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

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665th Meeting
Friday, 14 June 2013, 3 p.m.
Vienna

Chairman: Mr. Yasushi Horikawa (Japan)

The meeting was called to order at 3.01 p.m.

The Chairman Good afternoon distinguished delegates. I now declare open the 665th 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 afternoon. We will continue our consideration of agenda item 4, General exchange of views, and we will continue, and hopefully conclude, our consideration of agenda item 5, “Ways and means of maintaining outer space for peaceful purposes”, and agenda item 7, “Report of the Legal Subcommittee on its fifty-second session”. We will also begin our consideration of agenda item 6, “Report of the Scientific and Technical Subcommittee on its fiftieth session”, and agenda item 14, “Other matters”.

There will be three technical presentations this afternoon: by a representative of the Bolivarian Republic of Venezuela entitled “Satellite Miranda”, by a representative of Turkey entitled “Recent space activities in Turkey”, and by a representative of Tunisia, entitled “The state of utilization of space technologies by the National Weather Service of Tunisia”.

The Working Group on the Long-term Sustainability of Outer Space Activities will then hold its first meeting.

This evening, starting at 6.00 p.m., there will be a reception hosted by the Asia Pacific Space Cooperation Organization (APSCO). The reception will be held in the Mozart Room of the VIC Restaurant.

Are there any questions or comments on this proposed schedule?

I see none.

Distinguished delegates, I would now like to continue our consideration of agenda item 4, General exchange of views.

The first speaker on my list is the distinguished delegate of Iran. You have the floor.

Mr. H. Shafti (Islamic Republic of Iran) Thank you. Mr. Chairman, it is a privilege to be amongst the colleagues who make the effort to participate in finding ways and means of better serving of humanity through the peaceful uses of outer space, and indeed it is a pleasure to congratulate you, Mr. Chairman, for your already proved effective leadership of such an effort. As before we assure you and your esteemed colleagues of our full support in your endeavours.

Mr. Chairman, we are commemorating the fiftieth anniversary of first woman flight into space and warmly congratulate this occasion to the first as well as all women who dedicated their life and time to space related activities through the history of space. In this connection, we would like also to record our appreciation for the valuable initiative of the Director of UNOOSA and her colleagues to organize the special sessions for this remarkable event, showing the fantastic role of women in space activities — but this glorious picture will not be complete without recognizing the exceptional role of Dr. Mazlan Othman in the very same direction. We are sure that her sincere efforts in enhancing the role of the office for better serving of humanity will not be forgotten in the history of the UN in particular and in the history of space for mankind, at large. We wish her every success in the future and hope she will allow us benefit from her wisdom, knowledge and experience in the future too.

Mr. Chairman, our sincere gratitude also goes to Mr. Niklas Hedman and his colleagues in the secretariat for their usual important role in convening and facilitating the work of the committee.

Mr. Chairman, distinguished delegates, let me now, make a short report of our national activities. As reflected in our presentations in the previous sessions of the two subcommittees, Islamic Republic of Iran has been actively involved in peaceful uses of outer space by launching three small satellites and of course the recent achievement of sending the first live animal into the sub orbit. We are determined to continue our progress on the basis of our national capabilities with the attitude of promoting peaceful international cooperation in the field of space activities. Our trend of

expansion of scientific and research capacity will hopefully add to these outcomes in the coming years with an accelerating rate.

Mr. Chairman, distinguished delegates, the long-term sustainability of outer space activities is a crucial issue before us. The Islamic Republic of Iran attaches great importance to this issue and appreciates the endeavours of the working group on long-term sustainability.

Long-term sustainability of outer space will be achieved if all activities carried out in outer space are regulated in good faith with transparency. Sustainability and its requirements lead us to develop regional and international cooperation rather than arbitrary approaches which have implications on the promotion of peaceful uses of outer space in developing countries. This means the recommendations and regulations in this direction should avoid the measures that would limit access to space by developing States with emerging space capabilities.

Bearing in mind the importance of sustainable development and its requirements, we do emphasize that any form of Code of Conduct for outer space activities should be of a comprehensive and peaceful nature within the UN legal framework with full contribution of Member States, acceptable by all.

Mr. Chairman, we would like to reiterate our position on the geostationary orbit as a limited source and emphasize that the utilization of this orbit spectrum must be rationalized and extended to all States in conditions of equality taking into account the geographical location of certain countries in compliance with the established principles in the normative framework and the decisions made by the ITU and other relevant bodies of the UN system, giving priority to the contributions of space activities for sustainable development and the achievement of the Millennium Development Goals.

Mr. Chairman, coordination and synergies between the two Subcommittees would promote understanding and facilitate the work of COPUOS to upgrade international peaceful uses of outer space. In this connection the Committee should take into consideration the means and ways of strengthening its role to make such a synergy and encourage the subcommittees to review their arrangements with the view to optimize the process of the two subcommittees performance.

Mr. Chairman, distinguished delegates, this Committee is unique in importance of its vision and mission. It is unique not only because its span of control is as great as space but more importantly because its mission involves putting global interest

ahead of national interest; because uses mankind heritage rightly to serve mankind regardless of individual's status. This indeed is an excellent example of "Doing the right work as well as doing the work right". This means that in the lights of valuable achievements, since the establishment of the Committee on the Peaceful Uses of Outer Space, time has now come to enhance the future role of Committee agenda item thirteen. For this purpose we propose forming a new working group to assess organizational requirements and structure to suit its future vision and mission having already elapsed more than fifty years since its establishment.

In the light of rapidly changing societies as well as remarkable growth and development of space technology and its implications, it is now the high time now to pay attention to the rather urgent matter of the future role of the committee.

In our part we shall be pleased to cooperate accordingly. Thank you Mr. Chairman and distinguished delegates for your kind attention.

The Chairman I thank the distinguished representative of Iran for his statement. The next speaker on my list is the distinguished representative of Iraq. You have the floor.

Mr. A. Naoom (Iraq, interpretation from Arabic) Thank you Mr. Chairman. Ladies and gentlemen, distinguished officers, I would like to affirm our great trust in the Committee that has already made great accomplishments under your leadership. We would like to thank Dr. Mazlan Othman, Director of the Office of Outer Space Affairs and her colleagues, who have worked with great ability and who also came forth with the idea of celebrating the first flight in space of a woman. And even after her retirement, we will continue with her admiration of Dr. Othman.

