross-sectoral impacts of integrating economic, environmental, social, policy and regulatory dimensions of space in pursuit of global sustainable development. It will also constitute a platform for the community to provide assistance and recommendations for the UNISPACE+50 road map, based on the following four pillars:

Space economy – Addressing the full range of activities and use of resources that create and provide value and benefits to human beings in the course of exploring, understanding and utilizing space.

Space society – Discussing a society that carries out its core functions while making the best use of space technologies and space-based services and applications.

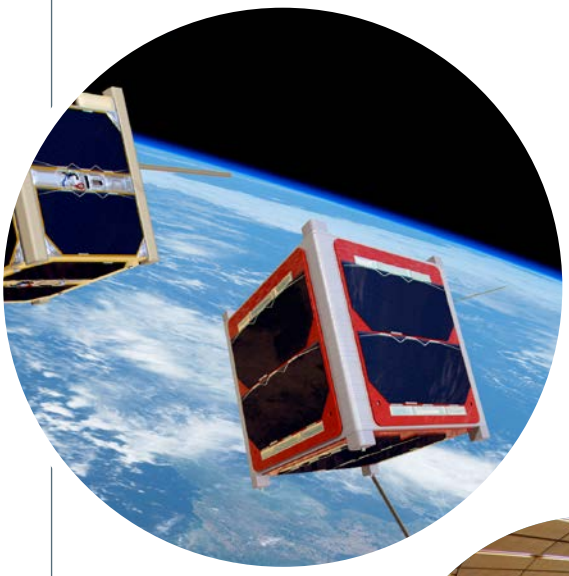
Space accessibility – Enabling all user communities and decision makers to benefit, on an equal basis, from space technologies and space-based data.

Space diplomacy – Fostering cooperation among nations in using space technologies and applications to address common challenges facing humanity and to build constructive, knowledge-based partnerships.

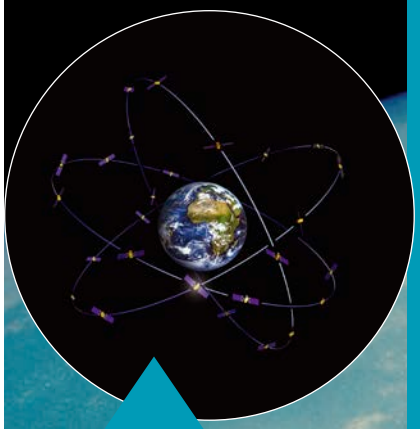
Against this backdrop, and in order to best prepare the Office for this crucial upcoming period, UNOOSA has strategized, with the participation of all staff members, its priorities and activities to lay the foundations for the preparation and implementation of UNISPACE+50.

In 2015, UNOOSA continued to support Member States in their use of space technology and applications, and space-based data and information for advancing global socioeconomic development. Protecting the space environment and securing the long-term sustainability of outer space activities will require further attention from the international community, which in turn emphasizes the case for stronger space governance.

More detailed information on these and other activities is featured overleaf.



Highlights of 2015

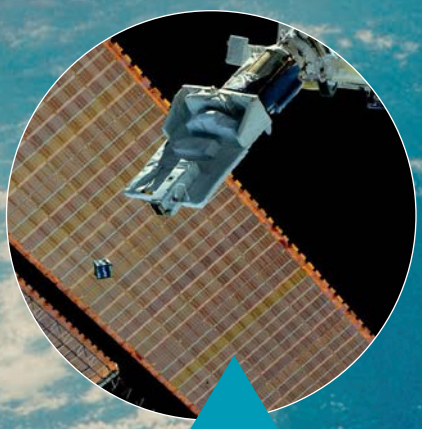


Setting the scene for the first High-level Forum

UNOOSA organized a one-day preparatory meeting on 19 November 2015 ahead of a series of High-level Forums on *Space as a Driver for Socioeconomic Sustainable Development*, scheduled for 2016-2018. The November meeting brought together decision makers from governments and space agencies, as well as representatives of the private sector, to address the four guiding thematic pillars: space economy, space society, space accessibility and space diplomacy.

Sendai Framework for Disaster Risk Reduction, 2015-2030

UNOOSA's role in coordinating partners ensured that the value of space-based technology and Earth observation (EO) for disaster management and emergency response was recognized and reflected in the "Sendai Framework for Disaster Risk Reduction 2015-2030". Through UN-SPIDER, UNOOSA also launched the Global Earth Observation Partnership with 17 other partners in March 2015 to facilitate the use of EO and space-based technologies in pursuit of the Sendai Framework's main goal and seven targets.



KiboCUBE initiative

UNOOSA signed an agreement with the Japan Aerospace Exploration Agency (JAXA) to create launch opportunities for small satellites built by developing countries. The joint KiboCUBE initiative will offer educational and research institutions from developing countries the opportunity to deploy cube satellites (CubeSats) from the International Space Station. A competitive selection process began in September 2015 and the first selected CubeSat will be announced in the second half of 2016.

#whyspacematters

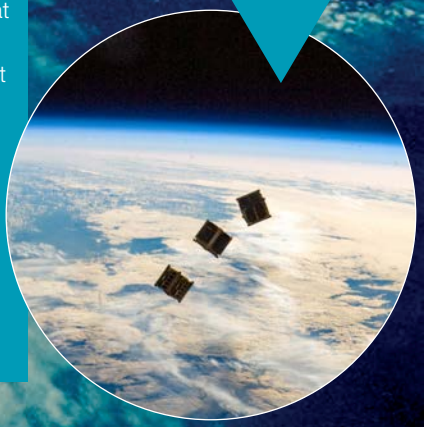
In June 2015, UNOOSA collaborated with the United States National Aeronautics and Space Administration (NASA) and astronaut Scott Kelly of the International Space Station to promote an eight-month long global photography competition to highlight the importance of outer space for sustainable development. Participants submitted pictures to UNOOSA's Instagram account (@UNOOSA) using the #whyspacematters hashtag. Each month, Mr. Kelly announced the winning photo by posting it from his Instagram account @StationCDRKelly. Over 1,000 photographs were posted during the campaign.

My Planet from Space

An exhibition of spectacular satellite images and videos to demonstrate the beauty and fragility of Earth and the challenges of climate change was held at United Nations Headquarters in New York from 9 July to 9 September 2015. It was organized by UNOOSA and coordinated and produced by the European Space Agency (ESA). Closing ceremony speakers included United Nations Secretary-General Ban Ki-moon, the Director of the ESA's Earth Observation Programmes, Volker Liebig, and UNOOSA Director Simonetta Di Pippo.

Guidance for small satellite developers and operators

Small and very small satellites and their applications have enabled an increasing number of governmental and non-governmental organizations to participate in, and benefit from, space activities. UNOOSA and the International Telecommunication Union worked together to produce a guidance document to assist small satellite developers and operators with space object registration and frequency management. The document also covers the authorizing and licensing of satellite missions, as well as space debris mitigation measures.



Highlights of 2015

Revamped UNOOSA website

UNOOSA launched its new website (www.unoosa.org) in June 2015. With easier navigation, improved access to information, and a multimedia section, the website was designed to better serve the Member States of the Committee and its subsidiary bodies, and to raise awareness of the work of the Office. The website's upgrade reflects the Office's continuing efforts to promote the benefits of space for humankind.

Space for agriculture development and food security

Eradicating hunger and guaranteeing food and nutrition security for all requires global action using advanced tools and solutions. In 2015, UNOOSA published a brochure entitled *Space for Agriculture Development and Food Security,* which describes how space-based technologies are used to support decision-making in the fields of agriculture and food security, highlighting the United Nations organizations that use space-based technologies in their efforts to ensure access to sufficient food for all.

Tenth anniversary of the ICG

The International Committee on Global Navigation Satellite Systems (ICG) recognizes that this technology has become a truly international resource, affirming the willingness of providers and users alike to ensure that satellite services continue to be available in the future for the benefit of humankind.
To commemorate the tenth anniversary of the ICG in 2015, UNOOSA published a report entitled *International Committee on Global Navigation Satellite Systems: The Way Forward—10 years of achievement 2005-2015.*

Engineering the first joint ad hoc meeting of the First Committee and Fourth Committee

A joint ad hoc meeting of the United Nations General Assembly First Committee (Disarmament and International Security) and the Fourth Committee (Special Political and Decolonization) was held on 22 October 2015 in New York. This was an innovative effort to bring together, for the first time, two Committees of the General Assembly to address possible challenges to space security and sustainability in a holistic way.

NASA astronaut Scott Kelly addresses the Sustainable Development Summit

Facilitated by UNOOSA, NASA astronaut Scott Kelly addressed the United Nations General Assembly via a video message from space during the 2015 Sustainable Development Summit, held on 25-27 September. Floating inside the International Space Station, Mr. Kelly spoke of the splendour and vulnerability of the Earth as seen from space and emphasized the need to care for our atmosphere and each other.

COPUOS commits to UNISPACE+50

At its fifty-eighth session in June 2015, the Committee on the Peaceful Uses of Outer Space (COPUOUS) endorsed plans to celebrate the fiftieth anniversary of the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space. An ambitious undertaking, UNISPACE+50 is to take place in 2018 and will consider the current status and chart the future role of the Committee, its subsidiary bodies and UNOOSA as important players in shaping global space governance.

