
**Committee on the Peaceful
Uses of Outer Space
Fifty-seventh session**

Script

679th Meeting
Friday, 13 June 2014, 10.00 a.m.
Vienna

Chairman: Mr. A. Oussedik (Algeria)

The meeting was called to order at 10.12 a.m.

The CHAIRMAN: Good morning distinguished delegates. I now declare open the 679th meeting of the Committee on the Peaceful Uses of Outer Space.

Distinguished delegates, I would first like to inform you of our programme of work for this morning.

We will continue our consideration of agenda item 5, General Exchange of Views, and we will continue and hopefully conclude our consideration of agenda item 7, Report of the Scientific and Technical Subcommittee on its Fifty-First Session. We will then begin our consideration of agenda item 8, Report of the Legal Subcommittee on its Fifty-Third Session.

There will be three technical presentations this morning by a representative of Japan entitled “New Era of Global Monitoring by ALOS-2: Advanced Land Observing Satellite-2, DAICHI-2”, by a representative of Luxembourg entitled “Space Activities and Regulatory Framework of Luxembourg: An Overview in Relation to the Application for Membership in the Committee on the Peaceful Uses of Outer Space”, and by a representative of the European Space Agency entitled “Fifty Years of European Cooperation in Space”.

The Space Missions Planning Advisory Group will continue its second meeting today from 9.30 a.m. to 1.00 p.m. in Meeting Room C555 on the Seventh Floor of the ‘C’ Building.

Expert Group B of the Working Group on the Long-Term Sustainability of Outer Space Activities will meet from 9.30 a.m. to 1.00 p.m. in Meeting Room C0727 to discuss its final report.

During this session of the Committee, the delegation of China is donating a scale model of the YUTU Lunar Rover. A reception to mark this donation will be held today during lunchtime in the Rotunda starting at 1.00 p.m.

Are there any questions or comments on this proposed schedule?

I see none.

General exchange of views (agenda item 5)

Distinguished delegates, I would now like to continue our consideration of agenda item 5, General Exchange of Views.

The first speaker on my list is the distinguished delegate of France, Mr. Jacques Raharinaivo.

Mr. J. RAHARINAIVO (France) (*interpretation from French*): Thank you Mr. Chairman. Mr. Chairman, distinguished delegates, distinguished colleagues. France fully echoes the statement delivered by the European Union by Ambassador Zanathy and I would like to add the following comments on a national capacity.

Mr. Chairman, my delegation wishes to sincerely congratulate you on your election at the helm of the Committee on the Peaceful Uses of Outer Space for the coming two years. You can count fully on the active support of the French delegation in contributing to our debates in a constructive and consensus-based spirit.

We would like also to thank your predecessor, Professor Horikawa, for his commitment at the helm of this Committee.

I would like also to welcome the appointment of Simonetta Di Pippo as Director of the United Nations Office for Outer Space Affairs which plays a key role in implementing the guidelines of the United Nations and of this Committee in terms of the peaceful uses of outer space.

In this connection, this year, once again, I would like to commend the remarkable work carried out by the United Nations Office for Outer Space Affairs teams for the preparation of this fifty-seventh session of COPUOS.

Mr. Chairman, France attaches great importance to the universal implementation and improved implementation of the rules set by the space conventions, of course, in compliance with the three major principles that should govern space activities so that freedom of access to space for peaceful uses, the preservation of security and integrity of satellites in orbit and acknowledgement of the right of self-defence of States.

For this reason, the French delegation attaches great importance to the work of COPUOS and we welcome and commend the high calibre of the reports of the Legal Subcommittee and the Scientific and Technical Subcommittee. This Committee also plays a substantial role in strengthening international cooperation in space activities by encouraging all countries to participate in our work. We welcome, therefore, the accession of Ghana and Belarus in 2013 and we note the application of Luxembourg which has expressed a wish to join our Committee and we support that.

France continues to be very much attached to the principle of long-term sustainability of space activities and we support all initiatives in that direction.

The major risks linked to space debris proliferation threaten the continued pursuit of space activities, the integrity of satellites, of the International Space Station, and, of course, the safety of the women and men on board. And, of course, then we have the risks that are faced by populations in connection with re-entry of space debris. So it is the actual use of space that is threatened.

In this context, we wish to commend the excellent work that is being carried out by the Chairman of the Working Group on the Long-Sustainability of Space Activities, Mr. Peter Martinez. Remarkable and considerable work has been carried out to consolidate the Guidelines. This makes the document much more clear and heralds a more effective operational implementation. France contributed to the discussions within the Working Group on the Long-Term Sustainability of Outer Space Activities. We had experts participate in the meeting and we will continue to contribute to those deliberations. We will take the floor at a later stage when we turn to the Working Group and the draft revised recommendations. We have some comments in that regard.

Mr. Chairman, France is very much attuned to the matter of sustainable development, preservation of

water resources and climate change. These are important items on the COPUOS agenda.

Space applications can make a decisive contribution to our understanding of these phenomena and to addressing these challenges. In this context, France has continued to work on building our understanding of climate and environmental matters over the past few years. We have had an Agreement signed to formalize the Surface Water and Ocean Topography Programme between CNES and NASA and then we had an Agreement to develop the CFOSAT Mission between China and France.

At the institutional level, CEOS, the Committee on Earth Observation Satellites met in Toulouse in France between 9 and 10 April 2014 to look at matters connected with reducing greenhouse gases and managing risks and also managing agriculture production. CNES will succeed NASA as Chair for the next two years of the CEOS Strategic Implementation Team, the SIT.

Another major event in connection with the fight against global warming is as follows. France will host and chair the consultative parties of the United Nations Framework Convention on Climate Change in 2015. This is a crucial event that is supposed, or is planned to lead to an international agreement that will keep global warming below 2°C. Space technologies are set to play a leading role in achieving the objective.

In this vein, we support the initiative of the Japanese delegation which has proposed a Working Group on Space and Sustainable Development. This proposal, which has a realistic and coherent implementation timeline, fits in very well with our aim of rationalizing the contribution of space applications to United Nations policies in the area of sustainable development.

Mr. Chairman, science lies at the heart of space activities as effective for human progress. The ROSETTA Mission, in which France participates via CNES and our scientific laboratories alongside ESA, is one of the major space activities in 2013. After a 10-year journey through space, ROSETTA was awoken on 20 January this year and the landing of the Philae Lander on the Churyumov-Gerasimenko Comet next November will be a highlight of this adventure.

France will also be making a technological contribution to developing the PLATO Satellite. This is the Planetary Transits and Oscillation of Stars satellite, which has been selected by the ESA Scientific Programme Committee and it will be launched in 2024

and it will enable us to detect millions of exo-planets of all sizes, of which dozens are expected to be Earth-like.

I would like, Mr. Chairman, to mention the International Code of Conduct on Outer Space Activities. France has been supporting this initiative from the very beginning which seeks to promote confidence and transparency, the safety of space activities, whether they are civilian or military. France welcomes the substantive exchanges that we had on this initiative last May in Luxembourg and we will continue to be involved in the discussions of this document.

Finally, I would like to recall that Europe's space community celebrates this year its fiftieth anniversary. We have had many, many achievements over the past 50 years, independent access to space, science, space applications and so forth. In all of these areas, Europe has managed to bring together effectiveness and technological excellence in implementing these programmes. Today, the European Union makes a new and essential contribution to Europe's space activities and as a symbol of that success, France's space activities now only take place within the European context.

Mr. Chairman, you can count over the coming year of the full support of my delegation in achieving the success of our work.

Thank you.

The CHAIRMAN: I thank the distinguished representative of France for his statement.

The next speaker on my list is the distinguished representative of Kenya, Mrs. Collette Suda.

Ms. C. SUDA (Kenya): Thank you Mr. Chairman. Mr. Chairman, on behalf of the Kenyan delegation, I congratulate you on your election as the Chair of this Committee and assure you of my delegation's support and cooperation in the work of this Committee.

My delegation also thanks Mr. Yasushi Horikawa, the former Chair of COPUOS and all the staff for their dedication to the work of this Committee.

My delegation further takes this opportunity to welcome the newly appointed Director of the Office for Outer Space Affairs, Ms. Simonetta Di Pippo, and assure her of my country's support and cooperation.

We also thank the former Director, Professor Mazlan Othman for her support and commitment in discharging the duties of the Office for Outer Space Affairs.

My delegation also associates itself with the statement delivered on behalf of the African Group by the Representative of Morocco.

Mr. Chairman, Kenya has in recent times experienced a number of disasters and is taking measures to address various aspects of disaster preparedness. The National Disaster Operations Centre in Kenya, with assistance from the United Nations International Strategy for Disaster Reduction, has created a database of loss, damage or effects caused by emergencies or disasters on the DesInventar system. DesInventar is a Disaster Information System that permits information capture, analysis and graphic representation of data on disasters and can be used to develop hazard maps for the country.

Mr. Chairman, Kenya, in conjunction with the National Disaster Operations Centre and the Regional Centre for Mapping of Resources for Development, successfully hosted a UN-SPIDER-sponsored Technical Advisory Mission in Nairobi from 3-7 March 2014. During this mission, we were able to audit and explore the use of space-based information in disaster management within government and in other institutions dealing with disasters and emergency response.

On my own behalf and that of the country, we would wish to thank United Office for Outer Space Affairs and the UN-SPIDER Office for their continued support and we look forward to more collaborative activities especially as we seek to build capacity in the application of satellite data in disaster management.

Mr. Chairman, climate change is adversely affecting the environment and the amount of rainfall we receive. In this regard, it is critical for us to have personnel trained to monitor our climatic conditions and give accurate weather forecasts in order to support various sectors of our economy, in particular the agricultural sector. The Kenya Meteorological Service conducts training and research in the fields of meteorology, climatology and hydrology at the Institute for Meteorological Training and Research. This institute, located in our capital city, Nairobi, trains both local and international students in the above fields including the use of satellite data.

The International Space Weather Initiative and the Scientific Committee on Solar Terrestrial Physics

have been running an advanced school in the area of solar-terrestrial physics and space weather for a number of years, starting with the International Heliophysical Year 2007. Its primary focus is on how the variability of the Sun affects Earth's space environment and life on Earth. The 2013 school, designated as the African School, took place in Nairobi, Kenya, and was conducted by experts from the SCOSTEP and ISWI communities.

A Joint Exchange Development Initiative Workshop on Astronomy with Virtual Observatory was held from 28 October to 1 November 2013, at the University of Nairobi in Kenya. The Workshop was jointly organized by the Government and the Square Kilometre Array, South Africa. The objective of the Workshop was to train astronomy students on virtual astronomy in preparation for the implementation of the Kenyan component of the SKA project that will include conversion of the Longonot-1 Earth Station to a radio telescope under the African Very Long Baseline Interferometry Network project.

Mr. Chairman, over the last five decades, space exploration has pushed the frontiers of science and technology in many countries. Space has proved repeatedly that it has the advantage of driving the growth of science and technology in nations that apply themselves to it and in ways that have had a significant and positive impact on other industries and sectors of the economy. Towards this end, Kenya is in the process of developing the necessary space policy, strategy and legal framework to ensure that the country is able to exploit the space technology for the socioeconomic benefit of its people. The vision is to have a viable indigenous space industry by 2030 which will position Kenya as a self-sufficient developer in key areas of space science, in particular human capital and space technology. To achieve this goal, Kenya will establish strategic partnerships with other member States and agencies to support its development of requisite capacity in space technology.

Mr. Chairman, Kenya has been in collaboration with the Italian Government in the San Marco Satellite Launching and Tracking Project in Malindi since 1964. The Project carries out international satellite telemetry support from the ground station which also provides logistic support facilities for two satellite launching, tracking and control platforms situated about 5 kilometres. The aim of the Project was to lay the foundation for involvement in space science research and technology.

In order to maximize the benefits of space technology and the current data available from space-

and ground-based stations, Kenya will build capacity of its human resources by training the relevant personnel on space science and technology and space law. The Government of Kenya will continue to seek relevant partnerships, including international cooperation, to support this endeavour.

Mr. Chairman, in conclusion, Kenya continues to support global initiatives that promote the peaceful long-term sustainable use of outer space while remaining cognizant of the need for new entrants in the space arena to develop the requisite capability in space science and technology.

I thank you for your attention.

The CHAIRMAN: I thank the distinguished representative of Kenya for her statement.

The next speaker on my list is the distinguished representative of EUTELSAT, Mr. Christian Roisse.