I would like to tell you about events in my country. Being aware of the importance of the peaceful uses of outer space in Iraq, our vision, which is making use of space technology for peaceful purposes, is such that we have looked at space applications in Government in 2011, to assess the situation through the different Ministries and Government offices, and that to elaborate national strategies. Our study led to 315 Government offices that use space technology and it also showed management of natural resources, land management, infrastructures, general services, land planning and management and scientific research. As to disaster management, a Ministerial committee concluded its work preparing a draft bill for the creation of a national office — a national body that would have the task of disaster management. That bill should be passed shortly by Parliament. Last May,

there was heavy rainfall — unprecedented rainfall — with the effect of heavy damage and loss in infrastructures and homes, and furthermore, the mines and the remains from war in our country were also flooded areas. We have confidence in UN-SPIDER, thanks to which we have had satellite maps and we managed to face the crisis. We have a scientific presentation for next week on the subject. Furthermore, my country would like to thank Austria, the Czech Republic and Germany — excuse me, extend sympathy to these countries because of the floods and the victims of floods. We have had no data to measure precipitation and to find out more as to the situation on the ground, and 500 million cubic metres of water daily were observed the 2nd and 8th of May this year. To deal with this disaster situation and to set up emergency plans, we examined a scenario: looking at the possibility of closing the dam and we looked at SRTM data and we also examined the situation around the Tigris river as well as the Mosul region, which is 40 km from the dam we have considered breaking to deal with the disaster situation that is a potential there. We also have an early warning programme for floods and other disasters: earthquakes or sandstorms. We have a website on the Internet for the citizens for their awareness, so that they can also find shelter nearby. On sandstorm observation: just to look at the background — we have determined the sources and — seen in Iraq — in 2010, 2011, 2012 and we used MODIS, thanks to the Terra satellite and we also had managed to follow the sandstorms with high slits and we also have used NOAA data. There is also the question of measuring the sand or dust in the atmosphere and that, in order to compare the outcome — the results — and for analysis as well as to determine how to deal with the problems. On the sandstorms which in the Middle East are cause of losses, more than 13 billion dollars for these countries, the United Nations Environment Programme (UNEP) organized a meeting to address the problem of sandstorms. This was held in Abu Dhabi 6 and 7 of May this year. Expert delegations and technical experts from the countries of Iraq, Iran, Jordan, Kuwait, Turkey, Qatar, Bahrain, Syria, Oman, Saudi Arabia and the UAE, all took part in the meeting with experts present and representatives of a number of international organizations also attended: the ICN, the UNDP, RMP and the WMO. The aim of the meeting was to find a roadmap for these countries in order to deal with the phenomenon of sandstorms for 3 years and the programme is to be launched in 2014.

For water management and resource management, we have irrigation in farming regions and we use satellite images and the strategic studies in water resources for those. We calculate the amount of water needed thanks to irrigation project MAPS.

100,000 to 1 ratio — scale — and we have used — 5,000 excuse me — 5,000 to 1 scale maps with SPOT Satellite Imaging with 5 m accuracy. We used eCognition software, RASP programme, as well as strategies for water resource uses for the next 20 years and we also have maps that we have produced for humid areas, thanks to the ASTER rapid and SPOT satellites. We observed populated areas in marshland or humid areas, areas under water, and thanks to this, we have managed to observe the region.

For ground water we have looked at six regions in the south thanks to satellite imaging for data base creation for ground water and observation of characteristics for geological studies. We are continuing with our work on mapping of the Earth's surface — LULC — which is a programme launched in 2002 with 21 sheet maps and we are hoping to have 37 by 2018. We have observed dry regions, arid regions, inhabited regions, farm regions, non-farming regions and humid regions, thanks to LandSat SPOT and QuickBird satellites.

For small satellite technology, 15 Iraqi students have been involved in high study programmes in Rome at La Sapienza University and those students have grants from the Italian Government. The programme was also used for the manufacture of the satellite CubeSat, which weighs 4 kg, and is called TigrisSat, from the name of the river, the Tigris. The purpose of the satellite is to be used for teaching, broadcasting culture and science and space technology and we hope to be able to launch the satellite towards the end of this year. In that connection, I would like to thank the Italian Government and all the professors who supervise the programme.

In space communications, Iraq has already coordinated with the ITU in order to have orbits for Babel 1, 2 and 3. However, this was cancelled because we could not use this during the timeframe set because of circumstances. 65 degrees East was set aside for Summer 1 and Summer 2, which is for national coverage only. The Iraqi Government has been very attentive to the matter and a decree was issued thanks to which the Ministry of Telecommunications could supervise the Iraqi satellite project itself, also for the benefit of other ministries. This project is one of the most strategically important projects for Iraq, which could lead to more sophisticated and more modern technology to be used by our country for the private and public sectors both. We also determined needs for telecommunications and television broadcasting. We have an Internet site as well inviting companies specialized in the area to use the same orbit. And the orbit can also be used for television broadcasting.

Mr. Chairman, here at this point, I would like to thank the Korean Space Research Institute and the Islamic Network for Space Technologies and the United Nations Programme for the Environment for their constant support given to our trainees in space technology and its applications. And I would like to take this opportunity to give our full support to the joining of the Islamic Network of the Committee COPUOS. Iraq is a member of the Network itself. We would also like to thank USGS for their support in space imaging, thanks to which we have managed to have coverage of our whole country. And I would also like to thank the Office for Outer Space Affairs for the support given to Iraq and I can assure you that capacity-building in developing countries in the area of space affairs has helped us attain our aims. We look forward to continuing cooperation with the office, and at international and regional levels both, to strengthen peaceful uses of space technology and to deal with problems of disaster. Thank you.

The Chairman I thank the distinguished representative of Iraq for his statement. The next speaker on my list is the distinguished representative of India. You have the floor.

Mr. V. K. Dadhwal (India) Thank you, Mr. Chairman. The Indian Delegation expresses its pleasure in seeing you again in the Chair, ably guiding the deliberations of this 56th Session of UN-COPUOS. Under your able leadership, the Committee will contribute greatly to the progress of the matters related to all the agenda items of this session. The Indian delegation would like to thank the United Nations Office of the Outer Space Affairs' Director, Dr. Mazlan Othman, Secretary Mr Niklas Hedman and their entire staff for their support in efficiently conducting the work of COPUOS and its various subcommittees. We would also place on record, our appreciation to the sterling contributions of Dr Mazlan Othman to the Committee and wish her best in all her future endeavours.