II. Space and development

The space age began on 4 October 1957 with the launch of the first artificial satellite, Sputnik 1. Soon after, the Member States of the United Nations declared that space should be used exclusively for peaceful purposes to improve life on Earth and for the benefit of all countries, irrespective of their degree of economic or scientific development.

In the following decades, the applications of space activities expanded quickly and demonstrated their usefulness by making important contributions to social and economic development. The use of space science and technology offered benefits for fields as diverse as aviation, maritime and land transportation, urbanization, mapping and surveying, human health, disaster management, food security and sustainable agriculture, environmental monitoring and natural resource management.

At the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE), Member States recommended the creation of a dedicated programme within the framework of the United Nations. In 1971, the United Nations Programme on Space Applications was established in what was then the United Nations Outer Space Division.

Following the second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82), held in 1982, the mandate of the Programme was broadened and ultimately resulted in the establishment of six Regional Centres for Space Science and Technology Education, affiliated to the United Nations.

The third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), held in 1999, aimed to further increase the benefits that could be derived from space technology and its applications. It led to the establishment of the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER) and the International Committee on Global Navigation Satellite Systems, a forum of providers and user communities of Global Navigation Satellite Systems.

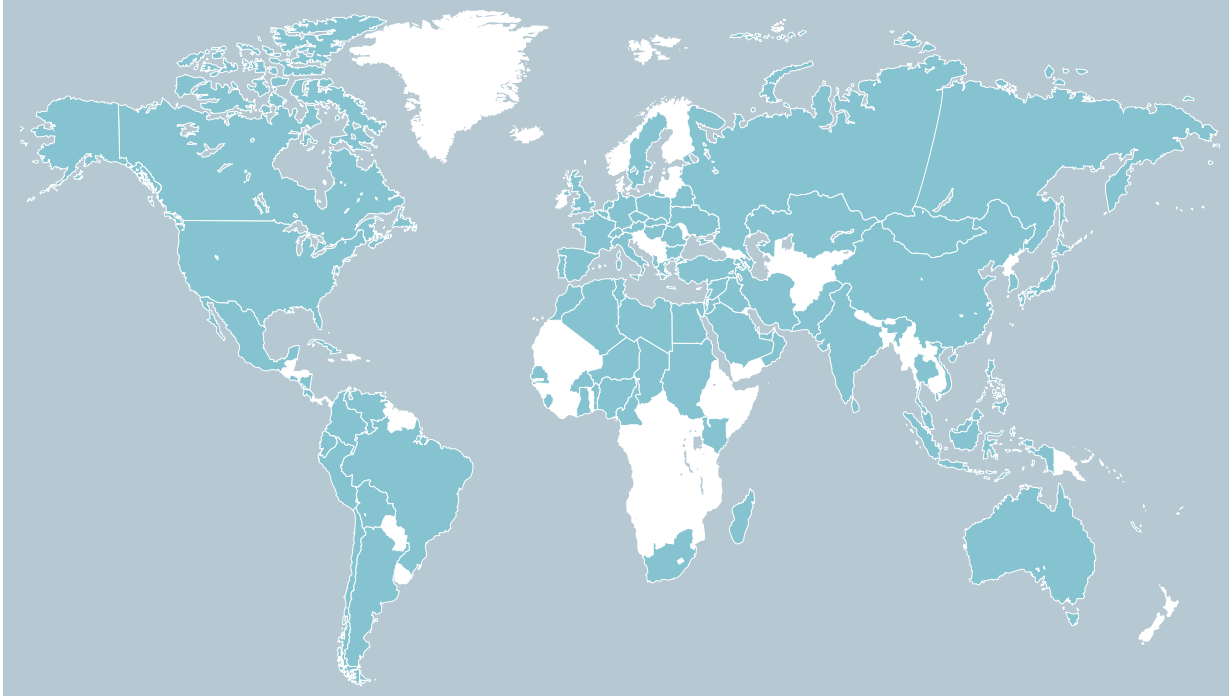
Since its inception, the Programme has organized approximately 300 training courses, workshops, seminars and conferences, and has provided funding support for more than 18,000 participants, mainly from developing countries. In addition to the support given to the six Regional Centres for Space Science and Technology Education, the Programme also cooperates with academic institutions to offer long-term fellowship programmes.

In the past few years the Programme has also introduced various initiatives. The *Basic Space Science Initiative* focuses on education and research activities in astronomy and astrophysics, and the *Basic Space Technology Initiative* promotes the establishment of indigenous capacities in basic space technology, particularly in mastering the development and operation of small satellites. The *Human Space Technology Initiative* aims at encouraging international cooperation in human space flight and space exploration-related activities.

More than 40 years after its establishment, the United Nations Programme on Space Applications, under UNOOSA, continues to evolve. It does so by taking into account the latest developments in space science and technology to serve the capacity-building needs of countries, to ensure that space-based solutions contribute to promoting international cooperation and, ultimately, to improving life on Earth.

Within the framework of the Programme on Space Applications, activities in 2015 were aimed at building capacity in the use of space science and technology in developing countries, as well as at raising awareness of the socioeconomic benefits of space technology applications at the national, regional and international levels. These activities have been grouped in strategic topics in order to streamline the overall programme.

Countries served in 45 years



Albania
Algeria
Argentina
Armenia
Australia
Austria
Azerbaijan
Belgium
Belarus
Benin
Bolivia (Plurinational State of)
Brazil
Bulgaria
Burkina Faso
Cameroon
Canada
Chad
Chile
China
Colombia
Costa Rica
Cuba
Czech Republic
Ecuador
Egypt
El Salvador
France
Hungary
Germany
Ghana
Greece
India
Indonesia
Iran (Islamic Rep. of)
Iraq
Israel
Italy
Japan
Jordan
Kazakhstan
Kenya
Lebanon
Libya
Luxembourg
Malaysia
Mexico
Mongolia
Morocco
Netherlands
Nicaragua
Niger
Nigeria
Oman
Pakistan
Peru
Philippines
Poland
Portugal
Qatar
Republic of Korea
Romania
Russian Federation
Saudi Arabia
Senegal
Sierra Leone
Slovakia
South Africa
Spain
Sri Lanka
Sudan
Sweden
Switzerland
Syrian Arab Republic
Thailand
Tunisia
Turkey
United Arab Emirates
United Kingdom of Great Britain and Northern Ireland
United States of America
Ukraine
Uruguay
Venezuela (Bolivarian Rep. of)
Viet Nam

Global Navigation Satellite Systems

The use of the signals received from existing Global Navigation Satellite Systems has become a cross-cutting tool to support growth in precise positioning applications. The International Committee on Global Navigation Satellite Systems addresses the pursuit of freely available worldwide access to civil satellite navigation systems and the compatibility and interoperability of these systems.

Disaster risk reduction and emergency response

The web-based knowledge portal (www.un-spider.org), which is administered by the Office through its UN-SPIDER programme, centralizes material on space-based information and solutions to support disaster risk management and emergency response. Technical advisory support, which can vary from a simple exchange of information to an in-depth fact-finding technical advisory mission (TAM), is provided to ensure that countries receive systematic and continuous technical advisory assistance for the use of space-based solutions in their disaster management plans and policies, and in the implementation of risk reduction activities. In addition to workshops and expert meetings to promote the use of space-based information for the full disaster management cycle, in 2015 TAMs were organized in Honduras and Lao People's Democratic Republic.

Natural resource management and environmental monitoring

Space applications play an important role in natural resource management and environmental monitoring. Remotely sensed data, in particular, provide an unparalleled view of the Earth for studies that require synoptic or periodic observations such as inventory, surveying, agriculture, hydrology, geology, mountain ecological studies, mineralogy, land cover, land use and the environment. Space-derived information, and its analysis and visualization, offers substantial input into decision-making processes throughout the world, and can become critical in actions undertaken towards achieving internationally agreed sustainable development goals.

Climate change

On multiple occasions, Secretary-General Ban Ki-moon has described climate change as the defining challenge of our age. Its impact is already evident and will intensify over time if left unaddressed. As part of the global array of networks and systems to monitor climate change, satellites now provide a vital means of bringing observations of the climate system together for a global perspective.