Mr. C. ROISSE (European Telecommunications Satellite Organization) (*interpretation from French*): Thank you Chairman.

First of all, I would like to join my voice to the congratulations on your election to chair COPUOS this session. My Organization is convinced that under your wise and active leadership, the activities of COPUOS will be extremely positive.

We would also like to welcome the appointment of Professor Simonetta Di Pippo to replace Madam Othman, who we wish all the best and we believe that the work of COPUOS will be up to the challenges ahead.

I would like to briefly recall the background of the Organization. The European Telecommunications Satellite Organization was created in 1977 on an interim basis with the purpose of providing Europe with a satellite infrastructure for a wide range of telecommunications services. We became permanent in 1985 and we became one of the world's leading satellite operators, the third, in fact, the EUTELSAT Parties in May 1999 decided to transform the Organization and agreed on the relevant procedures for this change. So all assets, operational activities, related liabilities and commitments of the intergovernmental organisation EUTELSAT were transferred to Eutelsat S.A., the company established in Paris for this purpose on 2 July 2001. The original EUTELSAT Convention was amended with the agreement of the member States and the amendments came into force on a definitive basis in November 2002.

Since its transformation, the structure, role, mission and activities of the Organization have evolved to reflect developments in the fields of regulation, technology and markets for Fixed Satellite Services and today 49 European States are Parties to the EUTELSAT Convention.

We work in two fields and we work in two fields and we work with the ITU and we are an international organization operating satellite system within the ITU and we have public service requirements, universal service requirements, non-discrimination and we have to respect the rules of fair competition and our Executive Secretary participates on the ITU Board. We are a permanent observer at COPUOS since 2005.

Now, I would like to move on to some salient points, that is the acceptance of the United Nations Convention on the Registration of Objects Launched into Outer Space, the Registration Convention.

In 1987, already the EUTELSAT Assembly of Parties decided to adopt a resolution declaring EUTELSAT's acceptance of the rights and obligation arising under the 1972 Convention on International Liability for Damage Caused by Space Objects, that is the 1972 Convention, and the Depositary was officially informed accordingly in 1989. The Assembly of Parties decided that all efforts should be made to carry out the registration of EUTELSAT because of Article 7.2 of the Registration Convention. And so EUTELSAT committed to registration its satellites when launched and adopted a resolution which was subject to the fulfilment of the provisions contained in Article 7.1 of the Registration Convention.

This concerns quite a strict provision because in order to accept the rights and obligations, you needed a two-thirds majority and the majority of member States of the intergovernmental organization have to be Parties to the space treaties and, secondly, the majority of member States have to be Party to the Registration Convention.

I will focus on the registration of EUTELSAT satellites before it changed its organizational form in 2001. We, at our last plenary meeting, COPUOS was informed that the majority of EUTELSAT member States are State Parties to the Registration Convention and EUTELSAT requested me to accept the rights and obligations included in the Convention based on the 1989 resolution. The resolution declaring the acceptance of the Registration Convention was submitted to the United Nations Secretary-General, as Depositary of the Convention on 10 June 2014, so just

this week, and a copy is annexed to my presentation and you should have copies of that at some stage today.

As we have accepted the rights and obligations of the Convention, EUTELSAT is now alongside EUMETSAT and the European Space Agency as an intergovernmental body that is Party to the Registration Convention and the Liability Agreement.

Now, very quickly, to conclude, I would like to say something about the Broadband Commission for Digital Development. I am a Founding Member and Commissioner of the Broadband Commission for the Digital Development which was established by the ITU Secretary-General and the Director-General of UNESCO in 2010 with the aim of accelerating the achievement of the Millennium Development Goals in that field. Several meetings of the Broadband Commission have taken place and a first report was submitted in September 2010 to Mr. Ban Ki-moon. He emphasized the importance of the expansion of broadband in order to meet the Millennium Development Goals.

At the eighth meeting in September 2013, the United Nations Broadband Commission issued its report entitled "The State of Broadband 2013: Universalizing Broadband", which gave an overview of broadband network access, with country-by-country data measuring broadband access against the key targets of universality, affordability, level of penetration and accessibility, which the Commissioners had agreed in October 2011. Included in this report is information on satellite broadband provided by the Executive Secretary, together with the Directors-General of the International Mobile Satellite Organization, IMSO, and the International Telecommunications Satellite Organization, ITSO.

During the ninth meeting of the Broadband Commission in March 2014, it was stated that broadband must be recognized as the vital development enabler in post-2015 United Nations Sustainable Development Framework.

The Commission will hold its next meeting in September 2014 in New York during which a new report on the State of Broadband will be presented to the United Nations Secretary-General for endorsement ahead of the United Nations General Assembly.

Now I would like to go on to deliberate interference and piracy with the broadcast of TV and radio programmes on frequencies assigned to EUTELSAT-International Governmental Organization.

In the past, I provided some information on this subject when this interference was becoming acute and dangerous. In June last year, COPUOS was informed that the EUTELSAT Assembly of Parties, at its meeting in May 2013, noted the information regarding the developments on the repeated deliberate interference to radio and television programmes broadcast on EUTELSAT satellites and noted that this persistent issue is considered of great importance because it poses a threat to the security of satellite broadcasting in general.

Successive reports from September 2013, January-May 2014 informed EUTELSAT Parties of developments. Since my last presentation in 2013, deliberate interference to the EUTELSAT fleet of satellites continued although they did seem to drop but very recently we have seen new cases no longer from the Middle East but from East Africa. EUTELSAT-Intergovernmental Organization is working in close cooperation with the ITU and notifying administrations concerned. In order to prevent events of deliberate interference, any initiatives to allow for an undisputable recognition of the geo-localisation process should be fostered and ITU could play a very useful role in this regard.

On the subject of piracy, we have seen that there was a problem with the EUTELSAT HOT BIRD-13B satellite until 14 November 2013 and since then, piracy has not resumed.

To conclude, I would like to say that the World Radiocommunication Conference 2012, in its resolution 807 recommended to the Council the agenda for the World Radiocommunication Conference 2015 to include an item covering the additional spectrum allocations to the mobile service on a primary basis and identification of additional frequency bands for International Mobile Telecommunications and related regulatory provisions to facilitate the development of terrestrial mobile broadband applications. Given that more than 180 satellites are operated in geostationary orbit with C-Band payloads today and that this spectrum is extensively used worldwide, given that most services could not be migrated to higher frequency bands and that C-Band supports in Europe critical services, EUTELSAT will follow closely the preparatory process for the World Radiocommunication Conference 2015 as it will be important to protect the future of C-Band for satellite services while preserving a right balance between the interests of mobile operators and satellite operators.

Thank you for your attention.

The CHAIRMAN: I thank the distinguished delegate of EUTELSAT-IGO for his statement.

The next speaker on my list is the distinguished representative of the Space Generation Advisory Council, Mrs. Andrea Jaime Albalat.

Ms. A. JAIME ALBALAT (Space Generation Advisory Council): Thank you, Mr. Chairman. The Space Generation Advisory Council would like to warmly welcome you on this role and we are confident of the great achievements that will be accomplished during your tenure.

We also welcome Simonetta Di Pippo, as the new Director of the United Nations Office for Outer Space Affairs and take the opportunity to thank Dr. Horikawa for his great work as Chairman and specially for his support throughout his tenure to the Space Generation Advisory Council and the young professionals and students in the space sector, whom we represent.

Mr. Chairman, we appreciate having the opportunity to report on our activities as we have been very busy since the last meeting. As every year, we strive to serve our purpose of acting as the international enabler for the next generation of space sector leaders, to contribute their opinions to the space policy debate. In the past year, we have done this by contributing to conferences for young professionals and university students, producing more intellectual space contributions from the young perspective through our year-round project groups, and by creating unique opportunities to young professionals and students to be heard internationally.

SGAC not only attended various conferences all around the world, but also organized events, and in particular two major events, our annual Space Generation Congress, and the now annual, Space Generation Fusion Forum.

SGAC celebrated its twelfth annual Space Generation Congress in Beijing, China last September. One hundred and twenty young adult delegates from 38 different countries congregated to discuss pertinent space topics as well as to hear from today's international space sector leaders. Our featured speakers included distinguished specialists and heads of various international space agencies, industry, academia and space non-profits.

The reports from the discussions were released in January and the perspectives of the delegates were shared here in February at the Scientific and Technical

Sub-Committee. At this point, we are proud to note that some of the reports generated at our Congress have recently been accepted as papers at the 2014 International Astronautical Congress in Toronto, Canada.

SGAC is looking forward to another excellent congress in 2014 in Toronto, Canada, next September. The applications are now open and I sincerely hope that all delegations will encourage young professionals and university students in their national space sector to apply.

SGAC also take the advantage to invite all of you to attend the fundraising event, the SGC Gala Dinner on 27 September at the Ontario Science Centre, in Toronto, Canada.

The second big event for SGAC this year was the Third Space Generation Fusion Forum, hosted by the Space Foundation. The Fusion Forum was held in conjunction with the Space Symposium last 18-19 May in Colorado Springs, United States of America. It gathered a competitively chosen group of around 50 top young adults with government, industry and academic backgrounds. Intense, interactive panel discussions among these selected young adults were moderated by today's international space sector leaders and gathered the perspectives of tomorrow's space leaders on key space issues. The results of the Space Generation Fusion Forum will be reported in a technical presentation by SGAC here at the United Nations COPUOS later in the proceedings.

SGAC is also proud to report that our Organization supported five full scholarships for delegates to attend the Fusion Forum and the Thirtieth Space Symposium. These delegates came from Ethiopia, Germany, Mexico, New Zealand, and Pakistan. In addition, SGAC and Space Foundation gave complimentary registrations to other 13 members.

SGAC would like to highlight also another regional event organised in Europe, last April, in collaboration with the European Space Agency Group Young ESA, in ESTEC, the Netherlands. It was called The Young Professionals in Europe Workshop.

The event brought together young professionals from around the world and senior professionals working at ESTEC/ESA, to enable a forum for discussion on topics such as type of contracts, how to prepare for an interview, current programmes at ESA, etc. A total of 30 participants coming from 21 countries attended the event, and know this, 50 per cent male, 50 per cent female, which was a total success.

Amongst other events, SGAC organised a mentoring event last February in conjunction with the Satellite 2014 Conference, in Washington D.C., enabling young professionals meet with current leaders to interact and network closely. SGAC gave 25 complimentary registrations to people coming from all around the globe.

By facilitating access and providing funding to world events, SGAC is continuing to fulfil the primary goal set out for it at the UNISPACE III conference in 1999 to enable the next generation of international space leaders to share its perspectives on space. In numbers, SGAC awarded a total of 47 scholarships to people coming from more than 20 different countries around the world in 2012. It is our goal to continue being able to offer such opportunities to our members.

In addition to helping our members attend these conferences to contribute their views, SGAC further developed its year-round, volunteer-led projects. These projects have produced excellent contributions to the space community. The SGAC group on Space Technologies for Disaster Management is working on communications tools to attract new volunteers and create awareness of the role of space technologies before, during and following disaster events.

The Near-Earth Object, the NEO Group, which continues to contribute and support the work of COPUOS Action Team 14, just announced the seventh annual edition of its successful "Move an Asteroid" technical paper competition series. The winner will present his/her work at the Space Generation Congress.

Further, the Group, in collaboration with the International Astronomical Search Campaign, announced the second edition of its Find An Asteroid Search Campaign. In this Campaign, SGAC teams participate in an online hunt for asteroids using recent telescope images.

The Space Safety and Sustainability, (SSS), Project Group, under SGAC continued to expand on its projects in space safety and sustainability-related endeavours. The SSS Group, together the IAASS, once again organized a technical paper competition on space safety, which will grant the winners a fully paid trip to the Seventh Annual IAASS Space Safety Conference.

SGAC's Youth for Global Navigation Satellite Systems Group, the YGNSS, continued to support the public education and outreach of the importance of GNSS systems with many activities in the works. The YGNSS Group updated the "Global Navigation

Satellite Systems and Youth” brochure, and it is available now in several languages.

The YGNSS Group keeps providing support to the International Committee of GNSS, the ICG, and together with EIAST, from the United Arab Emirates, was able to bring a young professional to the eighth ICG Meeting in Dubai last year.

Established in 2012, the Space Law Project Group’s current major research project is reading the entire preparatory works of the 1967 Outer Space Treaty and it is working together with ESPI in the creation of a Careers Guide for Space Policy and Law.

The Small Satellites Project Group has started working on a feasibility study of designing and launching a small satellite within SGAC.