The Indian delegation welcomes Costa Rica, Jordan and Armenia as the new members this Committee. The Indian delegation is happy to note that during the current session, a special panel discussion entitled "Space: building the future today" to mark the 50th anniversary of the first space flight by a woman and to address the contributions of women to space activities was organized.

The Indian delegation expresses deep grief over the loss of precious lives due to the recent natural disasters globally.

Mr. Chairman, while acknowledging the significant achievements of various Member States in

space endeavours during the past one year, the Indian delegation wishes to brief the Subcommittee, on the significant achievements made by India in the field of space technology and applications since the last Session.

On September 09, 2012, PSLV C-21, on its twenty-first successive successful flight precisely placed the French Earth Observation satellite SPOT-6 and a Japanese microsatellite PROITERES.

India's advanced communication satellite, GSAT-10 was successfully launched by Arianespace from Kourou, French Guiana, on September 28, 2012. GSAT-10 carries 12 C-band; 6 Extended C-band and 12 Ku-band transponders and a GPS Aided Geo Augmented Navigation (GAGAN) payload.

On February 25, 2013, PSLV-C20, on its twenty-second successive successful flight, placed Satellite with Argos and Altika (SARAL), an Indo-French joint mission, in polar orbit and also placed six other satellites belonging to Austria, Canada, Denmark and the United Kingdom in their intended orbits. SARAL carries a radar altimeter (Ka band Altimeter — ALTIKA) to study sea surface altitude and a data collection platform (ARGOS) for collecting data from ocean buoys and weather data centres. CNES provided these instruments and ISRO provided satellite platform apart from launching and operating the satellite. Data will be received by both France and India and after the validation phase, products will be made available globally. We are happy to hear from the Austrian and Canadian delegations that the data from the PSLV-C20 co-passenger satellites will be of great help in the study of stars and near Earth objects.

Mr. Chairman, in the coming months, ISRO plans to augment India's constellation of remote sensing, communication and navigation satellites. India is preparing to launch the first satellite of India's Regional navigational satellite system constellation, IRNSS-1A. IRNSS-1A will be the first of the seven- satellite constellation designed for providing position, navigation and timing services over India and its neighbourhood.

Two geostationary satellite missions, INSAT-3D, a meteorological satellite and GSAT-7, an advanced communication satellite are also scheduled for launch this year. India's Geosynchronous satellite launch vehicle GSLV-Mk II, with Indian cryogenic stage, which will carry GSAT-14 satellite is also scheduled for launch this year. India has achieved significant progress in the last one year, in realizing GSLV Mk III, a heavier class of launch vehicle, capable of launching

4-ton class of satellites into a Geostationary Transfer Orbit.

Mr. Chairman, India is undertaking a “Mars Orbiter Mission”, as the first Indian step towards exploring the planet Mars. The primary driving technological objective of the mission is to design and realize a spacecraft with a capability to reach Mars, then to orbit around Mars which will take about nine months’ time. Mars Orbiter mission is scheduled for launch during October-November 2013 from Sriharikota using PSLV and would be captured around the planet Mars in September 2014 after about 300 days of travel.

Mr. Chairman, the emphasis of the Indian space programme has always been on integrating the advances in space technology and applications with national development goals, particularly vital service areas such as telecommunication, television broadcasting, meteorology, disaster management, as well as natural resources survey and management.

India places considerable importance on International Cooperation for peaceful uses of space technology and currently, formal instruments of cooperation are in place with 33 countries and three international organizations.

India provides near real-time global wind vector data derived from OCEANSAT-2 satellite data to the scientific community through EUMETCast data dissemination system under an arrangement with EUMETSAT.

Data from the scientific instruments on-board the joint ISRO-CNES mission Megha-Tropiques are received in India and France and the validated data products of SAPHIR and SCARAB are disseminated to the global scientific community. A joint Indo-French Megha-Tropiques Science Meet was organized in India in December 2012, wherein scientific community from both nations shared their results of analysis of Megha-Tropiques data.

India hosted the “India-ASEAN Heads of Space Agencies Meeting” in June 2012 with the participation of all ten member countries of ASEAN. A panel discussion was also organized to discuss the possibilities of space cooperation between ASEAN and India, and the challenges in ensuring the delivery of the benefits of space technologies to the developmental needs of ASEAN.

India hosted the 39th Scientific Assembly of the Committee on Space Research (COSPAR) with the theme “Space — for the benefit of Mankind” at Mysore in July 2012 with participation of more than 2000 scientists, researchers and students from

53 countries. A one day international conference on space law on the theme “Space Law and Contemporary Issues: A Focus on Asia-Pacific Region” was conducted in India with eminent space law experts.

India is an active member of the Committee for Earth Observation Systems (CEOS) and hosted the 26th plenary meeting of CEOS held in Bangalore; India, in October 2012. In February 2013, India hosted the GEO space applications seminar at Ahmedabad.

India has been actively supporting the regional cooperative effort “Asia Pacific Region Space Agency Forum (APRSAF)” steered by the Japanese Aerospace Exploration Agency. Apart from hosting the 14th session of APRSAF at Bangalore in 2007; India is sharing its Earth observation satellite data for managing disasters in this region through the Sentinel Asia mechanism of APRSAF and also participated in “Satellite Technology for Asia-Pacific Region (STAR)” programme.

The Indian delegation desires to record its appreciation on APRSAF entering the 20th year of service towards bringing the benefits of space technology to mankind in this region and beyond.

India continues to provide expertise and services for supporting developing countries in the application of Space technology through capacity-building. The Center for Space Science and Technology Education for Asia and the Pacific Region, affiliated to the UN and operating from India, has so far benefited 1,209 scholars from 35 countries from the Asia-Pacific region and 29 scholars from 18 countries outside the Asia-Pacific region. India would like to request more participation from the member countries.

Mr. Chairman, in conclusion, the Indian delegation would like to greatly acknowledge the efforts of UNCOPUOS to maintain outer space exclusively for peaceful purposes and fully supports it in all its endeavours. Thank you.

The Chairman I thank the distinguished representative of India for his statement. The next speaker on my list is the distinguished representative of Brazil. You have the floor.