Space technology applications and global health

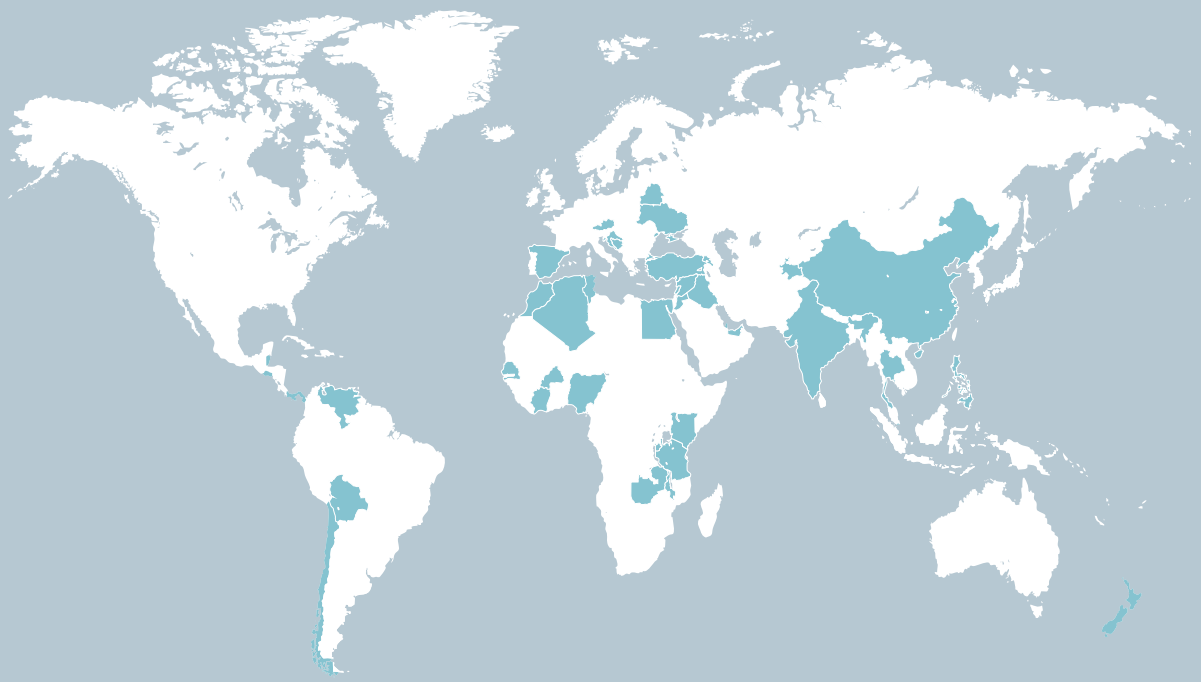
In recent years, information derived from Earth observation and meteorological satellites, in combination with geographic information systems and Global Navigation Satellite Systems, has increasingly been employed to study disease epidemiology. This enables greater use of spatial analysis to identify the ecological, environmental and other factors that contribute to the spread of vector-borne diseases by locating "hot spots", monitoring disease patterns, and by defining the areas that require disease-control planning.

The Programme on Space Applications coordinates its efforts with the appropriate United Nations entities and international organizations, such as the World Health Organization and the European Space Agency, which undertake initiatives and programmes to address the needs of developing countries in tele-health and tele-epidemiology.

Space technology applications and socioeconomic benefits

The last decades have witnessed space technology becoming increasingly applicable and relevant in daily life, which has in turn brought about an increase in the awareness of the importance of space-based solutions. Actions are required to demonstrate to decision makers the cost-effectiveness of these applications and to sensitize them to the relevant legal and institutional obligations. In this context, UNOOSA provides support for the development of institutional capacity that will strengthen and sustain space-related activities.

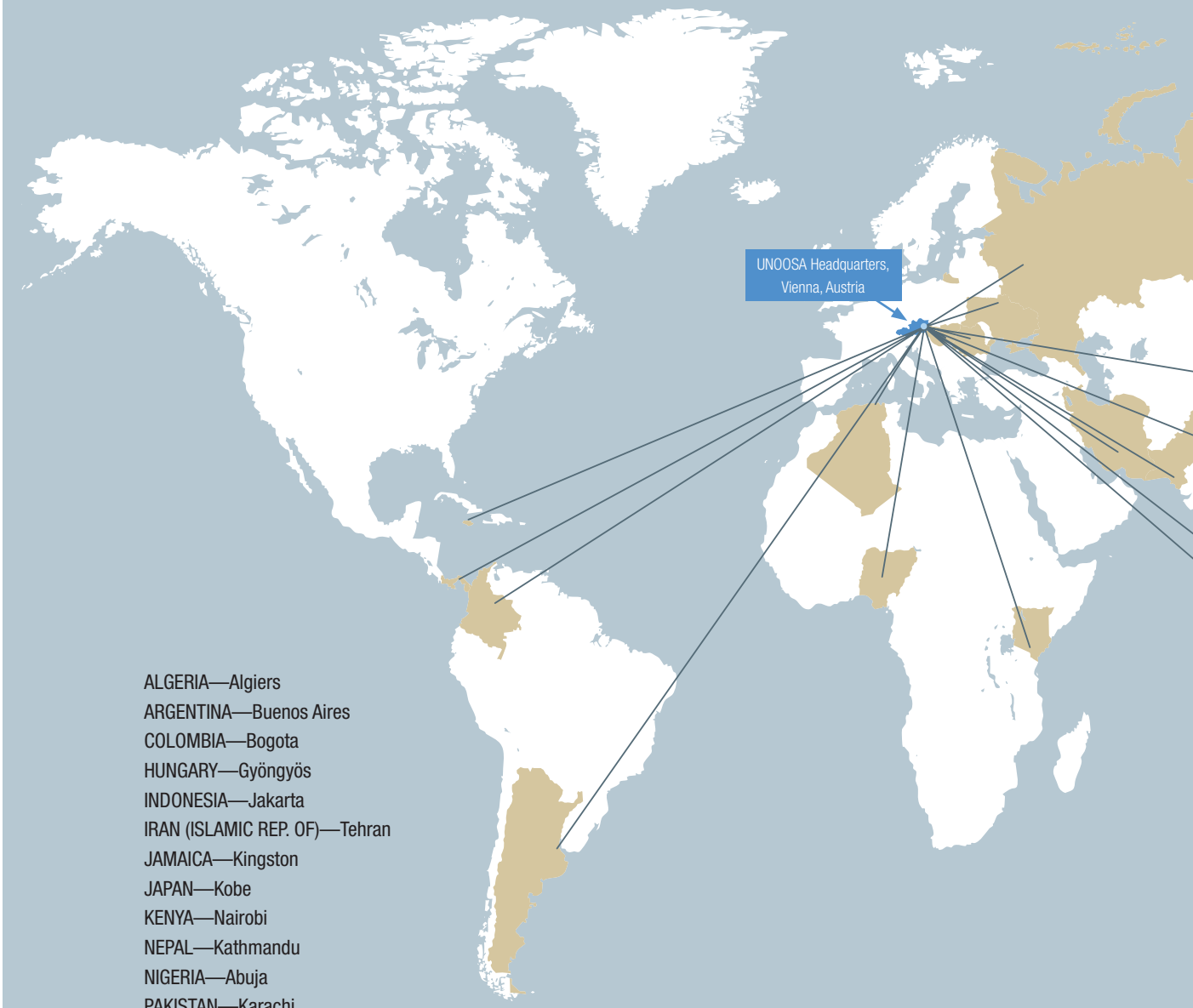
UN-SPIDER National Focal Points



Algeria	China	Malawi	Republic of Korea	Turkey
Armenia	Côte d'Ivoire	Malta	Senegal	Ukraine
Austria	Croatia	Mauritius	Singapore	United Arab Emirates
Belarus	Egypt	Morocco	Spain	United Republic of Tanzania
Belize	El Salvador	Myanmar	Syrian Arab Republic	Venezuela (Bolivarian Rep. of)
Bolivia (Plurinational State of)	India	New Zealand	Thailand	Zambia
Bosnia and Herzegovina	Iraq	Nigeria	Tajikistan	
Burkina Faso	Jordan	Panama	Togo	
Burundi	Kenya	Philippines	Trinidad and Tobago	
Chile	Lebanon	Qatar	Tunisia	

More than 18,000 participants have attended approximately 300 UNOOSA training activities in the last 45 years

UN-SPIDER Regional Support Offices

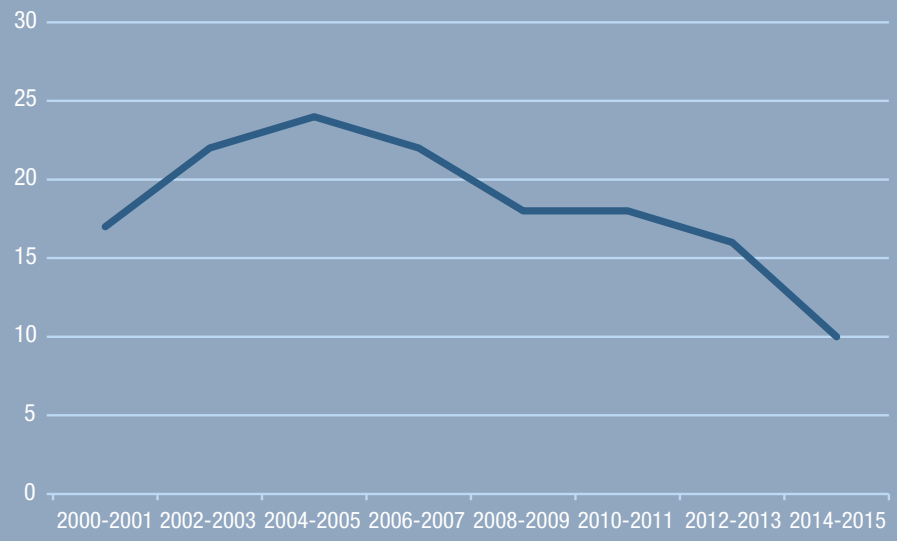


ALGERIA—Algiers
ARGENTINA—Buenos Aires
COLOMBIA—Bogota
HUNGARY—Gyöngyös
INDONESIA—Jakarta
IRAN (ISLAMIC REP. OF)—Tehran
JAMAICA—Kingston
JAPAN—Kobe
KENYA—Nairobi
NEPAL—Kathmandu
NIGERIA—Abuja
PAKISTAN—Karachi
PANAMA—Panama City
ROMANIA—Bucharest
RUSSIAN FEDERATION—Moscow
SRI LANKA—Colombo
UKRAINE—Kiev