The Commercial Space Project Group was founded in 2013 to create a young generation think tank on commercial facets and entrepreneurship aspects of space. The Group publishes some relevant papers and is now contributing to a public blog where they discuss pertinent topics on this area.

In addition, SGAC is currently working on the creation of its newest project group in which our members will discuss the future of space exploration. We are working to officially announce it and present it at the upcoming Space Generation Congress in Canada.

SGAC has also spent the past year strengthening its strategic partnerships and institutional ties. Since June 2013, SGAC has developed new formal relationships, documented through a Memorandum of Understanding with the International Astronautical Federation, the IAF, the Embry-Riddle Aeronautical University, the World Space Week Association, Young ESA, the Future Space Leaders Foundation, the QB50 Project with the Von Karman Institute, and the Young Ukrainian Space Industry Workers.

SGAC is on an exciting trajectory and all the successes would be impossible without kind and generous assistance of the organizations who support our activities. We would like to thank all the international partners of SGAC who contributed to the Organization in the past year and in particular our platinum- and gold-level partners, the Secure World Foundation, NASA, the Space Foundation and Lockheed Martin, among others.

In conclusion, Mr. Chairman, the SGAC community has been very active since last June. As an organization, the output generated in 2013 and 2014

now, shows that SGAC is still gaining strength, now 15 years since its inception at UNISPACE-III. The Organization, with more than 4,000 people in its network from over 100 countries, is looking forward to continuing this upward trajectory for SGAC in the coming year and invites all member States to support their young people in participating with us on the world stage.

SGAC has distributed yesterday the Executive Summary of the 2013 Annual Report to all the delegations for a more detailed information and I personally will be here during the whole COPUOS for any further questions any of you might have.

Thank you for your time, distinguished delegates, and thank you, Mr. Chairman, for the opportunity.

The CHAIRMAN: I thank the distinguished delegate of the Space Generation Advisory Council for her statement.

The next speaker on my list is the distinguished representative of the African Association of Remote Sensing of the Environment, Mr. Sias Mostert.

Mr. S. MOSTERT (African Association of Remote Sensing of the Environment): Good morning Chair and distinguished delegates. It gives me great pleasure and honour to formally introduce the African Association of Remote Sensing and Environment, also referred to as AARSE, at this year’s fifty-seventh session of the United Nations Committee on the Peaceful Uses of Outer Space (UN COPUOS).

Recalling the thirty-third session of the United Nations COPUOS, which was held in 1990, the Outer Space Affairs Division suggested to the Committee guidelines for the granting of observer status with the Committee to international intergovernmental and non-governmental organizations. The current criteria requires that the Organization should be concerned with matters falling within the competence of the Committee on the Peaceful Uses of Outer Space. The aims and purposes of the Organization should be in conformity with the spirit, the purpose and the Principles of the Charter of the United Nations. It should be a non-profit organization in the case of a non-governmental organizations and should have consultative status with the Economic and Social Council.

AARSE wishes to express its appreciation to the Committee for its current consideration of AARSE’s

December 2013 application as pertaining to its observer status with the United Nations COPUOS.

Further affirming AARSE's adherence to stipulated criteria through recalling General Assembly resolution 67/113 which emphasized the essential role of international, regional and interregional cooperation and coordination in the field of space activities in strengthening of the peaceful uses of outer space and in assisting States in the development of their space capabilities.

Further recalling the endorsement by the Committee of workshops, training courses, symposiums and expert meetings related to the environmental monitoring, natural resource management, global navigation satellite systems, basic space science, basic space technology, climate change, human space technology and the socioeconomic benefits of space activities for the benefit of developing countries.

AARSE notes with deep concern, that despite further progress in the implementation of the activities of the United Nations Programme on Space Applications for 2013, the limited financial resources available for implementation, and thus, wish to highlight the requirement of support and voluntary participation by States and organizations alike in the realization of the Committee's aims.

AARSE supports the Committee's decision at the fifty-third session held in 2010 to allow provisional observer status to non-governmental organizations for a period of three years pending their application for consultative status with the Economic and Social Committee.

AARS would like to remind the Committee that the primary aim of AARSE is to increase the awareness of the utilization of space information with African governments and their institutions, the private sector, society at large and about the empowering and enhancing the benefits of developing and applying and utilizing responsibly, the products of space-related services in remote sensing and other space science areas.

A brief overview of AARSE's objectives are to create an enabling environment for the continent of Africa to derive benefits from, and contribute to, international space science, technology and application programmes, to assist its members as well as national, regional and international user communities through timely dissemination of scientific, technical, policy and programme information in all aspects of space science

and technology, and to provide a forum to address issues of common interest through the conduct of conferences, seminars and workshops. It also strives to promote greater cooperation and coordination of efforts among African countries, institutions and industries in the development of space technology and its application for natural resources and environmental issues.

AARSE has resolved to implement these objectives through a number of methods. The most important is a holding a biennial conference across Africa on various topics of Earth observation and geospatial information sciences. To date, nine of these conferences have been held. The first one in Harare in Zimbabwe in 1996, Abidjan in Côte d'Ivoire in 1998, Cape Town in South Africa in 2000, Abuja in Nigeria in 2002, Nairobi in Kenya in 2004, Cairo in Egypt in 2006, Accra in Ghana in 2008, Addis Ababa in Ethiopia in 2010, and El Jadida in Morocco in 2012 and the tenth conference will take place this year from 27-31 October 2014 at the University of Johannesburg in South Africa.

AARSE members are also making contributions to science and technology at international forums, specifically at the African Union Commission, AfriGEOSS, the United Nations Economic Council for Africa, and the African Spatial Data Infrastructure Initiative.

AARSE covers all the regions of Africa in every communication with all the societal benefit areas that is associated with that.

Through its members, AARSE performs studies on the environment and natural resources to generate recommendations to relevant organizations on issues that relate to the environment, natural resource and the optimal use of remote sensing technology within Africa.

AARSE thus declares that its outcomes to encompass improved governance for African countries through the use of space technology, along with the support of participation in the global community through improved accessibility to space and the responsible use of space.

Affirming our commitment to the development, utilization and domestication of space science and technology in African countries through research, education and training, AARSE requests that the status of observer at COPUOS is granted and AARSE requests this status upon the grounds that all requirements have been met with regard to the

guidelines governing the attainment of observer status, its alignment to the aims of the United Nations COPUOS, and based on AARSE's capacity as shown to further and help and realize the aims of the United Nations COPUOS.

With regard to this request, AARSE would just like to thank the Committee again for its consideration and time, and trusts the Committee to make the best possible decision for all the parties involved.

Thank you Mr. Chair and distinguished delegates.

The CHAIRMAN: I thank the distinguished delegate of the AARSE, the African Association of Remote Sensing of the Environment for his statement.

As it is the last speaker on my list, we will continue our consideration of agenda item 5, General Exchange of Views, this afternoon.

Ways and means of maintaining outer space for peaceful purposes (agenda item 6)

Distinguished delegates, with your permission, I intend to re-open agenda item 6, Ways and Means of Maintaining Outer Space for Peaceful Purposes, to hear a statement by Chile.

The distinguished delegate of Chile has the floor.

Mr. H. LAGOS KOLLER (Chile) (*interpretation from Spanish*): Thank you Chairman, and I am sorry for opening this agenda item again but we would like to make a very short statement.

Mr. Chairman, for Chile, the peaceful use of outer space must be preserved. We are seriously concerned about the possibility of an arms race in outer space. Without doubt, this would have a huge cost for citizens everywhere and would lead to an incalculable imbalance in global security. Space must remain as the province of all humankind, as defined in the Outer Space Treaty, whose principles should continue to guide us in our space activities.

However, together with implementing existing legal frameworks, we must commit to strengthening the international legal system to overcome existing gaps. Five decades ago, when the Outer Space Treaty was signed, no one thought about non-nuclear weapons or weapons of mass destruction being used in outer space. Currently, the developments of space technology have opened up infinite possibilities which are of vital importance for the development of all our

countries but, at the same time, technologies have been developed that can destroy our dreams. That is why we have endorsed initiatives to improve space security. Our country shares global responsibility in tackling these challenges which affect us all. That is why we have set up a Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space.

We are pleased with the result of this work which culminated in a report of recommendations adopted by consensus by the United Nations General Assembly. This Group, in itself, was a measure of transparency and confidence-building and proved how we can overcome differences and initial lack of trust to achieve shared higher aims.

We believe, Mr. Chairman, that we must make efforts to implement the recommendations and conclusions of the Expert Group's report in all relevant fora, including, of course, COPUOS.

We have also participated actively in the consultation proposal of the European Union to establish an International Code of Conduct for Outer Space Activities. This is a process which has also managed to make progress incorporating the considerations and concerns of many countries. We acknowledge the work of the European Union in organizing this process and we will continue to contribute to it to achieve a useful and satisfactory result for all, as we have reiterated at all these fora. These voluntary initiatives are not a replacement for binding legal instruments but, rather, the foundations upon which we can build an international environment of trust and cooperation which will enable us to pursue our aim of strengthening the international legal regime.

Mr. Chairman, at the last consultation meeting for the International Code of Conduct, for the first time, we had the opportunity to draft a statement that includes the fundamental principles which should be preserved for Latin American countries. This was at the Luxembourg meeting. I would like to recall the five pillars that Chile announced on behalf of Brazil, Colombia, Chile, Cuba, El Salvador and Mexico.

One, the International Code of Conduct does not replace binding legal instruments and should be the foundation for the development of international treaties, including a treaty to ban the siting or the location of weapons in outer space.

Two, we categorically reject the inclusion of references that could be interpreted as an intention to justify and legitimize the location of weapons in outer

space. Therefore, we agree with those delegations who have proposed to make a comprehensive reference to the United Nations Charter without specifying any specific article and, therefore, we agree with eliminating any reference to the right to legitimate defence in this text.

Three, the exploration and use of outer space should take place for the benefit and interest of all countries, without prejudice to their level of economic and scientific development and it is the province of all humankind.

Four, international cooperation for the peaceful uses of outer space is a basis upon which all States develop and strengthen in an equitable way their capacity to obtain and use the benefits of outer space activities.

And, five, the negotiation and adoption of the Code must be inclusive, without discrimination and under a multilateral mandate of the United Nations.

Thank you Chairman.

The CHAIRMAN: I thank the distinguished delegate of Chile for his statement.

We have, therefore, concluded our consideration of agenda item 6.

Distinguished delegates, I would now like to continue and hopefully conclude our consideration of agenda item 7, Report of the Scientific and Technical Subcommittee on its Fifty-First Session.

The first speaker on my list is the distinguished delegate of GRULAC, from Chile, Mrs. Teresita Alvarez.

Ms. T. ALVAREZ (Chile) (*interpretation from Spanish*): Thank you Chairman. Mr. Chairman, GRULAC thanks the Secretariat for the report of the Scientific and Technical Subcommittee on this agenda item. GRULAC would like to stress the importance of scientific progress in outer space and space technology applications in different spheres of human development, such as environmental protection, management of natural resources, and management of natural disasters.

GRULAC considers that strengthening COPUOS and its Subcommittees is an essential requirement to achieve the aims of the United Nations space treaties. In this sense, we recommend that any initiative related

to the use of outer space should be tackled within COPUOS.

And, Mr. Chairman, regarding space debris, GRULAC considers that the approval of the Guidelines to mitigate space debris to be progress. However, we believe it should be a priority to continue studying this subject and paying more attention to debris from those platforms with nuclear power sources in outer space, collisions of space objects with space debris, and other derived aspects, such as improving technology to monitor those.

We also encourage States to implement the aforementioned Guidelines as well as to communicate to the Subcommittee and to disseminate information actions taken to mitigate the generation of space debris, especially those States that are majorly responsible for the current situation and those that have the capacity to adopt mitigation measures in conformity with General Assembly resolution 62/217.

Along these same lines, we would like to stress international cooperation as a valid instrument, one which can be implemented and acknowledged by the General Assembly to deal with the matter of space debris from the perspective of countries that can be affected by this, taking into account resolution 66/71 which reaffirms the importance of international cooperation for the rule of law and stresses the importance of continuous development of the legal framework to strengthen the afore-mentioned cooperation.