Mr. F. V. Pitaluga (Brazil) Thank you Mr. Chairman. Mr. Chairman, distinguished delegates, it is once again a pleasure to address the Plenary Session of COPUOS. This Committee was set up by the General Assembly in 1959 to review the scope of international cooperation in the peaceful uses of outer space, to devise programmes in this field to be undertaken under United Nations auspices, to encourage continued research and the dissemination of information on outer space matters and to study legal

problems arising from the exploration of outer space. It is a pleasure to realize that so much has been accomplished. Brazil sees the activities of this Committee and its Subcommittees as essential to ensure that the benefits of space exploration can be shared by all humanity and in this way give concrete meaning to the concept of international cooperation for peaceful uses of outer space. Moreover, this Committee, in a period of over 50 years, has made important contributions to the development of space law embodied in the United Nations Treaties and Principles of Outer Space.

I would like to congratulate you, Mr. Chairman, on the expert guidance you have been providing to the Committee. Your leadership has been instrumental to the advancement of the role of COPUOS — a role that grows in importance year after year — particularly as we are faced with increasingly complex and sophisticated challenges that affect all of mankind and that need to be tackled with a combination of common understanding and global solutions. I would also like to express my appreciation to the outgoing Director of the UN Office for Outer Space Affairs, Dr. Mazlan Othman and to the secretariat. Much of what has been achieved by this Committee would not have been possible had it not been for the competent work of Dr. Othman and I believe we cannot thank her enough for her efforts and dedication.

Mr. Chairman, it is a unique opportunity and a privilege to participate in this session of COPUOS when we celebrate the 50th anniversary of the first space flight by a woman. My delegation would like to pay its tribute to the pioneer work and bravery of cosmonaut Valentina Tereshkova, who opened the way to many other women who experienced travelling into space since that first flight in 1963. Ms. Tereshkova's momentous achievement bears witness to the outstanding contribution of women to space activities. In the same way, I take this opportunity to congratulate all the other women who as astronauts, cosmonauts, taikonauts, space scientists, engineers, business, policy and law experts, have been engaged in the space-related fields of space exploration. Some of them participated in the very important panel that took place on the first day of this COPUOS session. All those women have made such significant contributions and sacrifice to the advancement of space technology and exploration of outer space since the beginning of the space era. They are, Mr. Chairman, great examples of individuals making a difference, breaking barriers, making history. May the work of this Committee honour the legacy of these space pioneers.

Brazil fully endorses the statement made by Guatemala on behalf of GRULAC. Brazil will continue to advocate, in all international forums, the importance for developing countries to have full access to the benefits of space technologies and applications.

Let me also extend my warmest welcome to the new members of COPUOS: Armenia, Costa Rica and Jordan. I am positive that they will make very important contributions to the work of this Committee.

Brazil fully endorses international principles guiding the peaceful use and exploration of outer space, enshrined in the five main Treaties on the peaceful uses of outer space. Brazil therefore attaches great importance to the activities of this Committee towards the realization of these principles. As space activities grow in number and complexity, with the engagement of an ever-increasing number of actors from the public and private sectors, new challenges are added to the work of COPUOS and its Subcommittees.

Some examples of these new challenges are found in the outcome of the Rio+20 Conference. The final document of the Conference, "The Future We Want", in paragraph 274, clearly recognizes the importance of space-technology-based data, in situ monitoring and reliable geospatial information for sustainable development, policy-making, programming and project operations. That paragraph also recognizes the efforts to develop global environmental observation systems and the need to support developing countries in their efforts to collect environmental data. My delegation attaches great importance to the new agenda item of our Committee entitled "Space and Sustainable Development". There can be no sustainable development without space science and technology, and space applications make fundamental contributions to economic, social and cultural development and welfare.

I would like to congratulate the secretariat for guiding us and stimulating our debate with document "Rio+20 and beyond". Space should be used in a sustainable manner to benefit the whole of mankind. All countries are entitled to explore outer space in conditions of equality, and space exploration activities should be conducted so as to preserve international peace and security. My Delegation believes that no efforts should be spared to prevent an arms race and the placement of weapons in outer space.

Mr. Chairman, space-related technologies have become a key element in the promotion of economic and social development. It is essential to develop and expand cooperation mechanisms that can help ensure that the benefits of space exploration can be shared by all of mankind, not only as spin-offs, but also in areas

such as health, education, telecommunications, disaster management, weather forecast, agriculture and crop management.

Brazil advocates an open and free data policy so that satellite data can be put to use in those areas which need this information most. For this reason, Brazil also supports programmes aimed at training and educating users in developing nations so that they are able to receive, interpret, use and make this data available to end users in a meaningful way.

Despite all our common efforts, in our agenda and concerns there remain pressing challenges that may affect the long-term sustainability of outer space activities. In this regard, my delegation welcomes the compilation of proposed draft guidelines of experts groups A to D of the Working Group on the Long-term Sustainability of Outer Space Activities. There is still much work to be done, but I am pleased to realize that our experts have been fully engaged in discussions related to, inter alia, sustainable space utilization supporting sustainable development on Earth, space debris, space situational awareness, space weather, capacity-building, regulatory regimes and guidance for actors in the space arena.

However, issues such as the delimitation and definition of outer space remain unresolved and hamper the development of legal regimes. My delegation sees the question of definition and delimitation of outer space as an important element of space law. As technological progress brings in new actors, both public and private, to the space arena, it becomes essential to establish the difference between air law and space law, to define where each State's sovereignty applies and where international space law is the rule of choice.

Brazil attaches great importance to the management of space debris. It is very clear that despite all our efforts, we are faced with formidable challenges in the issue of space debris in light of its potential dangerous effects on the safety and sustainability of space activities. New launches and existing orbiting space objects face growing risks from the large amount of man-made debris orbiting the Earth. It is therefore important to find a balance between the long term sustainability of space activities, the prevention of collisions and the historical responsibilities for existing debris. The mitigation of space debris is of paramount importance, but mitigation solutions should not impose undue costs on the emerging space programmes of developing countries.