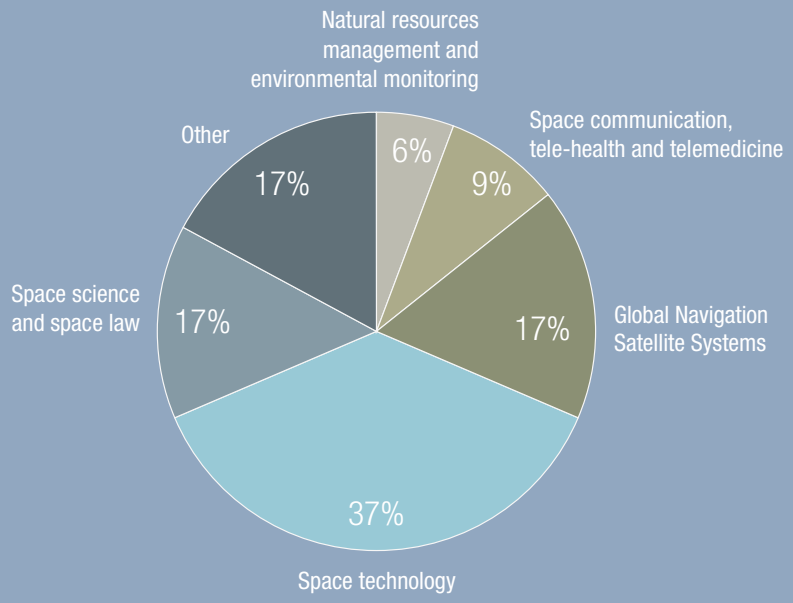
Regional Centres for Space Science and Technology Education, affiliated to the United Nations

Following UNISPACE 82 in 1982, the United Nations General Assembly endorsed the recommendation of the Scientific and Technical Subcommittee of COPUOS to establish regional centres for space science and technology education in developing countries. Subsequently, under the auspices of the United Nations, through the Programme on Space Applications, six Regional Centres for Space Science and Technology Education have been created. They are located in the regions that correspond to the United Nations Economic Commissions for Africa (Morocco, Nigeria), Asia and the Pacific (China and India), Latin America and the Caribbean (Brazil and Mexico), and Western Asia (Jordan). The Regional Centres are affiliated to the United Nations through UNOOSA. Each Regional Centre is conceived as an institution that offers its participants the best possible education and research opportunities in all of its programmes.

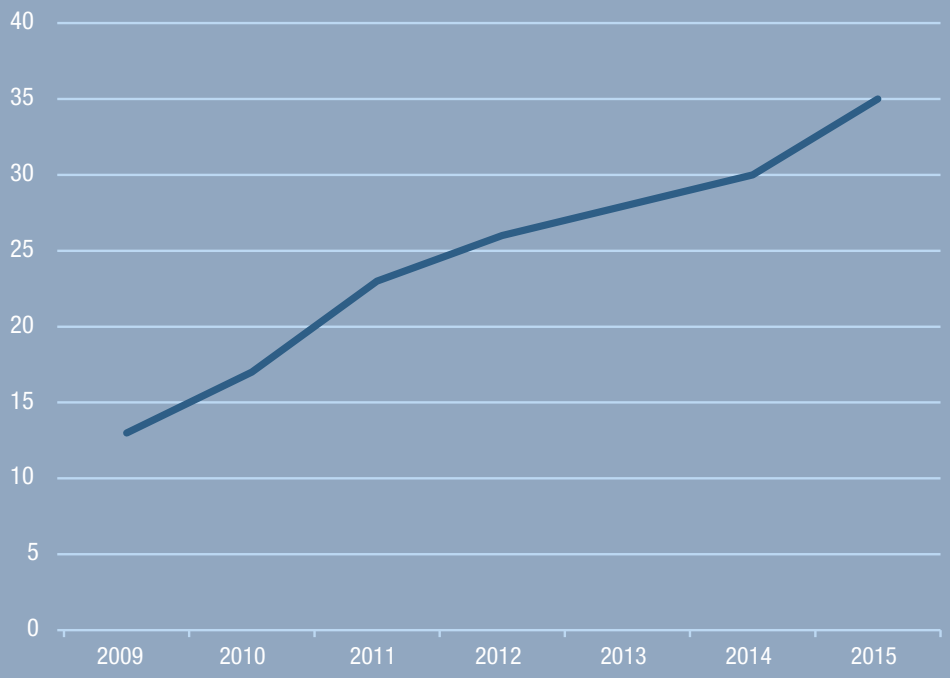
Number of *Programme on Space Applications* events, 2000-2015



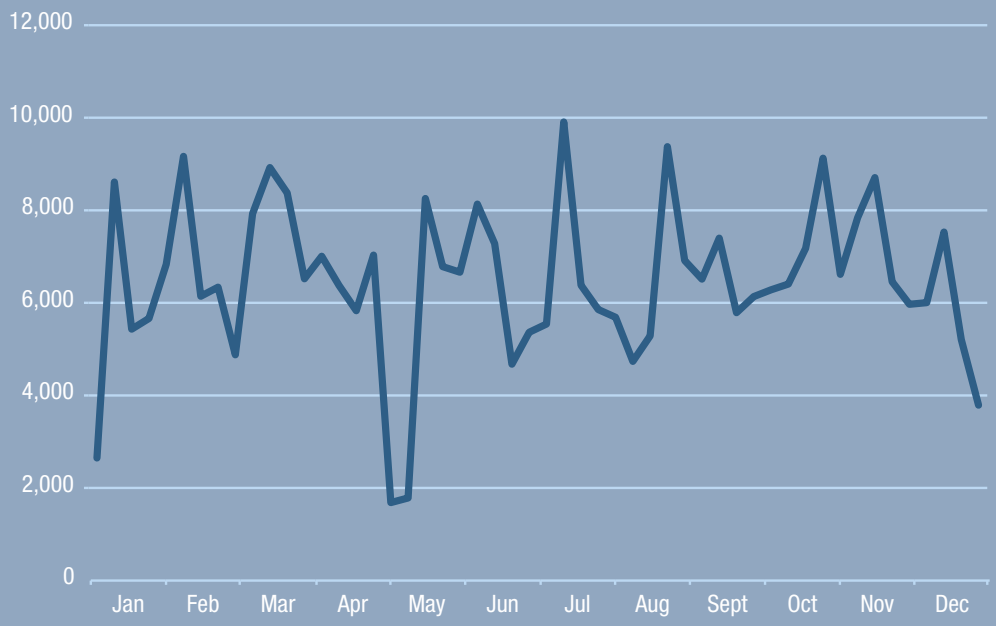
Categories of activities, 2011-2015



Number of countries reached per year with Technical Advisory Support



UN-SPIDER Knowledge Portal, total page views (all languages), 2015



III. Partnerships and cooperation

On behalf of the United Nations, the Office signed collaboration agreements with governments, agencies and institutions.

Countries

Germany

UNOOSA, on behalf of the United Nations, and Germany, represented by the Federal Ministry for Economic Affairs and Energy, signed a funding agreement (2014-2017) on 28 November 2014 that substantially supports the efforts of the Office in the implementation of the UN-SPIDER programme and its activities in the Bonn Office.

China

UNOOSA, on behalf of the United Nations, and the China National Space Administration (CNSA) signed an agreement through which Chinese satellite Earth observation data will be harnessed to support the United Nations in the areas of disaster management and disaster risk reduction. Under the agreement, UN-SPIDER will benefit from increased collaboration with CNSA and will have access to a Chinese satellite and acquire current imagery over specific areas of interest when relevant for the disaster management cycle.

UNOOSA, on behalf of the United Nations, and China, represented by the Ministry of Civil Affairs of the People's Republic of China, signed a funding agreement on 10 July 2014 that will substantially support the efforts of the Office in the implementation of the UN-SPIDER programme and its activities in the Beijing Office from 2013-2016.

Switzerland

An agreement with the Swiss Government to support the development of new initiatives to advance the use of space-based tools and technology in the various areas of work of Geneva-based United Nations entities, international organizations or non-governmental organizations, was signed on behalf of the United Nations on 28 August 2015. The agreement was funded by the Federal Department of Foreign Affairs and the Federal Department of Environment, Transport, Energy and Communications. The aim is to increase awareness of the benefits of space-based tools and technology for environment and natural resource management, humanitarian affairs, peace building and security.

Israel

UNOOSA, on behalf of the United Nations, and the Government of Israel signed a cooperation agreement on space-related issues on 12 June 2015. The agreement includes a contribution to the advancement of space-related research within the international community, recognizing that space has become a dominant factor in technological, economic and cultural development. It is clear that space-related research holds great potential to improve the lives of humankind globally, in such fields as medicine, disaster management, satellite technology, geographical navigation and the environment.

Agencies and institutions

International Water Management Institute

A memorandum of understanding was signed between UNOOSA, on behalf of the United Nations, and the International Water Management Institute (IWMI) on 6 February 2015 to induct IWMI as the seventeenth Regional Support Office of UN-SPIDER.

DigitalGlobe

UNOOSA, on behalf of the United Nations, and DigitalGlobe signed an agreement on 20 February 2015 to collaborate on satellite imagery and geospatial solutions for development. Under the agreement, UNOOSA and DigitalGlobe will take stock of their combined expertise in the use of Earth observation technologies for economic, social and scientific development and towards improved decision-making, particularly in developing countries.