With regard to the use of nuclear power sources in outer space, GRULAC believes it is necessary to continue studying and analysing the use, practices and regulation and to pay more attention to satellite platforms with nuclear power sources in the Earth's orbit, in light of reported failures to avoid collisions which are high-risk for humanity as well as the possible negative effects on the Earth's biosphere which would be in complete contradiction with the universal and indivisible guarantee of human rights, ecological balance and the protection of the outer space environment as a shared heritage of humanity. On this basis, I am referring to the Safety Framework for Nuclear Power Source Applications in Outer Space, approved by this Committee in its fifty-second session and especially new proposals made by the Working Group. GRULAC encourages all countries to guarantee that any outer space activity will be governed by the principles of conserving life and peace, preventing the use of nuclear energy power sources in the Earth's orbit and promoting international regulation and best practices.

Mr. Chairman, the saturation of the geostationary orbit is a subject which seriously concerns us. GRULAC pays specific attention to the equitable access to the orbit spectrum resource by virtue of its potential to implement social programmes of benefit to most vulnerable populations for projects of education, healthcare, as well as guaranteeing their access to information and communication technology. GRULAC would like to reiterate its position in this sense that the geostationary orbit is at risk of becoming saturated and this is a threat for the sustainability of space activities. GRULAC, therefore, considers that its use should be rationalized and made available to all States, irrespective of current technical capabilities under equitable conditions, taking into account in particular the needs of developing countries and the geographical position of certain countries in accordance with the principles of the Regulatory Framework of the ITU and the United Nations.

For this reason, in order to guarantee the peaceful and sustainable nature of the geostationary orbit, GRULAC believes it is necessary that the review of the afore-mentioned matters be permanently maintained within this Committee and on the agendas of the two Subcommittees.

Mr. Chairman, with regard to the United Nations Programme on Space Technology, GRULA acknowledges the socioeconomic benefits of space activities and those stemming from the use of instruments based on basic space technology in the fields of the environment, meteorology, natural disaster management, distance learning, tele-medicine, and stresses the importance of promoting capacity-building related to the use of space technology applications.

In this sense, Mr. Chairman, we would like to highlight the following important activities over the last year.

GRULAC welcomes and congratulates Ecuador on the successful launching of the Kryaso satellite on 21 November 2013 from the Yasni Base in the Russian Federation. This is the second nano-satellite fully constructed in Ecuador and has greater capacity for data transmission.

Our regional bloc encourages greater development of initiatives linked to the United Nations Programme of Space Technology Applications in Latin America and the Caribbean and would like to see greater regional activity for 2015.

Thank you Chairman.

The CHAIRMAN: I thank the distinguished delegate of Chile, Mrs. Teresita Alvarez, for her statement.

The next speaker on my list is the distinguished delegate of Pakistan, Mr. Arshad Siraj.

Mr. A. H. SIRAJ (Pakistan): Thank you Mr. Chairman. My delegation attaches great importance to the issue of long-term sustainability of outer space activities and believes that outer space should be used in a manner that guarantees promising safety, security and sustainability of peaceful space activities. We support any instrument, mechanism or means which is aimed at achieving this goal, to mitigate space debris. However, we would like to point out that the emerging space-faring nations may not have the requisite financial and technological resources to comply with the United Nations COPUOS Space Debris Mitigation Guidelines or any other set of guidelines or technical standards, in totality.

My delegation believes that much of the existing space debris has been created as a result of the past operations of major space-faring nations, and hence, they have a moral responsibility to assist the new entrants and implementation of these guidelines should be for the provision of Conjunction Assessment Risk Analysis and Space Situational Awareness systems.

Having said this, and due to complex legal and regulatory issues arising as a result of possible implementation of the United Nations COPUOS Space Debris Mitigation Guidelines, my delegation supports the Working Paper, submitted by the Russian Federation, on the Long-Term Sustainability of Activities in Outer Space, A/AC.105.2013/CRP13, insofar as it elaborates the following key issues.

One, information- and communication-related dimensions of the international space debris mitigation regime.

Two, absence of, and the need for, a common international practice of information exchange and a single space debris monitoring centre.

Three, absence of, and the need for, a universally recognized international database on all known space objects.

Four, absence of, and the need for, a universally accepted standard for collision risk calculation.

And, five, need for greater cooperation between launching and space debris monitoring entities during the launching phase.

Indeed, the issues of accessibility, reliability and verifiability of orbital data of space objects are of paramount importance in the process of collision risk calculation and assessing the need for performance of manoeuvre operations. As such, all efforts should be made to improve these underlying aspects, particularly keeping in view the needs and interests of the developing countries, which, as I said earlier, do not have the requisite technological and financial resources to monitor space debris.

Mr. Chairman, my delegation strongly believes that developing countries should be afforded maximum possible assistance in the implementation of the Space Debris Mitigation Guidelines. We also believe that only a globally-coordinated method will help achieve the desired outcomes. To this end, we propose that all possible mechanisms of international cooperation should be exploited, without prejudice to the national interests, and bilateral and multilateral relations of a country with other countries.

I thank you Mr. Chairman.

The CHAIRMAN: I thank the distinguished delegate of Pakistan for his statement.

The next speaker on my list is the distinguished delegate of Canada, Mrs. Andrea Matte.

Ms. A. MATTE (Canada): Thank you Mr. Chairman. Mr. Chairman, distinguished delegates, the Canadian delegation is pleased to acknowledge another successful session of the United Nations COPUOS Scientific and Technical Subcommittee. We would like to note the progress made by the Working Groups and, more specifically, those looking at long-term sustainability of outer space activities and near-Earth objects. Canada continues to be committed to the important and collaborative work done through this forum.

Mr. Chairman, as many other delegations have already expressed, the long-term sustainability of outer space is of the utmost importance. As such, Canada has consistently supported the efforts of the Working Group on the Long-Term Sustainability of Outer Space Activities, or the LTSOSA. This work has the potential to be extremely valuable to all nations and space actors by providing useful guidance based on best practices and measures that can be voluntarily implemented globally.

The Working Group on Long-Term Sustainability of Outer Space Activities is a case in point. The Canadian delegation wishes to highlight the productivity of the Working Group which is attributable to a number of factors. First, there is the setting from the onset, of clear objectives to be attained within a set timeframe. Second, the work was organized under themes conducive to focusing the attention and concerns of member States. Third, the energy of members States was mobilized through their experts, who were distributed in four Expert Groups and were able to work intersessionally. And fourth, of course, there is the dedicated work of the Chair, Mr. Martinez, who has vested time and efforts in consulting and mobilizing members States, providing direction and promoting a positive approach throughout the process.

Work is not completed yet as one Expert Group is still refining the wording of its recommendations, but still the Working Group has been able to capture the gist of the issues and high-level results were circulated to members States for their consideration.

Some 38 recommendations were produced by the Expert Groups and an agile regrouping of these into 16 high-level guidelines goes a long way towards achieving concrete results, especially within the extension year that the Chair is requesting to complete the work. Canada certainly supports the request from the Chair of the Working Group for this additional year.

Canada expects that progress will be made over the next week and between now and the February 2015 session of the Scientific and Technical Subcommittee, so that the Committee will be able to consider and possibly and hopefully endorse a final set of guidelines next year.

Again, Canada acknowledges and congratulates the Chair of the Working Group, Mr. Martinez, on the progress made so far.

Mr. Chairman, distinguished delegates, the risk posed by near-Earth objects, or, as we call them, NEOs, is another critical space issue today. NEOs are a constant threat for all nations and international collaboration is essential to pursue research and analysis in this area. The early detection and precise tracking of NEOs are essential to effectively managing threats posed by these objects and, therefore, minimizing the risks to humanity. We wish to cite as an example the recent information released by NASA regarding a 250-400 metre asteroid that passed

1.2 million kilometres from Earth on 8 June 8. This particular asteroid was discovered in April of this year.

The Canadian delegation supports the work accomplished in recent years by the Working Group on Near-Earth Objects and we were particularly pleased with the endorsement of the recommendations for an international response to the NEOs impact threat by the United Nations General Assembly last year as well as the creation of two new international bodies to observe and take action on this issue, the International Asteroid Warning Network, or IAWN, and the Space Mission Planning Advisory Group, SMPAG

The Canadian Space Agency participated in the first IAWN meeting this past January. This meeting fruitfully addressed the functions of searching, tracking and characterizing asteroids and provided a unique opportunity for governmental and non-governmental participants to learn more about the national structures in place in various countries as well as national or regional strategies for coordination.

The Canadian Space Agency also attended the first SMPAG meeting which was organized by the European Space Agency and held in Germany. Participants are currently making significant progress on the structure and Terms of Reference of this Group.

Canada is committed to collaborating in a global approach to NEOs and intends to participate actively in both of these Groups.

Mr. Chairman, efforts under the Expert Group C of the Working Group on the Long-Term Sustainability of Outer Space Activities have significantly raised the profile of space weather within COPUOS. As we believe it is important to go beyond awareness and move towards concrete actions and progress on this item, Canada is pleased with the decision to attempt an experimental and voluntary Expert Group on Space Weather. Dr. Ian Mann, from the University of Alberta, Canada, will lead the coordination of this effort, the objective of which will be to take stock of relevant technology, information and observation systems around the world and to propose recommendations, including areas for future study, to the Scientific and Technical Subcommittee. We would like to inform COPUOS members that we will soon begin informal consultations on a draft mandate for this Expert Focus Group in order to bring forward a realistic and solid proposal for discussion at the fifty-second Subcommittee session in 2015.

Mr. Chairman, global challenges affecting the health of populations are increasingly complex and at

times, devastating. As an important social driver of sustainable development on Earth, health is a precondition for, an outcome and indicator of sustainable development. A number of health indicators can be monitored from space and there is widespread interest among COPUOS members to better understand the existing and developing space technologies and to promote the utilization and application of space technologies by, or in support of, health organizations around the world. In this sense, Canada is also pleased that the Working Group of the Whole of the Scientific and Technical Subcommittee accepted a proposal to create a new Expert Focus Group on Global Health. The Group will be led by Dr. Pascal Michel of the Public Health Agency of Canada. The broad mandate of the Group will be to take stock of the technology and practices, identify gaps, propose recommendations and provide future orientations related to global health to the Scientific and Technical Subcommittee. Canada has prepared a draft of this mandate and a Work Plan in order to consult delegations on the margins of this session. Please note that my delegation plans to elaborate slightly more on this topic under the agenda item 9, Sustainable Development.

Finally, Mr. Chairman and distinguished delegates, my delegation would like to congratulate the new Chair of the Scientific and Technical Subcommittee, Mr. Both of Hungary, for leading a very successful fifty-first session of the Subcommittee.

Thank you.

The CHAIRMAN: I thank the distinguished delegate for her statement.

The next speaker on my list is the distinguished delegate of the United States of America, Mrs. Margaret Kieffer.

Ms. M. KIEFFER (United States of America): Thank you Mr. Chairman. The United States delegation would like to express our appreciation for the excellent work of Dr. Elöd Both of Hungary as the newly-elected Chair of the Scientific and Technical Subcommittee. Under his chairmanship, the fifty-first session of the Subcommittee addressed a broad range of current topics of interest to the space community.

The United States delegation also appreciates the efforts of the Office for Outer Space Affairs in supporting the Subcommittee and its Working Groups.

The United States endorses the report of the 2014 Scientific and Technical Subcommittee.

The United States is pleased with the progress of the Working Group on the Long-Term Sustainability of Space Activities, or LTS. We commend Chairman Martinez of South Africa for his superior leadership on this agenda item and in developing a draft consolidated set of guidelines for consideration at this session. We appreciate the efforts of the Working Group on the Long-Term Sustainability of Space Activities Expert Groups A, C and D in submitting their final reports and we look forward to the submission of the final report of Expert Group B at this session. The United States has participated productively in the Working Group on the Long-Term Sustainability of Space Activities and we thank the other countries for their valuable contributions. This topic is critical and we hope to reach consensus in 2015 on a set of voluntary guidelines for safe and sustainable space operations.

The Working Group on the Use of Nuclear Power Sources in Outer Space also made progress at the Scientific and Technical Subcommittee. The United States provided a formal presentation regarding the organizational structure that implements a space nuclear power source application. The United States also stressed the value and importance of implementing the voluntary Safety Framework that was developed by the Scientific and Technical Subcommittee in conjunction with the International Atomic Energy Agency. We appreciate the extension to 2017 of the Work Plan of the Scientific and Technical Subcommittee's Working Group on Nuclear Power Sources. The extension will allow additional experiences with the implementation of the Safety Framework to be presented to the Working Group by any member States or international intergovernmental organizations. We support this sharing of information which we believe facilitates the adoption of the Safety Framework.