Mr. Chairman, the year of 2012 brought with it key developments to Brazilian Space Policy, the most

important being the publication of the National Program of Space Activities for the period 2012-2021, better known as PNAE. One of its priorities is the integration of space policy with other ongoing public policies by promoting training, recruitment and retraining of qualified experts in order to boost Brazilian space activities. The clear aims, goals and strategies laid out in the PNAE will further develop our national space legislation. PNAE fully recognizes the need for mastering critical and restricted-access technologies through greater integration between domestic industry, universities and national research institutes. The new PNAE gives full support to the Brazilian industry to participate in the development of complete space systems and clearly raises the space policy to a new strategic level. Our national industry is called in to play an important role in the development of Brazil's space activities.

Brazil sees space exploration as an intrinsically collaborative activity — one that can provide shared benefits and foster international cooperation endeavours such as the CBERS-3 and CBERS-4 satellites, a joint development with China, and the SABIA-MAR satellite, which is currently under development by Brazil and Argentina, stand out as clear indicators of this vision. Brazil is totally open to share its experience with the preparation of PNAE with other developing nations wishing to establish their own space policies.

Brazil is also fully committed to the work of the Group on Earth Observations (GEO) and the implementation of GEOSS. On the 22nd and 23rd of November, 2012, Brazil hosted the IX Plenary Session of GEO in the city of Foz do Iguagu. GEO has demonstrated it has potential in helping address important challenges related to, for instance, food, water and energy security, natural disaster management and environmental sustainability.

Finally, Mr. Chairman, I would like to reaffirming that Brazil is fully committed to the work of COPUOS and its Subcommittees and my Delegation is very keen to contribute with the important tasks that this Committee has to address. Thank you all for your attention.

The Chairman I thank the distinguished representative of Brazil for his statement. The next speaker on my list is the distinguished representative of the Russian Federation. You have the floor.

Mr. V. M. Agapov (Russian Federation) Thank you, Chairman. Chairman, in his statement of yesterday, the distinguished representative of Ecuador commented upon a recent event in outer space relating to disruption of the operations of the Ecuadorian space

vehicle NEE-01 Pegaso. The colleague speaking directly linked this event with an alleged collision of this satellite with the second stage of Cyclone 3, which has been in orbit since 8 July 1995. The information that was given the Committee at its meeting of yesterday does not correlate with the information which had earlier on been presented by the Director of Space Operations, mildly spoken, the Ecuador Civilian Space Agency, Mr. Ronnie Nader and was also reported upon by the site of that same agency and has not been amended since then. 23 of May this year, Mr. Nader referred to the information received from the United States Joint Space Operations Centre stating that the expected collision did not occur and that at the closest point, the two objects in question were 80 m apart. Nonetheless, on the website of the Ecuador Civilian Space Agency there was some information according to which, and here I quote “on the 23rd of May at 003817 hours, space vehicle NEE-01 Pegaso collided on orbit with particles having separated from object number 15,890”. Now, the second part of this quote reads in Spanish “... desprendidas por el objeto SCC-15890”. Now, the number of the object referred to in this information really does correspond to the, they referred to second stage of the rocket launcher Cyclone 3. However, the affirmation that there was an alleged collision with particles or fragments, which allegedly separated from the stage, is not something which can in any way be substantiated. Neither the fact of alleged separation nor the existence even of such fragments, has been confirmed by available ground monitoring technical facilities, which are used to monitor near-Earth outer space. Furthermore, had such fragments, at any point in the past, separated from the stage in question, then they would fairly quickly have gone on to completely different orbits given the fact that, in comparison to the stage in question, they have difficult physical properties and necessarily are in other ways affected by factors, indeed, which govern the trajectories of movement of objects in near-Earth outer space.

Furthermore, even had space vehicle Pegaso, had equipment on board for registration of collision, and had registered the fact that collision with some sort of particles, determining the nature of origin of such particles, would be extraordinarily difficult — if at all — possible, given the fact that, on near-Earth orbit, there is so much of all sorts of tiny little fragments of space debris moving around, which has been generated at different points in time in different circumstances. So, in this fashion, it is clear that there is a lack of correlation between the information which has been given on this event. What is clear only the facts as follows: firstly, there was a closing in between satellite NEE-01 Pegaso and the second stage of Cyclone 3

rocket vehicle 1985058 B, and these two objects got 80 m close, which certainly is larger distance than the size of each of these objects. Secondly, there was no collision whatsoever between these two objects. Thirdly, satellite NEE-01 Pegaso became disoriented for some reason which did not relate to the stage of the rocket launcher in question. We are really sorry that the Ecuadorian satellite experienced problems. Actually, these are problems that very often do happen on orbit with space vehicles and most probably will continue to occur in future, even though we do our best to avoid them, and each situation of this sort is necessary to conduct a very careful and complete analysis of all of the circumstances available. Among the hypotheses which can explain the reason why this Ecuadorian satellite got disrupted in operations, can be the fact that there was some sort of a collision with a tiny fragment with some sort of space debris or a meteorite. Indeed, as we consider this case of the Ecuador satellite in the context of the ongoing discussion about the long-term sustainability of activities in outer space, it becomes clear, indeed, that it is absolutely necessary to fine-tune close coordination of efforts in the part of all States conducting outer space activities to exactly identify the factual condition of debris density in NEOS (near-Earth outer space), including the amount of tiny objects of space debris in circulation there. Secondly, it is necessary to evolve international practice, allowing security of operations to be ensured in outer space and to enhance the degree confidence among States on the basis of mutual exchange of information. All of these matters are certainly complex and must all be addressed within the context of the negotiations process on the project principles to ensuring long-term sustainability of activities in outer space. Thank you for your attention.

The Chairman I thank the distinguished representative of the Russian Federation for his statement. The next speaker is the distinguished representative of Belarus. You have the floor.