Österreichische Forschungsförderungsgesellschaft

UNOOSA, on behalf of the United Nations, and the Austrian Research Promotion Agency signed a funding agreement on 12 August 2015 that will substantially support the efforts of UNOOSA to lead the initiatives and activities to be implemented in preparation for UNISPACE+50. Additionally, it will support the development of strategies, policies and programmes of action to ensure that space science and its applications are broadly recognized and used for a more effective and strengthened implementation of the 2030 Agenda for Sustainable Development.

Group on Earth Observations

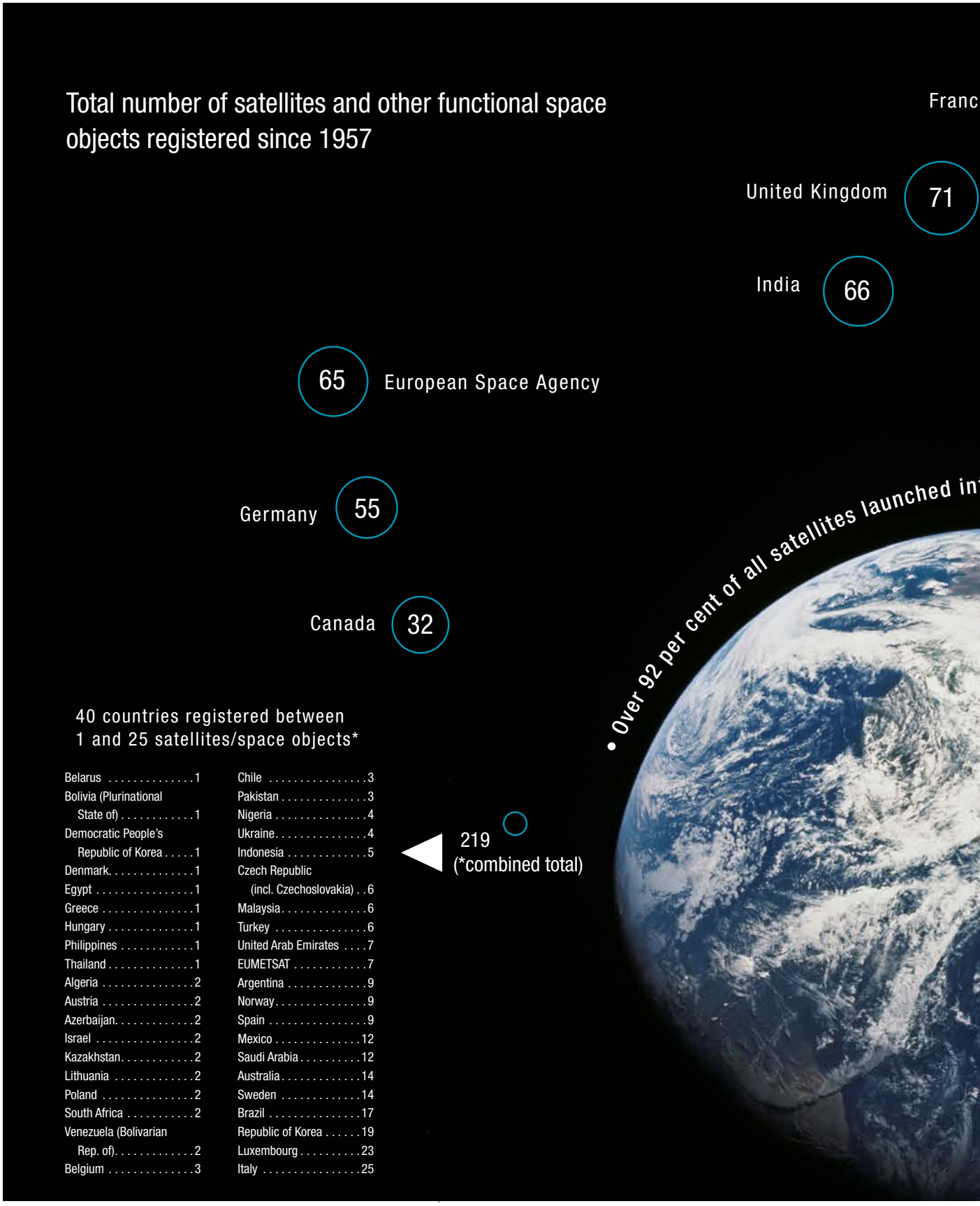
UNOOSA, on behalf of the United Nations, signed a memorandum of understanding in August 2015 with the voluntary intergovernmental body Group on Earth Observations (GEO) to provide a framework of cooperation and to facilitate collaboration. The memorandum aims to support the shared goals with regards to strengthening international cooperation in the peaceful exploration and use of outer space, and to promote space-based tools and technology in all areas of sustainable development. UNOOSA and GEO recognize that concerted actions and coordination of efforts between providers and users of space-based data, information, products and services is essential. This is particularly the case given the existing interrelationships between economic development, conservation of resources and the well-being of communities.

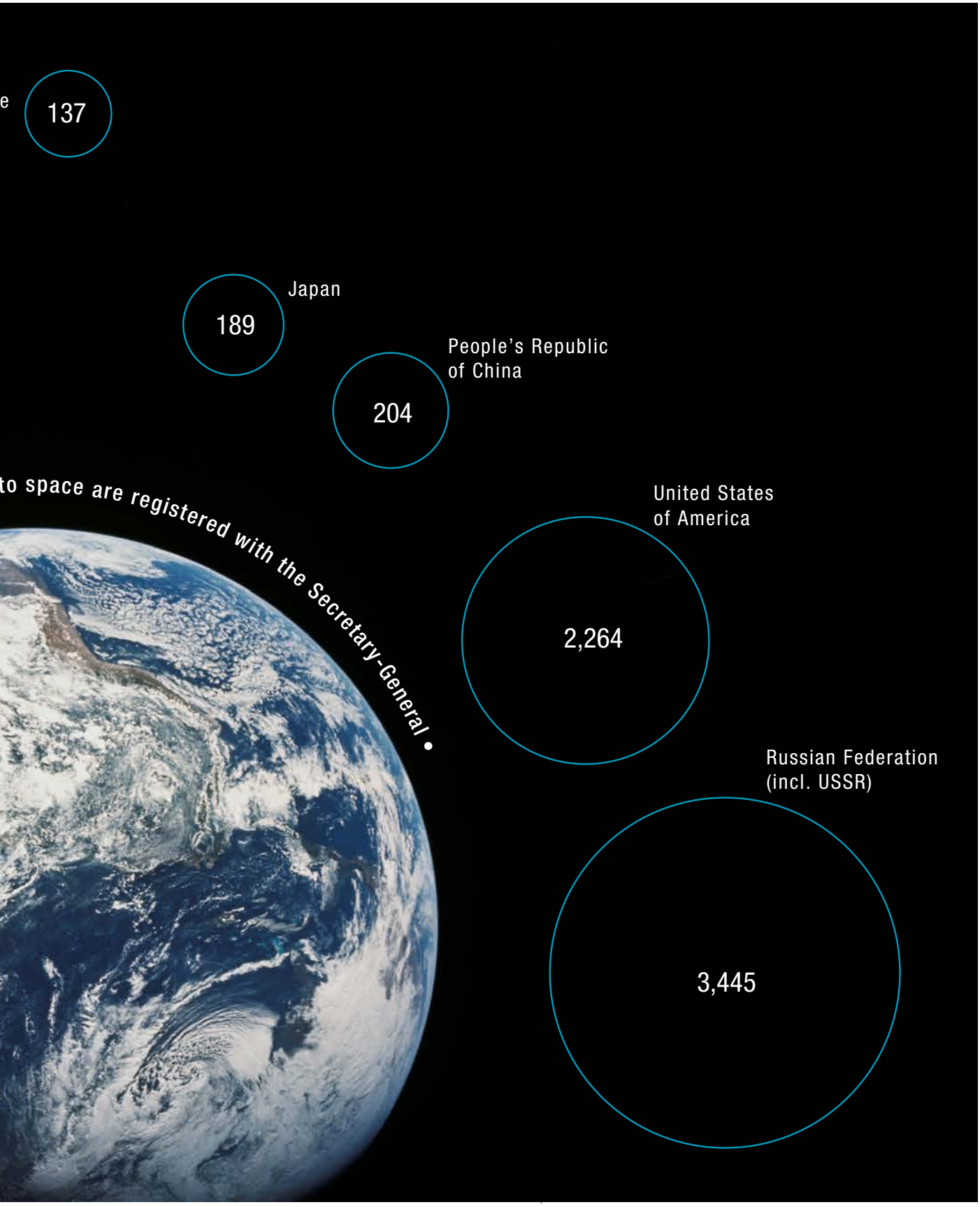
Secure World Foundation

On 31 August 2015, the Office, on behalf of the United Nations, signed a cooperation agreement with the privately endowed Secure World Foundation (SWF) in support of the High-level Forum (HLF) *Space as a Driver for Socioeconomic Sustainable Development*. An additional agreement between the Office and SWF in support of the HLF was signed on 5 February 2016.