The Scientific and Technical Subcommittee was provided updates on the important progress to expand international collaboration for Near-Earth Objects, or NEOs, detection and characterization. The first meeting of the International Asteroid Warning Network Steering Committee was held in January 2014. In February 2014, Action Team 14 and the European Space Agency hosted the first meeting of the Space Mission Planning Advisory Group, or SMPAG. The next meeting of this Group is occurring on the margins of this session, yesterday and today. The Scientific and Technical Subcommittee will continue to hear updates on the activities of these two NEO bodies.

Space debris was another important topic of the Scientific and Technical Subcommittee. The various presentations and statements on this agenda item

illustrate the dedicated research efforts to mitigate the effects of space debris. The United States is pleased that so many delegations mentioned the importance of implementing the United Nations COPUOS Space Debris Mitigation Guidelines through relevant national mechanisms.

Mr. Chairman, countries continue to benefit from collaboration under the space weather agenda item. As a follow-on to the International Space Weather Initiative, and with support from the Office for Outer Space Affairs, the United States organized an Expert Meeting on the margins of the Scientific and Technical Subcommittee entitled "Improving Space Weather Forecasting in the Next Decade," which brought together 42 scientists from 21 countries.

The United States noted with interest the proposal from Canada to set up a Space Weather Expert Group with a programme of work to be considered at the Scientific and Technical Subcommittee in 2015.

The United States also appreciated the Subcommittee's discussions related to Global Navigation Satellite Systems, or GNSS. The International Committee on Global Navigation Satellite Systems, or ICG, met during the Scientific and Technical Subcommittee to continue their work of encouraging compatibility and interoperability among global and regional space-based positioning, navigation, and timing systems and promoting the use of GNSS and its integration into infrastructures, particularly in developing countries. The United States will continue to coordinate with COPUOS member States in support of the ICG and the Providers' Forum.

General Assembly resolution 58/89 states that reports on activities of the International Satellite System for Search and Rescue should be considered under this agenda item. Thus, I would like to briefly address United States participation in the international COSPAS-SARSAT satellite search and rescue programme.

Presently, 41 countries and two organizations are formally associated with the International COSPAS-SARSAT Programme and several more have shown interest in associating with the Programme in the future. The four founding Parties, Canada, France, Russia and the United States, along with EUMETSAT and India, continue to provide a space segment consisting of geostationary and polar-orbiting satellites. Supported by ground segment contributions from an additional 26 countries, the COSPAS-SARSAT Programme now has seven polar-orbiting and seven

geostationary satellites that provide worldwide coverage for emergency beacons. In 2013, COSPAS-SARSAT alert data helped save more than 1,900 lives in 741 search and rescue events worldwide. From becoming operational in 1982 until the end of 2013, this system has provided assistance in rescuing more than 37,000 persons in over 10,400 search and rescue events.

The United States and its partners started the Development and Evaluation, or D&E, phase for the use of Mid-Earth Orbit Search and Rescue, or MEOSAR, in January 2013, using the GPS satellites as well as similar systems operated by United States partners. The D&E phase will help characterize the operational readiness of the system and when predefined criteria are met, will allow the new MEOSAR system to become operational.

Finally, the United States delegation appreciates the special presentations made before this Committee and the Scientific and Technical Subcommittee on a wide range of topics. These presentations provide complementary technical content for our deliberations and offer timely data to inform delegations of new programmes and developments in the space community as well as highlight recent applications of space technology.

Thank you, Mr. Chairman.

The CHAIRMAN: I thank the distinguished delegate of the United States of America for her statement.

The next speaker on my list is the distinguished delegate of Venezuela, Mr. Roberto Becerra.

Mr. R. BECERRA (Bolivarian Republic of Venezuela) (*interpretation from Spanish*): Thank you Chairman. Please allow me to make a comment off the agenda. I would like to remind you that the World Cup started and yesterday GRULAC, through Brazil, won the first match. I know that was just the first. There are a lot of matches to go but I can make a wager that the final with a Latin American country in it.

So now allow me to address the Working Group for their excellent work with the presentation of the report and all the work the Secretariat does within COPUOS. We see some contradictions sometimes in the drafting but you and your team have done an excellent job. Thank you very much.

Now let us have a look at the results of the Scientific and Technical Subcommittee at its last session.

There are four points I would like to comment on as we always do.

The first one, space debris. It is true that a lot of work has been done on space debris. We would like to focus on the Guidelines. We said this at the time and we are saying it again now. We need to perfect the existing Guidelines regarding space debris because their contents are ambiguous and open things up for countries who cause space pollution to continue to indulge in this bad practice. We believe that the Sustainability Group, which works on space debris, can help us improve those practices. And I should have said this at the beginning, my statement endorses the GRULAC statement made by the Chilean representative just a few minutes ago.

Now I would like to talk about the use of nuclear power sources in outer space. For this matter, Mr. Chairman, my delegation has always been consistent as this is a very difficult subject and requires a great deal of study. I would like to refer to the Working Group. We are concerned that the Expert Group on Nuclear Power Sources in Outer Space is not really linked to the Sustainability Group. We have said this, we have requested that they work together and we think that this is a bad practice and things need to change. We need to find a way to work together and not on a parallel basis and not on an overlapping basis because we are working towards a common goal.

We are also concerned that one of the members of the Expert Group on Nuclear Power Sources expressed an interest in using nuclear power sources in the Earth's orbit using different technical expressions. I do not want to get into that now but we need to do our research. We need to understand the consequences of this for the Earth's biosphere and for human lives.

We would also like to recall that Expert Groups do not make decisions. It is member States who have to decide. So I would like to make it clear and ask the Secretary to include in the report a note that we do not agree with how the Working Group on Nuclear Power Sources is working and how it is not linked and not working in conjunction with the Long-Term Sustainability Working Group.

Now my point number three, which is long-term sustainability of outer space activities. We believe that the achievements of this Working Group are positive. However, I would like to recall something that the

Russian Federation recalled yesterday and we completely agree with them. It is just the beginning but we cannot see this as a great achievement. We have scarcely begun to realize the relevance of these Guidelines. They are in line with what States want but it is just one step in the right direction. We should not feel that we have achieved our aims because we have just begun.

I am also struck by the fact that other non-United Nations proposals inspired on space debris, such as the European Union's International Code of Conduct for Space Activities, are appearing. I believe we have to work together and that we can discuss those subjects within COPUOS. We could run the risk of entering into contradiction and I hope that does not happen. I hope that European countries will have the wisdom and the knowledge to know that COPUOS is where we discuss these issues and that COPUOS should be strengthened and should then be able to discuss this subject.

Finally, Mr. Chairman, we need to talk about the equitable access to the geostationary orbit. I believe that COPUOS has been weakened there and for developing countries this is a very important subject. We are pleased to see that the ITU representative is here and we welcome him but we need to interact a lot more. We always here about taking note and talking to the ITU and I am sure that Rosa Maria from Mexico can correct if I am wrong but in the 1970s COPUOS had a very interesting stance on this matter and really gave it the importance it deserves. Unfortunately, other interests and other organizations have tried to overlap their work with COPUOS and I urge emerging countries to continue to discuss this within COPUOS and to continue making statements on this subject because it is of interest to all of us and it is essential.

That concludes my statement and I would like to thank you for your attention. Thank you.

The CHAIRMAN: I thank the distinguished delegate of Venezuela, Mr. Roberto Becerra, for his statement.

The next speaker on my list is the distinguished delegate of Italy, Mrs. Gabriella Arrigo.

Ms. G. ARRIGO (Italy): Thank you Mr. Chairman. Mr. Chairman, at the outset, on behalf of my delegation, I would like to express our appreciation for the excellent work made by Mr. Elöd Both as Chairman of the Scientific and Technical Subcommittee at its fifty-first session last February. Under his guidance we achieved significant progress

on a wide variety of substantial issues. The Italian delegation fully endorses the report of the 2014 Scientific and Technical Subcommittee.

Let me also congratulate Mr. Takao Doi, Expert on Space Applications at United Nations Office for Outer Space Affairs. Remarkable efforts have been made under the Programme on Space Applications in the last year, in particular, in the organisation of workshops and conferences around the world promoting the dissemination of space knowledge, the enhancement of local capabilities and the creation of global opportunities for developing countries.

Mr. Chairman, distinguished delegates, I will briefly turn now to the agenda items of the fifty-first session of the Scientific and Technical Subcommittee in order to comment some of its results.

As far as space debris is concerned, we are glad that a growing number of countries are implementing on a voluntary basis space debris mitigation measures and standards, taking into consideration the Space Debris Mitigation Guidelines of the Inter-Agency Space Debris Coordination Committee. We believe that those Guidelines, along with the European Code of Conduct for Space Debris Mitigation, represent an important framework reference for national space activities.

With regard to developments in global navigation satellite systems, we welcome the significant progress achieved by the International Committee on GNSS, ICG, in supporting compatibility and inter-operability among global and regional space-based positioning and navigation systems, in particular in developing countries. Italy will continue to be fully engaged in the ICG works. Its last meeting took place few days ago in Vienna in preparation also for the ninth meeting of the ICG to be held in Prague from 10-14 November 2014.

Coming to the Near-Earth Objects, NEOs, we took positive note of the final report by the Working Group on NEOS headed by Mr. Sergio Camacho. We also acknowledge the value of the recommendations by the Action Team on NEOs. Thus, in accordance with United Nations General Assembly resolution 68/75 welcoming recommendations for an international response to the near-Earth object impact threat, allow me to add our voice to those expressing their satisfaction for the establishment of the Space Mission Planning Advisory Group and the International Asteroid Warning Network.

Italy has been contributing with national experts to the Space Mission Planning Advisory Group, which

is holding a new meeting during the current COPUOS session, with a view to prepare an international response to the NEO threat, through the exchange of information and a thorough reflection on the available options, mission opportunities and NEO threat mitigation planning activities.

Mr. Chairman, Italy welcomes and strongly encourages current on-going initiatives at the international level aiming at ensuring the long-term sustainability of outer space activities. In this regard, we continue to support the dedicated Working Group under the valuable Chairmanship of Mr. Peter Martinez and we share the proposal to extend the mandate of the Working Group for one year.

Thanks also to the remarkable contribution of different national experts in the Sub-Groups. We are confident that important progress will be made during this session of the Committee in order to finalize a consistent set of guidelines.

Mr. Chairman, distinguished delegates, before turning to the conclusion, allow me to share with you some Italian activities related to a number of scientific and technical issues in our agenda.

In the field of satellite technology, NASA, in cooperation with the Air Force Research Laboratory, installed on the roofs of the Electronics, Information and Bioengineering Department of the Politecnico di Milano two satellite receivers, operating in the Ka- and Q-Bands for the study of the propagation of electromagnetic waves at high frequency, with the purpose to optimize systems for satellite communication. This project is part of the experiment of propagation Aphasat 'Aldo Paraboni', funded by ASI, which aims at studying the effects of the atmosphere in the land-space links, satellites or space probes, operating at microwave frequencies, centimetre and millimetre. The results should enable us to develop effective solutions against reception problems generated by bad weather conditions.

In conclusion, I would like to recall the ESA mission ROSETTA launched in 2004. Italy participates in the ROSETTA mission with three scientific payloads onboard the Orbiter and with the Sampling, Drilling and Distribution Device onboard the Lander Philae. ROSETTA's commissioning phase is over. All the scientific instruments onboard the Orbiter and the Lander woke up one by one, sending to Earth their 'first light'. Among them, the Italian instrument GIADA, Grain Impact Analyzer and Dust Accumulator, OSIRIS, the Wide Angle Camera of the optical, spectroscopic and Infrared Remote Imaging

System, and VIRTIS, Visible and Infrared Thermal Imaging Spectrometer. In particular, the Italian spectrometer aimed at mapping and studying the nature of the solids and the temperature on the surface of the nucleus was activated last April. VIRTIS was built by a consortium composed by the Italian Institute for Astrophysics, the Observatory of Paris and the Institute for Planetology of the DLR. In particular, the Italian Space Agency managed the contributions coming from CNES and DLR and delivered the payload to ESA.

Thank you, Mr. Chairman.

The CHAIRMAN: I thank the distinguished delegate of Italy, Mrs. Gabriella Arrigo, for her statement.

As it was the last speaker on my list, are there any other delegations wishing to make a statement under this agenda item at this time?

I see none.

We have, therefore, concluded our consideration of agenda item 7, Report of the Scientific and Technical Subcommittee on its Fifty-First Session.