Mr. S. Kilin (Belarus) Chairman and distinguished delegates. Belarus has indeed made a statement on the matter at hand. We would like to confirm that we fully support the principles and treaties of the United Nations in the exploration of outer space for peaceful purposes. We have ratified the Outer Space Treaty and Rescue of Astronauts, the Convention on Registration of Objects Launched and secondly, it is precisely the peaceful exploration of outer space which corresponds to the domestic purposes of our outer space exploration programme. In the Republic of Belarus, the main types of outer space activities, including research, scientific-technical developments, organization stuff and other undertakings, take place within the context of the

national research programme for the use of outer space for peaceful purposes. The aegis of this programme, indeed, has allowed for a satellite to be launched, for an Earth remote sensing system to be developed and for contemporary equipment to be developed and information technologies to be mastered, and the bases of education in this field have been ensured. Indeed, this has made it possible for us to have available to us a structure for the implementation for outer space activities. In our testing plans, we have technical characteristics for the satellites in operation and the way in which satellite produced data can be used for applications. Within our cooperative work, we are indeed working on satellite communications for our satellite and we are also cooperating with a Ukraine and Kazakhstan on logistics support. In our Republic, we are developing a system of standardization in outer space activities, and the standards we are developing are based on the methodology and principles of the European standards (ECSS) and the Belarus work on standardization is very closely aligned to the work being done in Europe in the context of ISO and ECSS. Furthermore, in the Republic of Belarus we have developed a system of education, which includes both high schools as well as university education, courses on building mini-satellites and applications of these satellites. And finally — not least — our Republic has a very long history of work-studying outer space. In our country, every so many people have been very well educated who subsequently have gone on to contributing to outer space. There are 3 cosmonauts: Klimuk, Kovalyonok and Novitski and, of course, this work in the field of education in our country will continue. Given the results achieved and projects being implemented, we believe that Belarus is ready to participate in the processes on international integration cooperation in the field of the peaceful uses of outer space and we would seek your positive welcome of our candidature to a membership of the UN Committee on the Peaceful Use of Outer Space.

The Chairman I thank the distinguished representative of Belarus for his statement. The next speaker on my list is the distinguished representative of Ghana. You have the floor.

Mr. M. M. Alfa (Ghana) Mr. Chairman, distinguished delegates, permit me on behalf of my country, Ghana, which is aspiring to become a member of this Committee, to convey to all Members our sincere appreciation for the positive considerations that have been given to our application through the Scientific and Technical and the Legal subcommittees. It is our fervent desire to continue to count on the entire membership for the adoption of our application at this main Committee meeting and subsequently at the 68th session of the UN General Assembly.

Ghana recognizes the potentials of space science and technology for accelerated socioeconomic development and its importance in the building of a veritable knowledge-based society. This recognition is illustrated in the launching of the Ghana Space Science and Technology Centre in May, 2012 which was upgraded into an Institute in February 2013.

The Government of Ghana applied to join COPUOS, to afford the country the rare opportunity to contribute more meaningfully to the peaceful uses of outer space for socioeconomic progress, both in Ghana and globally. We believe that while making this contribution, our space science sector development programme will gain enormous expertise and capacity to introduce Ghana into the league of countries with very well advanced capabilities. Our mission is to pursue a direct involvement in peaceful space science and technology development to rejuvenate research activities and the application of science, technology and innovation to all spheres of our national development.

At this juncture, I wish to state, for the record, that Ghana stands against the militarization of outer space and will always stand ready to contribute to its prevention in any multilateral forum. Outer space remains a common heritage for mankind and must be preserved as such.

Like many developing countries, Mr. Chairman, Ghana is confronted with a myriad of socioeconomic challenges and views the application of space science and technology to address these challenges as key. The Ghana Space Science and Technology programme is also aimed at educating the people of Ghana about the usefulness and benefits of space science to human society and our general wellbeing.

Ghana's Space Science initiative is being focused on exploring and exploiting the technologies, which can be or have been, developed through research, innovations and spin-off industries for humanitarian benefits.

The Government of Ghana has demonstrated without any shred of doubt, our seriousness in integrating Science and Technology in our socioeconomic development through the implementation of key programmes such as: (1) the Ghana Radio Astronomy Programme which is aimed at converting a redundant 32 meter telecommunication satellite antenna into a radio telescope for research and development activities in astronomy; (2) the establishment of the Satellite Ground Station to receive satellite information for use in environmental monitoring, resource management, developmental planning and for national security; (3) the institution of

space science and technology diploma and degree courses at the Universities to train and build the national capacity in space science and technology; and last but not least (4) planning at an advanced stage to establish a planetarium and space science museum for public education and entertainment as well as promote the interest of youth in space science and technology.

Indeed, His Excellency our President, has recently tasked my Ministry, the Ministry of Environment, Science, Technological and Innovation, to submit a concrete plan on the use of space science and technology to address the challenge of illegal mining in the country, and of monitoring all activities in the management and security of our oil industry.

Beyond the implementation of core national programmes, Ghana is also to host a sub-station of the Square Kilometre Array project and as such we are keen to ensure local participation in the building of the SKA as well as the subsequent research and development activities to be carried out thereafter.

Mr. Chairman, distinguished delegates, permit me to state that, space science and technology may be seen as an expensive venture but its benefits totally outweigh the investment and Ghana is very much determined to pursue this venture, bearing that in mind. This is the future of mankind and Ghana, as part of the international community, cannot afford to miss this great opportunity, for national development.

I cannot conclude, Mr. Chairman, this statement without informing this meeting about Ghana's preparations to host the African International conference on space science and technology for sustainable development by the end of this year. We have established a national inter-ministerial committee, which meets in regular intervals to monitor and coordinate activities geared towards the successful holding of this event. Very soon, details of the event calendar and all other information will be communicated to all of members in Geneva and the UN OOSA secretariat.

Finally, I wish to pledge our total commitment to the course of the UN Office of Outer Space Affairs even as we go through the laid down procedures and processes to become a full-fledged member of this very important Committee. As stated in my opening comments, we continue to count on all members of the committee to support our application in the light of our objectives. Thank you.

The Chairman I thank the distinguished representative of Ghana for his statement. We will continue and hopefully conclude our consideration of agenda item 4, "General exchange of views", on Monday morning. Oh yes, I did not recognize ...

Distinguished representative of Belgium, you have the floor.

Mr. Mayence (Belgium) I apologize Chairman, I thought you were going to ask if anybody wanted to take the floor before concluding on this, but I just wanted to look back at what was said by the Russian Federation.