Israel Space Agency

On 3 February 2016 a memorandum of understanding was signed on behalf of the United Nations with the Israel Space Agency to consolidate, develop and detail cooperation and effectiveness in order to achieve common objectives in the field of space science and technology applications for the benefit of humankind.


Total number of satellites and other functional space objects registered since 1957
Franc
United Kingdom 71
India 66
65 European Space Agency
Germany 55
Canada 32
• Over 92 per cent of all satellites launched in
40 countries registered between 1 and 25 satellites/space objects*
Belarus 1
Bolivia (Plurinational State of) 1
Democratic People's Republic of Korea 1
Denmark. 1
Egypt 1
Greece 1
Hungary 1
Philippines 1
Thailand 1
Algeria 2
Austria 2
Azerbaijan. 2
Israel 2
Kazakhstan. 2
Lithuania 2
Poland 2
South Africa 2
Venezuela (Bolivarian Rep. of). 2
Belgium 3
Chile 3
Pakistan 3
Nigeria 4
Ukraine. 4
Indonesia 5
Czech Republic (incl. Czechoslovakia) . . 6
Malaysia. 6
Turkey 6
United Arab Emirates 7
EUMETSAT 7
Argentina 9
Norway. 9
Spain 9
Mexico 12
Saudi Arabia 12
Australia. 14
Sweden 14
Brazil 17
Republic of Korea 19
Luxembourg 23
Italy 25
219
(*combined total)


e
137
Japan
189
People's Republic
of China
204
to space are registered with the Secretary-General •
United States
of America
2,264
Russian Federation
(incl. USSR)
3,445

IV. Awareness-raising and capacity-building

The following activities provide an overview of the awareness-raising and capacity-building actions of the Office. A comprehensive summary is available in the reports and documents made available to the Committee on the Peaceful Uses of Outer Space and its subsidiary bodies.[2]

[2] http://www.unoosa.org/oosa/en/copuous/past-sessions.html

United Nations/Japan Workshop on Space Weather: Science and data products for International Space Weather Initiative instruments

Fukuoka, Japan, 2-6 March 2015

The objective of the workshop was to provide a global forum for participants to discuss capacity-building, global observation and science/education related to space weather. The workshop built on the achievements of the International Space Weather Initiative (ISWI) and had the goal of reviewing the status of space weather instruments (in situ or space-borne), data access, availability and collection, and modelling efforts. The main aim was to advance space weather research, improve space weather forecasting and support the continued deployment of ground-based ISWI instrument arrays, and data exploitation. Furthermore, the workshop participants discussed the role of international cooperation in addressing space weather-related issues, such as possible further cooperation towards truly global space-weather monitoring capabilities. The workshop also considered opportunities for international cooperation in the standardization, sharing, and the wider and timely use of data, including for operational purposes.

First International Civil Aviation Organization/ UNOOSA Aerospace Symposium

Montreal, Canada, 18-20 March 2015

Members of the aviation and space community from around the globe gathered for the first time at the Aerospace Symposium in Montreal, a landmark event jointly organized by UNOOSA and the International Civil Aviation Organization. The participants explored regulations, practices, safety management and systems engineering methods in civil aviation, suborbital flights and developments in space transportation.

International Day of Human Space Flight

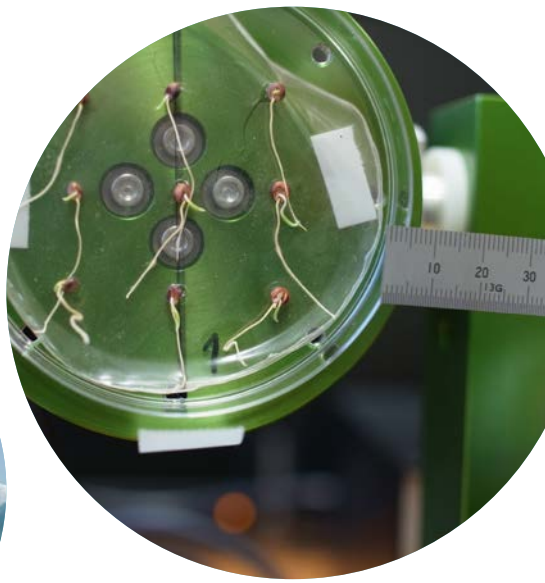
12 April 2015

The International Day of Human Space Flight, first declared by the United Nations General Assembly in 2011, was celebrated globally. The Office marked the event with the official launch of the updated edition of our series *Messages from Space Explorers to Future Generations*. The Office also teamed up in an outreach effort and took part in a relay race at the Vienna Marathon, held on 12 April 2015, under the theme "UNOOSA—Race for Space".

United Nations/Russian Federation Workshop on the Applications of Global Navigation Satellite Systems

Krasnoyarsk, Russian Federation, 18-22 May 2015

The workshop addressed the use of Global Navigation Satellite Systems (GNSS) for various applications that can provide sustainable social and economic benefits, in particular for developing countries. Current and planned projects that use GNSS technology for both practical applications and scientific explorations were presented. Furthermore, the participants discussed cooperative efforts and international partnerships for capacity-building, training and research, including the activities of the Russian Federation's Global Navigation Satellite System learning centre.



United Nations/Germany International Conference on Earth Observation: Global solutions for the challenges of sustainable development in societies at risk

Bonn, Germany, 26-28 May 2015

The conference was co-organized by the German Aerospace Center and the German Federal Ministry for Economic Affairs and Energy, and supported by the Secure World Foundation, the City of Bonn, and DigitalGlobe, a leading provider of high-resolution Earth-imagery products and services. The conference aimed to bridge the gap between Earth observation experts and decision makers to find Earth observation solutions that match the challenges of governments in societies at risk. The conference served as a platform to facilitate the coordination of this open group to help countries in their efforts to institutionalize the use of space-based information for disaster risk reduction.

Space for Global Health Meeting

Geneva, Switzerland, 15-16 June 2015

As a follow-up to the Expert Meeting on the International Space Station Benefits for Health held in 2014, a meeting organized by the Office on the Applications of Space Science and Technology for Public Health was held to foster further cooperation between the public health and the space communities. The need to strengthen international cooperation in improved ways of exploiting space technologies for global health is evident, given its urgency and importance on a global level. This was highlighted recently by the Ebola crisis and the Zika virus disease, and the Office is working to strengthen its capacity to address these challenges.

United Nations International Conference on Space-based Technologies for Disaster Management: A consolidating role in the implementation of the Sendai Framework for Disaster Risk Reduction

Beijing, 14-16 September 2015

The main aims of the conference were to build upon the outcomes of the third United Nations Conference for Disaster Risk Reduction and to produce a document with guidelines for Member States to integrate Earth observation and geospatial technologies by implementing the Sendai Framework for Disaster Risk Reduction 2015-2030. One of the unique features of the conference was to combine Earth observation and space-based technologies in applications for disaster risk reduction. Thus, the conference was one more step in the long-term efforts of UNOOSA, through UN-SPIDER, to build on the commitments of the Sendai Framework and of the global development agenda.

Summit on Climate Change and Disaster Management

Mexico City, 17-18 September 2015

The Office was actively involved in the Heads of Space Agencies Summit on Climate Change and Disaster Management, which was organized by the International Academy of Astronautics and hosted by the Mexican Space Agency. The Summit recognized the tremendous contribution of satellites to climate change studies and disaster management support. The participants expressed their determination to enhance efforts to strengthen the role of space in these fields in support of political decisions taken at the United Nations Conference of the Parties on Climate Change. Among the concrete results that emerged from the Summit was a Declaration submitted to the Paris Conference on Climate Change.

World Space Week

4-10 October 2015

An official United Nations celebration since 1999, the 2015 World Space Week had "Discovery" as its theme. Under the leadership of the World Space Week Association, the 2015 celebrations highlighted the current era of deep space discovery. A total of 1,894 events were registered for World Space Week 2015 in a successful global outreach and education campaign. UNOOSA joined in the celebrations for World Space Week by organizing in Vienna, in cooperation with the Austrian Space Forum and the Austrian Federal Ministry for Transport, Innovation and Technology, an advance screening of the film *The Martian*. Furthermore, an exhibition was organized at the Vienna International Centre, in cooperation with the Mexican Space Agency, on *The Force of Nature in Mexico, as Seen from Space*. In another event, the Austrian Red Cross and the Norwegian Embassy in Vienna launched the 2015 report by the International Federation of Red Cross and Red Crescent Societies entitled *World Disasters Report: Focus on local actors, the key to humanitarian effectiveness.*

Tenth Meeting of the International Committee on Global Navigation Satellite Systems

Boulder, United States, 1-6 November 2015

The tenth Meeting of the International Committee on Global Navigation Satellite Systems (ICG) was held to continue reviewing and discussing developments in Global Navigation Satellite Systems (GNSS) and to allow ICG members, associate members and observers to address recent developments in their organizations and associations with regard to GNSS services and applications. ICG also addressed relevant challenging issues associated with observing Earth processes using GNSS. Representatives from industry, academia and governments shared their views on GNSS today and their vision for the future. The tenth anniversary of ICG represented a milestone achievement in Member State cooperation in the use of outer space for peaceful purposes.