Report of the Legal Subcommittee on its fifty-third session (agenda item 8)

Distinguished delegates, I would now like to begin our consideration of agenda item 8, Report of the Legal Subcommittee on its Fifty-Third Session.

The first speaker on my list is the distinguished delegate of Japan, Mr. Hiroyuki Kishindo(?).

Mr. H. KISHINDO (Japan): Thank you Mr. Chairman, distinguished delegates. On behalf of the Japanese delegation, I am pleased to take this opportunity to address the fifty-seventh session of COPUOS.

Japan fully supports the report adopted by the fifty-third session of the Legal Subcommittee. I wish to express our sincere appreciation to Mr. Kai-Uwe Schrogl, Chairman of the Legal Subcommittee, and Ms. Simonetta Di Pippo, Director of the Office for Outer Space Affairs, for their excellent work and accomplishments upon completion of their missions.

Mr. Chairman, Japan notes that the Legal Subcommittee has an important role as a unique platform for the discussion of various legal aspects of the peaceful exploration and use of outer space. The agenda item "Review of International Mechanisms for

Cooperation in the Peaceful Exploration and Use of Outer Space, will provide new perspectives on international cooperation of outer space activities, to get a clear overview of the different forms of cooperation, as well as to analyse their patterns of success.

My delegation is very proud to have Professor Setsuko Aoki as the Chair of the Working Group of this important agenda item. My delegation would like to show its gratitude to Professor Aoki for her devotion in preparing a set of questions in order to assist the Working Group in the categorization of the range of mechanisms for international cooperation in space activities undertaken by States and international organizations. Japan supports this set of questions and will continue to contribute to this agenda item.

Japan expects that the conclusion by the Working Group will facilitate future international cooperation in space activities such as international space exploration.

Mr. Chairman, an increasing number of States and even private actors are embarking on space activities and, therefore, these activities are becoming more diversified. With the development of space technology and an increase in and diversification of space actors, the need to consider safe and sustainable use of outer space has grown.

Non-legally binding United Nations instruments related to space activities which have been adopted have played an important role in complementing and supporting the United Nations treaties on outer space. Japan recognizes that these non-legally binding United Nations instruments have played, and continue to play, significant roles as effective means to address emerging issues. They have been serving as the basis to ensure the safe and sustainable use of outer space.

Japan believes that the agenda item, General Exchange of Information on Non-Legally Binding United Nations Instruments on Outer Space, is of considerable importance. At this point, Japan fully welcomes that this agenda item be retained on the agenda of the Subcommittee at its fifty-fourth session as a single issue. Hoping to facilitate discussions and to launch an exchange of information, Japan prepared a couple of questionnaires, which were distributed as a Conference Room Paper in order to simplify and ease the work of member States in reporting their specific measures related to the implementation of non-legally binding United Nations instruments. We believe that it is a meaningful step towards understanding how these instruments benefit States in securing free and stable access to outer space. We also believe that the

proposed agenda will help us to better address the challenges we face in the use and exploration of outer space. Japan is looking forward to contributing to a substantial discussion on this agenda item with a view to achieving a meaningful outcome. We hope that all delegations will make active contributions under this agenda item.

Mr. Chairman, let me reiterate Japan's unwavering commitment to faithfully fulfil its obligations under the space-related treaties.

By concluding, I would like to repeat our recognition of the important role the Legal Subcommittee of COPUOS has to ensure that space activities are conducted in a free and fair manner. As a space-faring nation, Japan does not spare any efforts to make the discussion under the Subcommittee further meaningful and effective.

Thank you for your kind attention.

The CHAIRMAN: I thank the distinguished delegate of Japan for his statement.

The next speaker on my list is the distinguished delegate of Austria, Mrs. Madeleine Salinger.

Ms. M. M. SALINGER (Austria): Thank you Mr. Chairman. Mr. Chairman, Austria welcomes the work of the Legal Subcommittee at its fifty-third session and fully endorses its report. Austria would like to express its appreciation to the Chair of the Legal Subcommittee, Professor Schrogl, as well as to the Director of the Office of Outer Space Affairs, Ms. Di Pippo, and her dedicated team for their excellent work.

Mr. Chairman, at the outset, I would like to recall the adoption of the United Nations General Assembly resolution 68/74 on 11 December 2013, entitled "Recommendations on National Legislation Relevant to the Peaceful Exploration and Use of Outer Space". This resolution is the visible result of our work in the Legal Subcommittee during the last years. We very much welcome the adoption of this resolution and would also like to highlight that it demonstrates once again that this Subcommittee is able to deliver highly useful results.

This year, the Legal Subcommittee continued the exchange of information on national space legislation. We consider this to be an important ongoing exercise in order to keep track of developments in national space legislation. In this context, we welcome a further

development and regular updating of the schematic overview of national regulatory frameworks.

I would also like to highlight the agenda item, Status and Application of the Five United Nations Treaties on Outer Space, where we continued our discussions on specific pertinent legal issues related to the Moon Agreement, the Liability Convention, and the Registration Convention. The overview, prepared by the Chair of the Working Group, Jean-François Mayence, included a synthesis of the views expressed by States so far on these legal issues and served as a highly useful basis to structure our debate. We are looking forward to continuing the discussion on these issues.

Furthermore, I would like to refer to the agenda item, Review of International Mechanisms for Cooperation in the Peaceful Exploration and Use of Outer Space.

Following a first exchange of information last year, the Working Group, chaired by Professor Aoki, started its work during this session. The discussions revealed the manifold mechanisms of cooperation and proved the need for further in-depth studies. We, therefore, welcome the questionnaire that was drafted in the Working Group as we believe that it will help in structuring our deliberations in the next sessions of the Legal Subcommittee.

In addition, I would like to mention the new agenda item, General Exchange of Information on Non-Legally Binding United Nations Instruments on Outer Space, which has been included in the agenda of the Legal Subcommittee following extensive consultations during the last session of COPUOS. The first exchange of information this year has clearly demonstrated the need for further discussions under this agenda item in the future. Given the significance of non-legally binding instruments for space activities, we consider this exchange of information to be highly useful and valuable for States. We, therefore, welcome the decision of the Legal Subcommittee to keep this item on its agenda.

Finally, Austria would like to thank the United Nations Office of Outer Space Affairs, in particular Mr. Niklas Hedman and Ms. Hell Palman, for having concluded the work on the education curriculum on space law which can now be found on the website of the United Nations Office for Outer Space Affairs. This curriculum is the result of an intensive cooperation of the Office for Outer Space Affairs with highly-esteemed international experts on space law over the past year. We are convinced that this unique

publication will be an important contribution to capacity-building in space law in the future. There are still many other important challenges in the field of space law that have been raised during the discussions of the fifty-third session of the Legal Subcommittee, such as space debris, commercialization of the space sector, or nuclear power sources. Austria is convinced that product work under these agenda items will continue in the upcoming sessions of the Legal Subcommittee.

Mr. Chairman, the German delegation proposed a comprehensive reform of the agenda and working methods of the Legal Subcommittee. We would like to commend the German delegation for its tireless efforts during last year and during the Legal Subcommittee to explain and consult its proposal. We understand that there is still a need to further discuss this reform project and hope that we can work towards a consensus solution until the next session of the Legal Subcommittee.

Mr. Chairman, in concluding, allow me to emphasize that the Austrian delegation will continue to provide strong support to the work and to the deliberations of the Legal Subcommittee, as well as to the Office for Outer Space Affairs. In this spirit, we are looking forward to productive and rewarding future sessions of the Legal Subcommittee.

Thank you Mr. Chairman.

The CHAIRMAN: I thank the distinguished delegate of Austria, Mrs. Madeleine Salinger, for her statement.

We will continue our consideration of agenda item 8, Report of the Legal Subcommittee on its Fifty-Third Session, this afternoon.

Technical presentations

Distinguished delegates, I would now like to proceed with the technical presentations.

Presenters are kindly reminded that technical presentations should be limited to 15 minutes in length.

The first presentation on my list is by Mrs. Yuko Suzuki of Japan entitled “New Era of Global Monitoring by ALOS-2: Advanced Land Observing Satellite-2 ‘DAICHI-2’”.

Ms. Y. SUZUKI (Japan): Thank you Mr. Chairman, distinguished delegates, representatives. It is my great pleasure and honour to introduce our

newly ALOS satellite. As you may know, the Advanced Land Observing Satellite-2, ALOS-2, or DAICHI-2, equipped with the panchromatic L-Band synthetic aperture radar, PALAR-2, was successfully launched on 24 May 2014 by the H-II launch vehicle from Taniguchi National Space Centre.

The Earth needs a health check. Our newest Earth observation satellite, ALOS-2, is the follow-on mission of DAICHI which contributed to cartography, regional observation, disaster monitoring and resource surveys. ALOS-2 will succeed as a mission with a health capabilities.

First of all, I would like to begin by introducing the heritage and evolution of SAR satellites as well as the development and applications in Japan.

What is SAR? Synthetic Aperture Radar, SAR, is a form of active radar. A target scene is illuminated with pulses of microwaves from fast-moving satellites. Many wave forms of echoes received successfully at different positions in orbit are currently detected and stored and then processed together to resolve elements of an image of the target region. By this means, SAR can observe the Earth at any time of day or night in all weather conditions.

Penetration by passing through objects is one of the most important characteristics of microwaves and permeability of microwaves depends on wavelength. While waves shorter than X-Band are easily reflected by leaves. A part of L-Band microwaves can penetrate through leaves and branches and reach L-Band land surfaces. Therefore, L-Band is more useful to detect forest structure and to observe the land surface itself.

As shown in this slide, SAR processing in Japan started with SEASAT which was launched in 1978 by NASA. In 1980, the National Space Development Agency, NASDA, had its first success with SAR imaging in cooperation with Japanese industry partners, such as NEC. A decade later, in January 1992, NASA successfully launched JERS-1, the first satellite to carry a SAR instrument onboard.

It was a starting point of Japanese SAR satellites in the real sense of the term although the satellites mainly aimed at resource exploration of today's developing countries. JERS-1 observation data was used for various purposes such as forest monitoring.

In January 2006, the Japan Aerospace Exploration Agency, JAXA, re-organized when NASDA launched ALOS. ALOS carried two optical sensors and one radar instrument, PALSAR. During

its five-year operation, ALOS captured 6.5 million images and in its final year the satellite made contributions in response to the Great East Japan Earthquake.

As you can see, the SEASAT and JERS-1 era, we are aiming mainly at technological demonstrations. Although ALOS was used for operation users, it was also part of the demonstration era. In 2013, JAXA marked its tenth anniversary and we are now aiming to offer solutions to society through innovative technology.

ALOS-2 roles can be divided into the following categories.

First, it will protect our wellbeing and contribute to fighting disasters. ALOS-2 will determine the nature and extent of damage when disasters occur. The formation of the Earth's crust, known as diastrophism(?) which accompanies earthquakes, flooding due to typhoons and tsunamis and overflows during volcanic eruptions. It will also measure changes in line caused by landslides and subsidence thus helping prevent disasters.

Second, it will contribute to solving environmental problems such as global warming. If we can accurately measure the actual area covered by the Earth's forests, then we can estimate the amount of carbon they absorb. Illegal logging has been a frequent occurrence in recent years in countries such as Brazil, Cameroon, Indonesia and Russia, but we can detect it, we can help to conserve the environment. The effects of climate change are most apparent in the polar regions. By observing the polar regions glaciers over the term, the satellite will contribute to ease environmental problems. Also, for example, in _____(?) and ice flows in the seas of Okhotsk will be provided to the Japan Coast Guard and to be used to ensure the safety of ships.

The third role is to contribute to society at large and to the economy, for example, by measuring land for wet field rice cultivation. The satellite will help solve food-related problems. Due to the population growth in Asian countries, these problems were severe. To tackle food shortages, it is important to monitor the state of agriculture in Japan and other regions in South-East Asia. Also, the satellite will probe underground resources. For example, off-shore oil reserves can sometimes be detected by spanning oil leaks on the ocean's surface. Detecting such leaks will help to find new resources.

In order to fulfil these important roles, ALOS-2 includes its capabilities compared to the predecessor.

I would like to show you the technical aspects of ALOS-2 in the next slides.

As explained in the previous slide, Japan has a long history of L-Band SAR which has increasingly improved especially in the resolution observer area. For example, JERS-1 could achieve only an 18 metres resolution and ALOS 10 metres, compared to ALOS-2 which will be able to observe the Earth with a three-metre resolution.