I think it is very important and I do not want it to go by unnoticed. First of all, I would like to thank the Russian Federation for making that statement in the Committee. I think this shows to what extent our Committee can service a forum to discuss current affairs regarding long-term utilization of outer space. What was said was very important. It is not up to Belgium or the Committee to meddle in such affairs, of course, however, I would agree entirely with the conclusions of the Russian Federation regarding how this is an illustration of matters to be addressed regarding long-term sustainability of space activities. You can see to what extent our system now, based on liability for damage in outer space, how that is obsolete — we have been saying that for ages. We believe the '72 Convention system no longer corresponds to our needs. It is not a question so much of knowing the origin of debris that was in a collision. It is a question now of knowing how to avoid such collisions. Therefore, I would like to stress this and I do hope that at the next Legal Subcommittee, my delegation will have an opportunity to come back to the example, if delegations concerned would accept. As the Russian Federation said — and here I would like to refer you to the paper submitted by Russia with the first statement in the general debate, that was the paper on long-term sustainability, which we have already looked at with great interest, and I am sure this episode can serve as an illustration of a phenomenon that we might be seeing more and more in the future. In other words, accidents in orbit, where attribution of the accident might become secondary compared with the challenge that we have to face as to how to limit such occurrences, and have the best possible situation for orbit. Thank you.

The Chairman I thank the distinguished representative of Belgium for his intervention. Are there any other delegates wishing to make a statement under this agenda item.

I see none.

So, we will continue and hopefully conclude our consideration of agenda item 4, "General exchange of views", on Monday morning.

Distinguished delegates, I would now like to continue and hopefully conclude our consideration of agenda item 5, "Ways and means of maintaining outer

space for peaceful purposes". The first speaker on my list is the distinguished delegate of the Russian Federation. You have the floor.

Mr. G. Y. Barsegov (Russian Federation) Thank you Chairman. Mr. Chairman, we can speak at length about the merits of the Committee. The strong qualities of this forum have effectively been demonstrated as we have sought to develop the fundamental instruments governing international aerospace law and subsequently as we seek to agree on very important political, legal and institutional relations on the basis of these guidelines. Unfortunately, the indisputable thesis cannot really be confirmed as we look into the ways and means of maintaining outer space for peaceful purposes. Let us say quite honestly and frankly, that work on this does not really produce much by way of solid results — good results. There is some producing of ideas, some decision which seem to be crafted, but it is not very, very impressive at all. This is not work which, in any way, corresponds to the criteria of serious, professional dialogue, in any way. This situation is one which puts us all in low spirits and it certainly distresses all of us. Now, how can we overcome this stagnation? How can we clear this channel for dialogue? Indeed, the mutual alienation of two basic positions: positions of those on the one hand who — very few representatives but who nonetheless insist on activating work along these lines — and the position of others who are — none fewer — who say that they are fully in disagreement with these prospects. This division and alienation of positions seems to be something we cannot overcome at all. Most colleagues tend to just put the whole thing away and put distance between this matter and themselves. Actually, we must be frank and say that we have never done any serious substantive work. This is possibly putting things very bluntly, but this is true and I believe that we must all — possibly revise — a modus operandi, which we seem to have gotten stuck in. I think that this appeal is not just addressed to those colleagues of ours that seem to fond of the logic of rejecting the potential role of the Committee to exploit outer space in peaceful purposes and consider that this role is a non-core function. Equally, this does affect those of us who, though harbouring good intentions, nonetheless, are just motivated and governed by general political declarations, getting involved with rhetoric and not really getting into any practical reconfiguration of the stimuli which could actually reform our very small moving discussion and make a really multilateral outer space diplomacy. In both cases, resources only at one plane are used. Equally unimaginative theses and political schemes, which are unable to really enhance the potential role of the Committee, but rather do nothing to make the discussion really adequate, as per

reality. Secondly, nothing is done in order to really produce practicalities. Thirdly, work done developing a roadmap, which would really lead some place promising. We believe that any possibility should be made used of to change the way we work for the better. I think we can do this if we seek to have a broad understanding of this — broad encompassing approach that is necessary, and indeed we will not be able to improve our trust in one another if States do not have a correct perception of each other's intentions either. In an ever more complex world, the horizons of the conclusively predictable future, are constantly closing in on us. Sometimes we get the impression that they are catastrophically closing in on us, indeed. Getting out of this situation probably can only be possible if we can, indeed, enhance the effects of rational factors in politics. We consider that the future guidelines ensuring the long-term sustainability of activities in outer space is one of these possibilities — possible factors — especially that part of the guidelines, which will have to do with issues of safety in operations in outer space.

Chairman, just two or three years ago, when we were starting work on the issue of long-term sustainability of activities in outer space, not everyone expected to have a fairly active and on the whole constructive negotiations process unfold on this, and actually, I would even say that we were surprised — and pleasantly so — to see what sort of effective involvement in the discussion, and this was able to evolve. Even on the most delicate, sensitive planes of this topic. For example, the evolving concept of the long-term sustainability of outer space activities — using this example — we would like to show that, on the basis of the pragmatic agreements in there, the Committee can fully, indeed, activate the work on the priority issues of the agenda. At the present session, the Russian Federation is tabling yet another working document called "The pre-requisites for stepping up the discussion of the ways and means of maintaining outer space for peaceful purposes in the context of the issues of long-term sustainability of activities in outer space". This is a document, which in many ways, is unconventional. In it, to start off, we are determining the really existing, systematic, interconnections among the various aspects of ensuring security in space and safety in space. In secondly, we also seek to determine the themes representing interests for the Committee, motivating its activity with respect to this priority topic on the agenda. We, for example, are suggesting that we analyse the legal basis and modalities of the exercise of the right to self-defence in according with the UN Charter, as applied to outer space. We consider that it would be useful to inform everyone what we had in mind — what was motivating us — as we were coming

out with this proposal. In April this year, the President of the Russian Federation approved the Russian Federation Policy Fundamentals in the field of space activities for the period through 2030 and beyond. These are very important instrumental guidelines and we are going to be referring to this repeatedly during the session. In the context under consideration, we would like to point out that one of the tasks within the field of outer space activity determines that “the active conduct within the UN and other international fora of principle policy of the Russian Federation to preserve outer space for exclusively peaceful purposes [end of quote]”. We would also, indeed, stress the principle of the governmental policy within outer space activity, which indeed ensures and here I quote once again: “the defence of the interests of the Russian Federation in the field of outer space with all measures and means available under international law, including the recognized right to self-defence, as recognized by the United Nations [end of quote]”. Russia is not the first country, which indeed, on the basis of the fundamental guideline document, is indeed making a provision for this sort of reference to self-defence. In a certain way, this sort of decision on our part, was a conscious one and was based on the understanding that symmetry in this matter is something of great importance. Also, from the point of view of ensuring equal start positions during possible negotiations on security in outer space. Actually, we are actually proposing that there be consideration of a broad range of issues, including international legal issues, which are connected with the exercise of the right to self-defence. Logically, we believe that such a proposal is certainly in perfect correspondence to the criteria of the responsible approach to the use of outer space. We are proposing to those colleagues and States which initiative, indeed, is more greatly affecting, that we should engage in a purely functional mutuality. A business-like approach presumes that there be discussion of topics, which indeed, do not appear from the very beginning, to be a priority and advantageous to any side, including from the PR point of view. We will be speaking against having, during the discussion and work on this issue, of course if the corresponding decision will be taken, that any mobilizational rhetoric be engaged in. I think that we can safely say that we are all sick and tired of this sort of rhetoric. The entire discussion should be exclusively pragmatic in nature, focusing on politics, but not subjecting itself to politicization.