Zero-Gravity Instrument Project: Third Cycle

The "Zero-Gravity Instrument Project" was initiated in 2012 as part of UNOOSA's Human Space Technology Initiative's capacity-building activities, in which a fixed number of microgravity-simulating instruments, called clinostats, were distributed to selected schools and institutions worldwide. The main objectives of the project are to provide unique opportunities for students and researchers to observe the natural phenomena of samples under simulated microgravity conditions on the ground, and to inspire them to undertake further studies in the field of space science and technology. The project is also aimed at creating datasets of plant species with their gravity response, which would contribute to the design of future space experiments and to the advancement of microgravity research.

Drop Tower Experiment Series: Second Cycle

Bremen, Germany, 17-27 November 2015

In collaboration with the Center of Applied Space Technology and Microgravity and the German Aerospace Center, the UNOOSA fellowship programme offers selected research teams the opportunity to conduct their own microgravity experiments at the Bremen Drop Tower. The series of experiments consisted of four drops or catapult launches during which approximately 5 or 10 seconds of microgravity, respectively, are created. In the second cycle of the Drop Tower Experiment Series in 2015, a student team from the Universidad Católica Boliviana San Pablo (Plurinational State of Bolivia) was awarded the fellowship. The aim of their experiment was to examine and evaluate the property of Nitinol, an alloy of nickel and titanium, under microgravity conditions.

Central European University

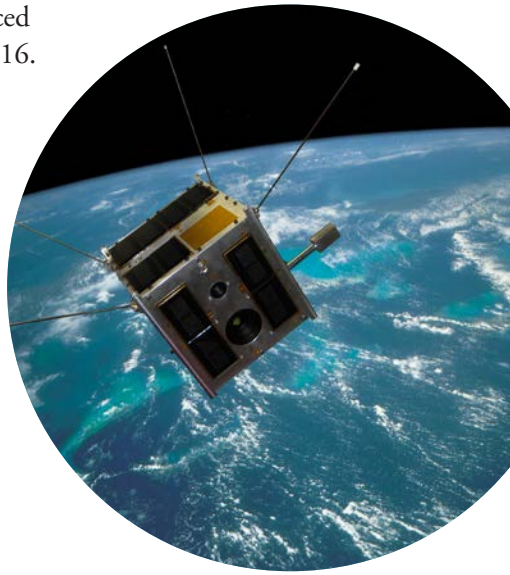
Two summer courses were held at the Central European University in Budapest. The courses "Bridging ICTs and Environment—Making Information Talk and Technologies Work" and "Bridging ICTs and Environment—Innovations in Disaster Risk Management" were supported by the Office. The aim was to bridge the gap between decision and policymakers and ICT technologies (e.g. GIS, remote sensing), making data and emerging technologies more accessible, usable and relevant for decision-making. The courses were also supported by the geographic information system company Esri, with additional assistance from the Eye on Earth Initiative and the United Nations Environment Programme's Global Universities Partnership for Environment and Sustainability.

UNOOSA contributes to a Committee on Earth Observation Satellites/European Space Agency publication on Earth observation for disaster risk reduction

In 2015, UNOOSA contributed to a new publication by the Committee on Earth Observation Satellites and the European Space Agency on the use of satellite-based Earth observation (EO) for disaster risk reduction. *Satellite Earth Observations in Support of Disaster Risk Reduction* was a special publication developed for the third United Nations World Conference on Disaster Risk Reduction, held in Sendai, Japan, in March 2015. It includes case studies and examples for EO applications for a variety of hazards around the world to emphasize how the use of EO will be fundamental for attaining the new sustainable development goals and the post–2015 framework for disaster risk reduction. Jointly with the United Nations Institute for Training and Research's Operational Satellite Applications Programme and the United Nations Economic and Social Commission for Asia and the Pacific, UNOOSA elaborated a chapter on "United Nations use of Earth Observation for Disaster Prevention and Response", presenting the different programmes and activities in place to support countries in making the best use of space-based tools for disaster risk reduction.

United Nations/Japan KiboCUBE Initiative

On 8 September 2015, UNOOSA and the Japan Aerospace Exploration Agency (JAXA) announced the KiboCUBE joint initiative, which offers educational and research institutions from developing countries the opportunity to deploy cube satellites from the International Space Station. The initiative, which was open for applications until 31 March 2016, will enable UNOOSA and JAXA to harness KIBO, the Japanese Experiment Module's deployment capability, for the benefit of developing countries. This is a further example of international cooperation in space for the benefit of countries that lack the infrastructure to launch their own satellites. This unprecedented opportunity raises awareness of the role that space science and technology plays in promoting sustainable development and contributes to building national capacities in spacecraft engineering, design and construction. The selection is expected to be announced during the course of 2016.



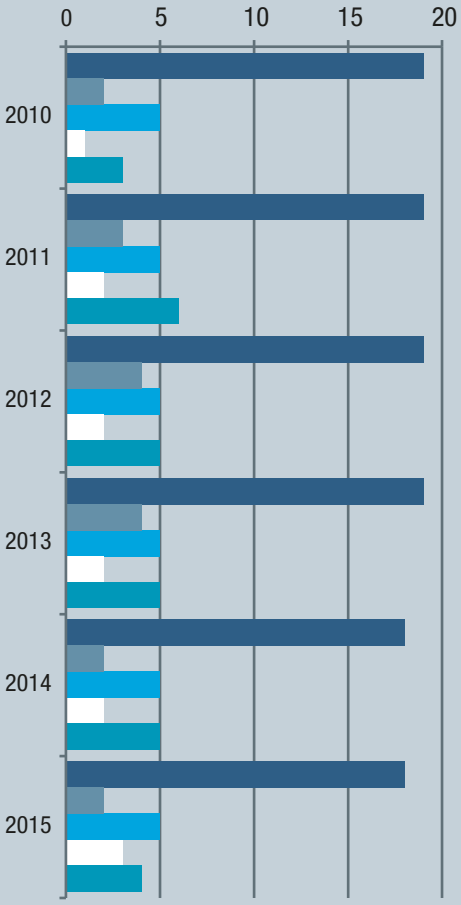
Administrative information

Multi-Donor Strategic Preparatory Initiative 2015-2018

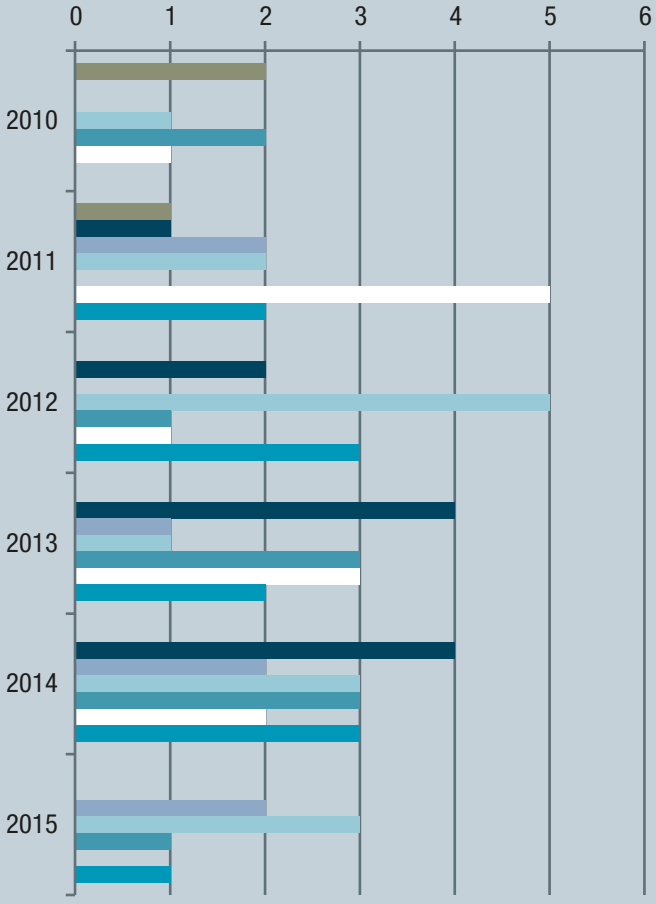
To strengthen its current funding structure and budget, the Office launched the Multi-Donor Strategic Preparatory Initiative for the UNISPACE+50 process. This initiative seeks to provide flexible, coordinated and predictable funding on a voluntary basis to enable the Office to prepare, structure and implement activities in support of UNISPACE+50 and the High-level Forum series. The initiative will also seek to promote space-based applications and technologies for innovative and timely actions to assist Member States in meeting the objectives of the global development agenda.