Regarding observer areas, JERS-1 did have a phase array and could only observe up to 75 kilometres. ALOS with its phase array had an observable area of 870 kilometres. In addition to the phase array, ALOS-2 will be able to observe up to 2,320 kilometres which is a left- and right-looking observation method.

The resolution of ALOS-2, PALSAR-2 has been improved from the resolution capacity of ALOS to observe more details using L-Band. This improvement became possible by adding a spotlight mode that enables the satellite to change its reader-wave direction to its moving direction, which is vertical, lifeline, observing one specific target location for a long time. As you can see, it was yet difficult to detect small objects such as cars in the 10-metre resolution.

This slide explains the observation mode and observation range comparing ALOS and ALOS-2. A dual-receiving antenna system is adopted to secure enough observation band with high resolution. As a result, the observation band is 50 kilometres with three-metres resolution in a strip magmode(?) and 25 kilometres with one-, two-, three-metres resolution in the spotlight mode.

ALOS-2 mounts a right- and left-looking observation function as mentioned which allows for a larger observer area, two to five times larger than ALOS-PALSAR. The re-visit time which was significantly reduced from 46 days to 14 days and data transmission capability has been strengthened to be more efficient. As a result, when a disaster monitoring request comes in within Japan, we can provide images of the stricken area within two hours at the earliest.

To summarize on improvements on technical aspect of ALOS-2, I would like to compare the SAR satellites among the world. ALOS-2 utilized the sun-synchronous sub-recent orbit which defers from

other SAR satellites and enables a quick response to natural disasters.

Next, I would like to touch upon the application aspect of ALOS-2. For JAXA, the outcome of satellite data applications will become increasingly important. JAXA will focus on data applications in the next decade apart from satellite development and to contribute to the societal benefits.

I have mentioned the importance of data applications but it cannot be achieved through the efforts of JAXA alone but with domestic and international cooperation in this regard. The ALOS-2 mission should support and contribute to various international frameworks. This slide explains the main missions of ALOS-2, land and sea monitoring, public safety, global environment monitoring, and improvements to society and the economy. As mentioned previously, I would like to review examples of these missions in the next slides.

This is an example of land and sea monitoring by ALOS-2. ALOS, in cooperation with the Japan Coast Guard, demonstrated that L-Band SAR is useful in monitoring sea ice. This shows polar ice monitoring. By applying this technology, ALOS-2 will observe sea ice in the polar region and indicate of global climate change.

Next slide. The Geospatial Information Authority of Japan makes use of ALOS-2 observation data to monitor land deformation activities with differential interferometry techniques. As you can see in the left image, there are 66 routine observation areas in Japan. The right image shows the observation data of the eruption of Mount Shinmoedake.

The second example addresses public safety. This is a major landslide observed by ALOS. The damaged area could be understood. In the ALOS-2 area, its observation data will be provided to use within one hour from observation.

JAXA has a long history of forest monitoring using L-Band SAR, JERS-1, ALOS and ALOS-2. L-Band SAR is especially useful in observing tropical rainforest areas and constantly cloudy conditions. It has contributed to the prevention of illegal logging in cooperation with IBAMA. ALOS-2 data was used to protect the Amazon rainforest from illegal logging. These efforts led us to a reduction in illegal logging from 12,000 square kilometres in 2008 to 7,000 square kilometres in 2009.

Next, I would like to conclude my presentation as follows.

Number one, JAXA leads the world in development and applications of L-Band SAR.

Number two, JAXA expects expansion of both science and applications with our new state-of-the-art L-Band SAR satellite, ALOS-2-PALSAR-2.

Number three, JAXA will continue in leading the world in SAR and contribute to the wellbeing of the international public which are disaster monitoring of damaged areas, both in considerable detail when these areas may be large. Two, global monitoring of tropical rainforests and identify carbon sinks, continuation updating of data archives relating to national land infrastructure information, and effective monitoring of cultivated areas.

Space-based technology can provide valuable social and economic benefits to enhance the quality of human lives.

Thank you very much for your attention.

The CHAIRMAN: Thank you Mrs. Suzuki for your presentation.

Is there any delegate who has questions for the presenter?

The distinguished delegate of Canada.

Mr. J.-M. CHOUINARD (Canada): Thank you Mr. Chairman. Let me first commend the distinguished delegate of Japan for her presentation on ALOS-2 and also Japan more generally for the successful launch of the satellite last month. It is a major accomplishment.

I have two questions for our distinguished delegate. First, I would like to know if you could say some words about the data policy that would surround the ALOS-2 data, and second, is there in Japan a domestic legislation that controls the distribution of data?

Thank you very much.

The CHAIRMAN: Thank you distinguished delegate of Canada. Mrs. Suzuki, you have the floor.

Ms. Y. SUZUKI (Japan): JAXA is working on it and I would like to on behalf of the delegation, as I have made my presentation today, I would like to precisely get back with you information to Canada.

Thank you very much for your questions.

The CHAIRMAN: Is it OK. Thank you.

Is there another question from any distinguished delegate?

I see none.

The second presentation is made by Mr. Pierre Goerens of Luxembourg entitled "Space Activities and Regulatory Framework of Luxembourg: An Overview in Relation to the Application for Membership in the Committee on the Peaceful Uses of Outer Space".

Mr. P. GOERENS (Luxembourg) (*interpretation from French*): Thank you Chairman. First of all, allow me to congratulate you on your election as Chair of this Committee and to thank the last Chairman and the Secretariat, of course, for their hard work.

I would also like to thank you for giving me the opportunity to talk about Luxembourg's space activities and regulatory framework in support of our candidacy to become members of COPUOS.

I will structure my intervention in three parts. The first will be our activities connected with outer space. The second will be the regulatory framework and thirdly, the conclusion.

Luxembourg's space activities are focused on two pillars. The fact that the SES satellite operator is in Luxembourg and activities involving the European Space Agency. Luxembourg does not have a national space agency but since 2000, it has been committed to cooperate with the European Space Agency, first in the ARTES Programme for Satellite Telecommunications, and since 2005, as a member of the European Space Agency. Since 2008, we have been implementing a National Action Plan for Space Research and Development and currently Luxembourg, together with Switzerland, is co-chairing the Board of the European Space Agency.

The SES today is one of the world's largest commercial satellite operators. The company was set up in 1985 under the name of Société Européenne des Satellites at the initiative of a Luxembourg Government. The company belongs essential to private shareholders but the State of Luxembourg, together with State banks, is also a shareholder and has one third of voting rights. The company is also linked to the State by a licence which allows it to operate satellites and to use orbital rights.

The first satellite devoted to broadcasting European television programmes was launched in 1988, the ASTRA-1A satellite. The SES was the first geostationary satellite operator to co-position several satellites at the same orbit position so as to be able to receive a greater number of satellite TV channels using a satellite dish. So thousands of antenna are directed at its primary orbital position 19.2° East when it used to take seven co-position satellites.

The company then diversified its activities and became a global operator. Today, only part of the SES Group's satellites are Luxembourg's satellites. Eighteen Luxembourg satellites are currently in geostationary orbit and two have been re-positioned since.

On this page, you can see the current SES satellites all over the world. The light blue ones are those who use Luxembourg's orbital rights. They are essentially in four orbital positions. SES provides service all over the world responding to the different communication needs of individuals, companies and institutions in all countries in central regions as well as in sparsely populated remote regions.

Today, SES is not alone in launching Luxembourg's satellites into space. LuxSpace is a small Luxembourg company, a subsidiary of the German OHB company. LuxSpace has built and launched two satellites at low orbit. These are micro-satellites that collect data to identify vessels and ships. This map shows the position of ships using satellite data.

Emergency.lu is a response to the challenge of rapidly re-establishing communications for humanitarian aid bodies in the event of a disaster. Based on satellite communication, Emergency.lu enables the transport and installation of the necessary equipment within a few hours to re-establish communications and mobile communication networks for humanitarian aid organizations. The service is provided by Luxembourg to the international community and is implemented by several Luxembourg partners in cooperation with the United Nations World Food Programme. Outside emergency situations, the infrastructure is used for connectivity in different damaged areas, notably in cooperation with UNHCR. The system has been deployed in emergency situations in the Philippines and for a longer time in South Sudan and Mali.

Here you can see an antenna which is easy to transport on a small plane. It uses C-Band technology and it fits in a small box and then it is blown up when

needed. So you just need a very small plane to transport this and it takes a very short time to set up in an emergency zone or in a disaster zone.

In terms of R&D, Luxembourg has developed an ambitious programme which works essentially with the European Space Agency. However, Luxembourg has launched a National Plan of Action and bilateral and multilateral Plans of Action.

Here, you can see the evolution of our space R&D annual budget in Luxembourg. You can see that the annual budget for space research and development has grown rapidly since we joined the European Space Agency.

Space is also important at the University of Luxembourg, both at the Faculty of Science, Technology and Communication and also in the Faculty of Law, Economics and Finance, and at the Interdisciplinary Centre, Security, Reliability and Trust, and SES funds a Chair in satellite communications and media law. There is a Master's Programme that also focuses on space communications regulatory framework.

To recapitulate, the space sector occupies a very important place in Luxembourg's economy in terms of GDP. If we include satellite operators activities and research and development, the percentage is actually the highest in Europe.

Regarding the international regulatory framework, Luxembourg ratified the Liability Convention in 1983 and the Space Treaty in 2005. It has been a member of ITU since 1866 and as a member of the European Union, the European Regulatory Framework, especially for telecommunications and audio-visual media, is also applicable in Luxembourg.

Luxembourg has still not ratified the Registration Convention but we periodically notify information of space objects on the basis of the United Nations General Assembly resolution 17/21B of 20 December 1961. We are currently studying the possibility of setting up a National Register of Space Objects in order to accede to the Registration Convention.

In national terms, there is an important law, as amended on 27 July 1991, on electronic media. As I said, SES was initially a radio and television broadcasting company. This law included the provision according to which a Luxembourg satellite can only be operated through a government licence. These licenses include a set of specifications with obligations to be respected by the licence holder. The licence indicates

the orbital positions that can be used for SES. The holding company is SES-ASTRA, a subsidiary of SES. The specifications mean that the Government can appoint one or more commissioners to monitor whether these positions have been respected.

Another important law is that of 30 May 2005 dealing with the management of radio-electric frequencies.

To conclude, Luxembourg's candidature to become a member of COPUOS was received by the Secretariat on 8 November 2013. This has now been presented to the Scientific and Technical Subcommittee and the Legal Subcommittee and we are now submitting it to you. We think that our candidature is justified by the importance of space activities in our countries and we hope to make a useful contribution to the work of COPUOS. We do have a lot of experience, especially in those satellites that change their orbital position and that have relevant payloads from different countries which are also lent to other operators or which change ownership. We also carry out significant research and development and we hope that you will favourably welcome our candidature.

And thank you for giving us the opportunity to talk about our activities.

Thank you.

The CHAIRMAN: Thank you Mr. Goerens for your presentation.

Is there any delegate who has questions for the presenter?

I see none.

The third presentation on my list is by Mr. Jean-Charles Bigot of the European Space Agency entitled "Fifty Years of European Cooperation in Space".

Mr. J.-C. BIGOT (European Space Agency): Thank you Chairman, distinguished delegates, good morning. This presentation is about fifty years of European cooperation in space. To celebrate 50 successful years, 2014 is dedicated to Europe's achievement in space and the main objective is to prepare the future based on the experience and expertise of the past in partnership with ESA member States on European industry, providing added-value in a highly volatile environment of rapid evolution and serving European cooperation for innovation.

The collaborative European space effort was officially born 50 years ago when two leading scientific Statesmen, Pierre Auger of France and Edoardo Amaldi of Italy made the first steps towards establishing a significant European presence in space.

A high-level meeting of scientific and government officials met at Cern, Meyrin, near Geneva in Switzerland in late 1960 where the Commission to study the possibilities for European collaboration in the field of space was approved.

In 1964, two Conventions of ESRO, the European Space Research Organization for Science, and later on application, and ELDO, the European Launcher Development Organization, entered into force.

Out of the experience that marks the 1960s and the 1970s, the template for a valuable collaborative European effort in space science and application, along with launcher development was defined. A new single organization was established in 1975 taking over from these two organizations, ELDO and ESRO, and is, as you all know the European Space Agency.

Space science was made mandatory and space applications were expanded to include telecommunications, meteorology and navigation. A package deal made possible to embark in two major development programmes, the Launcher Ariane Programme under the leadership of France, and the post-Apollo collaboration with NASA with SpaceLab under the leadership of Germany.

And now you will see a small movie of five minutes that has been produced to celebrate this fifty years and after this movie, I will continue to present some results and achievements of fifty years in space. Thank you.

Video

"The first Ariane launch, a milestone in history as Europe entered the select club of space powers.

With the newly-created European Space Agency, this confirmed Europe's independent launch capability, a key condition for any meaningful space programme. Today, Ariane is now in its fifth generation and with Soyuz now operating from Kourou and the new Vega Launcher, Europe has complete autonomy and the capability to launch any satellite to any orbit.

With independent access assured, ESA has been able to cover all the domains of space, conceiving things that nobody has done before, landing on Saturn's largest Moon, landing on a comet, mapping our Galaxy with unprecedented accuracy, producing the most precise map ever of the first light of the Universe, better understanding our planet and the causes and effects of climate change. And at the same time, ESA has been central to European industry's development of systems and applications essential to the needs of our citizens.

Without satellites, daily life would grind to a halt. No entertainment or telecommunications. No navigation. No meteorology. Most services we take for granted today rely on space. Space is key for our future, for our society, sometimes even for saving lives.

Space is also key for our economy. Every Euro invested in space applications returning more than 20 Euros.

Space is also fundamental in inspiring society, in motivating our youth to undertake scientific and technical studies vital for Europe's future. All this is possible because 50 years ago European leaders with vision took key decisions. In 1964, the creation of ELDO to develop a shared European launcher and ESRO, dedicated to building scientific satellites, gave the initial impetus for the success industry we have today and paved the way for the creation of ESA.

Nowadays, thanks to ESA and its member States, the most advanced satellites and space infrastructures are developed in Europe and the European space industry is able to master the most advanced technologies from future all-electrical satellites to new systems integrating telecommunications and Earth observation. It is a competitive and innovative industry which supports growth and creates jobs, ensuring that Europe faces the challenges of the future.

ESA, backed by its member States, makes it possible, a major asset for Europe.

ESA, serving European cooperation and innovation for a better future."

End of video

So what has taken place already to celebrate this fiftieth anniversary? The ESA Director-General, Jean-Jacques Dordain kicked off the 50-years

anniversary at the occasion of the stone-laying ceremony in ECSAT, Harwell, on 5 December 2013, with the presence of the United Kingdom Minister Willetts and former ESA Director-General Roy Gibson. ECSAT is the European Centre for Space Application and Telecommunications. It is a new facility in the United Kingdom. It is based in the Harwell Science, Innovation and Business Campus in Oxfordshire and it is supporting activities related to telecommunication, integration, integrated applications, climate change technology and science.

And so at the occasion of the two-hundred and fortieth ESA Council Meeting on 19 March this year, Johann-Dietrich Wörner, the ESA Council Chair and Chairman of the Executive Board of the DLR and Jean-Jacques Dordain, who is our Director-General, launched the celebration of fifty years of European cooperation and its achievements in front of ESA Council delegations. This was followed on 21 March by a lecture by space historian Professor John Krige and John Krige was a Project Leader of the history of the European Space Agency.

An exhibition celebrating 50 years of European cooperation in space was inaugurated at the European Parliament in Brussels on 1 April by Ioannis Tsoukalas, a member of the European Parliament during the Greek European Union Presidency.

Also the Belgian State Secretary for Scientific Policy, Philippe Courard, and the Luxembourg Vice-Prime Minister of Economy, Etienne Schneider, met in ESA Redu with ESA Director-General, Jean-Jacques Dordain, to sign a Partnership Agreement and on this occasion, the 50-years anniversary was also celebrated. Redu is a Centre of Excellence for In-Orbit Testing Activities based in Belgium.

At the presence of the Vice-Minister for Economic Affairs of Poland, Grazyna Henclewska, an event was held in Warsaw on 11 April at the local planetarium, along with the opening of the Polish ESERO and the presentation of business opportunities for Polish companies within ESA. The event was also the occasion to celebrate 50 years of European space cooperation.

ESERO is a space education resource office and it is a main way of supporting the primary and secondary education community in Europe and we have seven offices in Europe for now.

The ESA Headquarters event for active and retired staff, contractors, their families and local partners took place on 7 May at UNESCO. Some

500 guests participated in the event. The Programme runs through 50 years of space cooperation and provided a lively discussion on future opportunities and challenges.

Under the theme “Fostering Industrial Competitiveness, Innovation and Sustainability Through Industrial Policy in Space Activities”, the first 50 years highlight event was held in Berlin on 19 May in the presence of the French and German State Secretaries and several Heads of Agencies. Over 200 guests from industry, governments and parliaments gathered at the Deutsches Historisches Museum to celebrate ESA’s successful industrial policy.

Mr. Chairman, let me please give some words about ESA as a mechanism and actor of international cooperation.

I already mentioned the origin of our Agency, created in 1975 from two sister organizations, and the motivation was to seek institutionalized cooperation in space activities and to pool our resources to enable space activities. The purpose is to provide for and to promote for exclusively peaceful purposes cooperation among European States in space research and technology and their space applications. And this was done by elaborating and implementing a long-term European Space Policy, by elaborating and implementing space activities, by coordinating the European Space Programme on national programmes, and by elaborating and implementing an appropriate industrial policy.

So ESA is an intergovernmental organization with a Convention which is an international treaty. The foundation of will and the exercise of assigned competences is materialized through an executive organ, the Director-General, assisted by his staff, and a collegial organ, the Council at delegate or ministerial level.

There are mandatory activities which are a set of different activities to which all member States are obliged to contribute. These are basic activities such as education, future project studies and technology research, scientific programmes including satellites and other space systems. But there are also optional activities decided by some or all ESA member States based on national and cooperative interests including the design, development, construction, launching, placing into orbit and control of satellites and other space systems, launch facilities and space transport systems.

The results of such mechanisms of international cooperation are the following: 500 delegates adopted 500 resolutions, 2,200 staff members which are deployed over its headquarters, establishments in Europe and centres and additional offices in stations around the world, including the European Space Port in Kourou, French Guyana.

It has today to manage a budget of 4.1 billion Euros, has developed and in part operated a fleet of more than 80 satellites on spacecraft, including the contribution to the International Space Station, has developed six types of launcher, performed 225 Ariane, two Vega and eight Soyuz launchers that put 400 spacecraft in orbit. It has managed about 60 per cent of all public space spending in Europe, spends about 85 per cent of its budget on contracts with European industry and has awarded 25,000 contracts. ESA performed activities on programmes in all major space fields, including space science, robotic exploration, Earth observation, navigation, telecommunications, launcher technology operation and human spaceflight.

There are 80 programmes that are executed in parallel and 400 International Agreements with governments, space institutions on international developmental organization were approved and signed.

There are, in particular, remarkable results in terms of achievements in space missions and I will just mention some of them. For instance, in the domain of the exploration mission with GIOTTO, performing the first-ever fly-by of a comet in 1986, HUYGENS performing the first soft landing on the surface of a planetary body beyond Mars in 2005, ROSETTA tasked to deploy the first-ever unit on a comet later this year in 2014.

In the domain of Earth observation missions, ESA is one of the world’s leading programmes with state-of-the-art Earth science and application missions including the Earth Explorer as well as the Sentinel fleet of satellite families to be deployed as of this year. The first satellite of this family, Sentinel-1A, was successfully launched on 3 April 2014.

The results also is ESA has a long-term involvement in establishing the first permanently inhabited outpost in the Earth’s orbit, the International Space Station. But many of these achievements are not successes of ESA alone and these achievements are all equally owed to partners around the world who contributed with their knowledge, experience, technical capacities, financial resources, space and ground infrastructure or political support.

ESA is not only a mechanism but also an actor of international cooperation and Article XIV of the ESA Convention empowers ESA to cooperate with other institutional organizations and institutions with governments, organizations and institutions of non-member States. Such cooperation may take the form of participation in mandatory scientific programmes or in optional programmes, based on the common solid political mandate from all our ESA member States.

By 2014, more than 60 States in the world have national space programmes and international cooperation by ESA with non-member States is not only a strategic consideration but it is a necessity and includes securing ESA participation in resource-intensive and complex programmes, important for the European space sector, the International Space Station, for instance, and securing operational support ESA missions through ground stations located outside member States territory, for instance. It includes also leveraging ESA resources, optimizing the data access on mission exploitation and serving global objectives space data on services provision to developing countries, for instance.

An actor of international cooperation with non-member States in Europe participating or not to the European Cooperating States ECS Programme, the scheme to prepare candidate States for an accession to the ESA Convention.

With non-member States outside Europe, with the United States, Russia, China, Canada, Canada has a particular cooperation with us and ESA Cooperating States, Japan, India, Australia, but also in the Mediterranean, in the Asia-Pacific, and the Latin American and African regions.

An actor of international cooperation, there are always international organizations, for instance, with the European Union, through the Framework Agreement between the European Space Agency and the European community, an International Treaty signed in 2003, the cooperation in Galileo and Copernicus, which are the two European Union flagship programmes of cooperation for which ESA provides technical and procurement capabilities indispensable for the European Union to carry out a space programme.

With EUMETSAT, the relation between ESA and EUMETSAT is covered by a series of programme-related agreements for the development by ESA of new meteorological missions and their hand-over, after

launch, to this Organization, EUMETSAT, for their exploitation.

With EUTELSAT, the Telecommunications Preparatory Programme, for instance, to examine medium- and long-term opportunities with EUTELSAT and potential other missions, etc.

Also with the United Nations Organization and related organizations, with ITU, FAO, WMO, UNESCO, with the Secretariats of the United Nations Convention such as the UNFCCC or the UNCCD, the United Nations Office for Outer Space Affairs, and as you know, ESA is a permanent observer of the COPUOS since 1975.

Also as a partner in international regional or global initiatives and I will just mention some of them.

CEOS, ESA is a founding member of this international coordination mechanism.

The International Charter on Space and Major Disasters, which is a cooperation mechanism between owners and operators of Earth observation missions to allow for rapid access to satellite data in the event of a natural disaster.

TIGER, initiated following the World Summit of Sustainable Development in Johannesburg in 2002, to assist African partners in the collection, analysis and use of water-related geo-information for improved integrated water resources management, which is an international collaborative effort which has assisted more than 100 African water authorities and research institutes in 42 States.

DRAGON, a cooperation programme between ESA and the People's Republic of China, exploiting Earth observation data for science and application, and other cooperative initiatives in the field of space debris mitigation, space systems standards, etc.

To conclude this presentation, Mr. Chairman, ESA has been standing for since its inception as a mechanism and actor of regional cooperation, peaceful use of outer space, international cooperation and sustainable development. ESA has been a flexible mechanism and an innovative actor and a reliable cooperation partner in the exploration and use of outer space for half a century. The ESA Convention has proven to be a robust basis for enabling the functioning of this multilateral mechanism comprising in the meanwhile 20 European States and growing.

For your information, outside this room there are flyers about this 50 years of European cooperation in space.

Thank you very much for your attention.

The CHAIRMAN: Thank you Mr. Bigot for your presentation.

Is there any delegation who has questions for the presenter?

I see none.

Distinguished delegates, I will shortly adjourn this meeting. Before doing so, I would like to inform delegates of our schedule of work for this afternoon.

We will meet promptly at 3.00 p.m. At that time, we will continue our consideration of agenda item 5, General Exchange of Views, agenda item 8, Report of the Legal Subcommittee on its Fifty-Third Session, and agenda item 15, Other Matters, to consider the following issues: membership of the Committee, observer status with the Committee and composition of the Bureaux of the Committee and its subsidiary bodies for the period 2016-2017, and time permitting, Organizational Matters.

There will be two technical presentations this afternoon by a representative of the Space Generation Advisory Council entitled “The Space Generation Fusion Forum 2014: Report and Highlights”, and by a representative of the Republic of Korea entitled “Preparedness Plan for Space Hazards in the Republic of Korea”.

The Space Missions Planning Advisory Group will continue its second meeting later today 2.00 p.m. onwards in Meeting Room C5 on the Seventh Floor of the ‘C’ Building.

During this session of the Committee, the delegation of China is donating a scale model of the Yutu Lunar Rover. A reception to mark this donation will be held today during lunchtime in the Rotunda, starting at 1.00 p.m. It means just after the adjournment of our meeting.

Are there any questions to this proposed schedule?

I see none.

This meeting is adjourned until 3.00 p.m. this afternoon.

Thank you.

The meeting adjourned at 1.00 p.m.