Employment

Composition of the Office, type of post



Staff movement

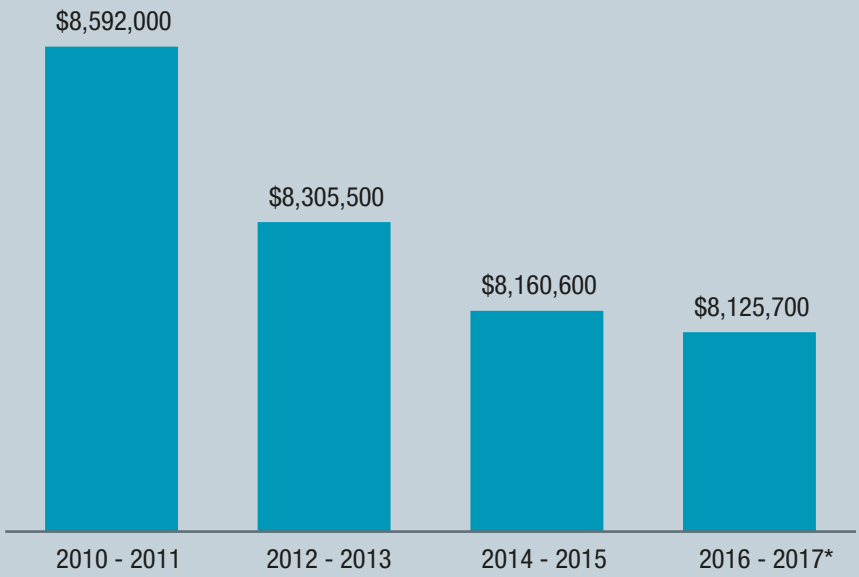


- Professional posts
- Associate experts
- General service posts
- Extra-budgetary funded posts
- Non-reimbursable loans

- Parental leave
- Internal promotion
- Retirement
- New hires
- Other United Nations bodies
- Non-reimbursable loans
- Resignation

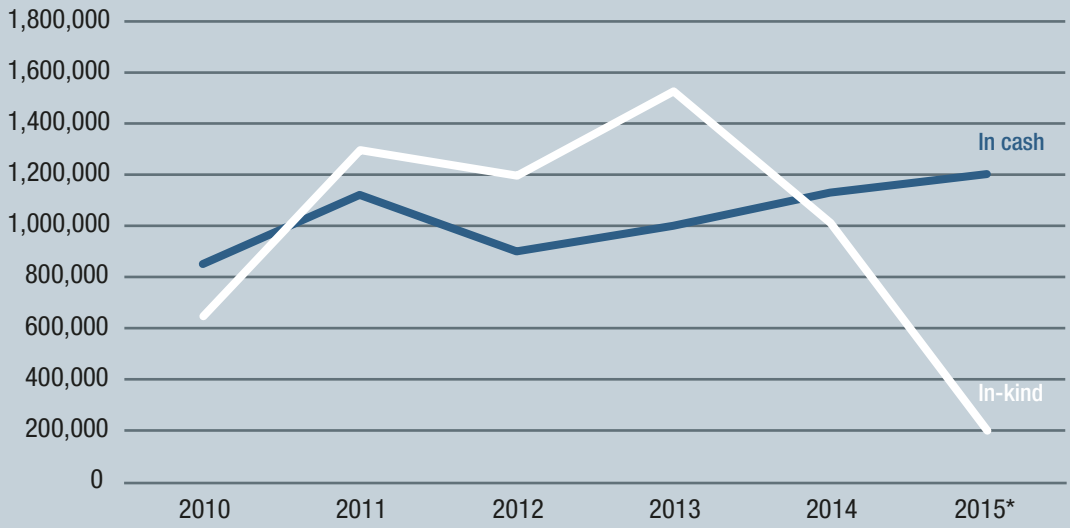
Resources

UNOOSA regular budget



*Excluding $197,400 for the activities that were postponed from 2015.

UNOOSA voluntary contributions



*Excluding the assessed value of the salaries for staff provided to the Office under the Associate Expert Programme and non-reimbursable loan framework.

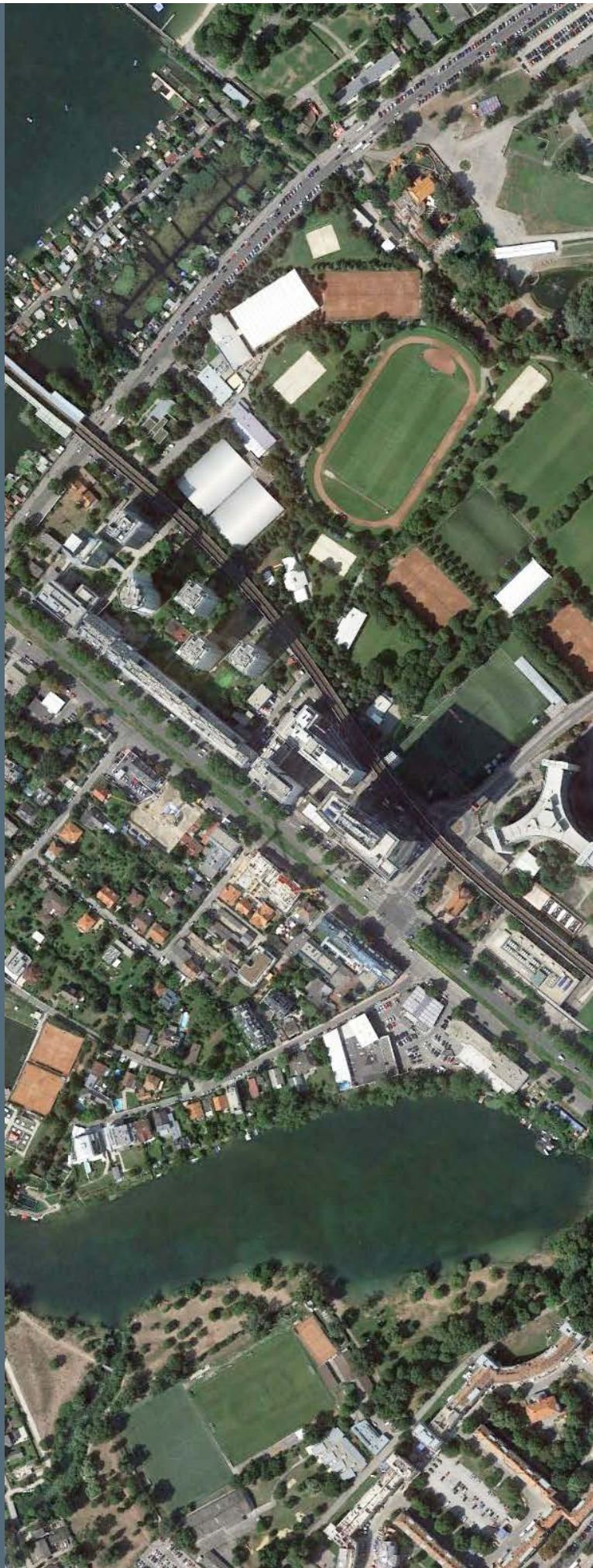
Abbreviations

AEM	Mexican Space Agency
APSCO	Asia-Pacific Space Cooperation Organization
BMVIT	Austrian Federal Ministry for Transport, Innovation and Technology
BMWi	Germany Federal Ministry for Economic Affairs and Energy
BSSI	Basic Space Science Initiative
BSTI	Basic Space Technology Initiative
CEOS	Committee on Earth Observation Satellites
CNSA	China National Space Administration
COP 21	Conference of the Parties
COPUOS	Committee on the Peaceful Uses of Outer Space
CPLA	Committee, Policy, and Legal Affairs
DETEC	Switzerland Federal Department of the Environment, Transport, Energy and Communications
DLR	German Aerospace Center
DropTES	Drop Tower Experiment Series
DRR	Disaster Risk Reduction
ECA	United Nations Economic Commission for Africa
ECLAC	United Nations Economic Commission for Latin America and the Caribbean
EO	Earth Observation
ESA	European Space Agency
ESCAP	United Nations Economic Commission for Asia and the Pacific
ESCWA	United Nations Economic Commission for Western Asia
Esri	Environmental Systems Research Institute
EUMETSAT	European Organisation for the Exploitation of Meteorological Satellites
FDFA	Switzerland Federal Department of Foreign Affairs
FFG	Austrian Research Promotion Agency
GEO	Group on Earth Observations
GIS	Geographic Information System
GLONASS	Global Navigation Satellite System (Russian Federation)
GNSS	Global Navigation Satellite System
GUPES	Global Universities Partnership on Environment for Sustainability

HLF	High-level Forum
HSTI	Human Space Technology Initiative
ICAO	International Civil Aviation Organization
ICG	International Committee on Global Navigation Satellite Systems
ISA	Israel Space Agency
ISS	International Space Station
ISWI	International Space Weather Initiative
ICT	Information and Communication Technology
IWMI	International Water Management Institute
JAXA	Japan Aerospace Exploration Agency
KIBO	Japanese Experiment Module
LSC	Legal Subcommittee
MCA	Ministry of Civil Affairs of the People's Republic of China
NASA	National Aeronautical and Space Administration
OeWF	Austrian Space Forum
PSA	Programme on Space Applications
RSO	Regional Support Office
SAS	Space Applications Section
SDGs	Sustainable Development Goals
SDOP	Strategic Directions and Operations Priorities
STSC	Scientific and Technical Subcommittee
SWF	Secure World Foundation
TAM	Technical advisory mission
TAS	Technical advisory support
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNISPACE+50	United Nations Conference on the Exploration and Peaceful Uses of Outer Space
UNOOSA	United Nations Office for Outer Space Affairs
UNOSAT	United Nations Operational Satellite Applications Programme
UNOV	United Nations Office at Vienna
UN-SPIDER	United Nations Platform for Space-based Information for Disaster Management and Emergency Response
WCDRR	Third World Conference on Disaster Risk Reduction
WHO	World Health Organization
WSW	World Space Week
WSWA	World Space Week Association
ZARM	Center of Applied Space Technology and Microgravity
ZGIP	Zero-Gravity Instrument Project

www.unoosa.org

The United Nations Office for Outer Space Affairs (OOSA) is responsible for promoting international cooperation in the peaceful uses of outer space and assisting developing countries in using space science and technology.



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