Chairman, we all are in the system of politics, but to the extent that we can, in turn, we should develop proposals for the politics and policies and, if there is agreement in the Committee, possible political and legal ways to achieve that. The Russian outer space policy is a rational one. Because of this, it not only

does not exclude, but rather presumes the possibility of having additional, constructive, international inputs. We, indeed, recognize that a positive reaction on new proposals possibly will not ensue immediately. The questions that we are putting — the issues we are putting — are truly serious. Nonetheless, we do express the hope that this common, interesting work at hand will join our efforts. We are proposing prospects that, I would dare hope, with time, delegations will be able to agree with and join. In this case, the discussion will gradually but certainly become different, and the Committee, with regard to this aspect of its activity, will be able to make progress in the right direction. We try to engage in the first steps — according to this approach — for example, we could hold a panel discussion. I would like to thank you, Chairman.

The Chairman I thank the distinguished representative of the Russian Federation for his statement. The next speaker on my list is the distinguished representative of Venezuela. You have the floor.

Mr. R. Becerra (Bolivarian Republic of Venezuela, translation from Spanish) Thank you, Mr. Chairman. As this is the first time I have taken the floor, I would like to congratulate you and the other at the podium on assuming the Chair. I would also like to extend my greetings to delegations — friends, that is always a pleasure to see again. It was very interesting earlier to listen to the statement made by the Russian Federation. That is positive preamble for our own statement, strengthening our statement, since we are in line.

Yesterday, Chairman, and on various occasions, one delegation with some degree of insistence, reminded us that the function of COPUOS is that of promoting international cooperation on space affairs. And, it also said that cooperation is the only mechanism to maintain outer space for peaceful purposes. On that basis of that, I would ask the Secretariat colleagues to place a slide briefly that shows the aspects of resolution 14/72, as we know, establishes COPUOS and sets its tasks. It is important that we look at this because there are so many interpretations and for that reason I would like to read it through rapidly, taking a couple of moments. It says: (a) to review, as appropriate, the area of international cooperation and to study practical and feasible means for giving effect to programmes in the peaceful uses of outer space, which could appropriate be undertaken under United Nations auspices, including inter alia. Assistance for the continuation, on a permanent basis, of the research on outer space. Organization of the mutual exchange and dissemination of information on outer space. Encouragement of national research

programmes for the study of outer space and the rendering of all possible assistance and help toward their realization; (b) — and I hope here that groups of experts can recall this because, I am afraid, not many of them like this — to study the nature of legal problems, which may arise from the exploration of outer space. With that perspective we can understand that COPUOS has options to promote international cooperation on space affairs, looking at scientific, technical and legal aspects. But that is not the end of COPUOS' functions. COPUOS is subsidiary body of the General Assembly, or an advisory body, which, through resolutions and reports, gives suggestions to the Assembly. This gives it a political nature, since it is Member States that interact. Regrettable for some delegations, international collaboration is not only exclusively technical — it is not only through courses or exchanges of information that you can resolve current problems related to outer space. We have to look objectively at the situation surround us and the responsibility of this Committee towards humanity. International cooperation is fundamental, but it cannot be limited to technical matters alone. The political angle is important. Mr. Chairman, this means that we have to make changes and change our attitude with the situation surrounding us. COPUOS is part of the United Nations system. With that we can interact and communicate with all the offices of the system to guarantee the fundamental aim of the Charter of the United Nations, which is simply maintaining international peace. But there is something important and curious that I would like to stress and that is: COPUOS does not have clearly established rules for its functioning, thus it has flexible nature and it can generate ideal working conditions. It is Member States who indicate the path to be followed. Mentioning specifically the subject under examination “Ways and means of maintaining outer space for peaceful purposes”, we see a broad horizon with technical, legal and political action that can be undertaking. As is known, the legal system applicable to outer space does not guarantee, in of itself, avoiding arms racing in outer space. This is subject that some delegations do not like to hear raised here. So, it is of importance to adopt appropriate effective measures to eradicate its use in this area. The lack of definitions and the lack of regulations, are such, that it is not possible to maintain to peaceful conditions in outer space. Mr. Chairman, it is important to promote international rules for space, effectively responding to the problems arising from space activities where it is clearly and absolutely banned to use any type of weapon in outer space. While there are other international fora to address this issue, such as the General Assembly's first Committee and the Conference on Disarmament, COPUOS has a duty to suggest and recommend peaceful conduct

relating to this question, and it has the capability of generating synergy with other offices as was done with the IAEA, just to mention a recent example, because we have the bad habit of showing COPUOS is something closed, that does not communicate with the outside and that is not so. There is an obligation to cooperate with other bodies and mechanisms in the United Nations system to attain the aim of maintaining outer space for peaceful purposes, otherwise, it is not very likely that we see success. Thank you very much for your attention.

The Chairman I thank the distinguished representative of Venezuela for his statement. 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 5, “Ways and means of maintaining outer space for peaceful purposes”.

Distinguished delegates, I would now like to continue and hopefully conclude our consideration of agenda item 7, “Report of the Legal Subcommittee on its fifty-second session”. The first speaker on my list is the distinguished delegate of United States of America. You have the floor.

Mr. K. Hodgkins (United States) Thank you Mr. Chairman. Mr. Chairman, my delegation has noted previously the positive developments in revitalizing the agendas and methods of work of COPUOS and its Subcommittees. The last session of the Legal Subcommittee demonstrated, once again, the encouraging results that have emerged from our efforts. Under the leadership of its Chairman, Mr. Brisibe of Nigeria, the Subcommittee produced a number of highly useful results.

As we have in past year, we would like to take this opportunity to note that COPUOS and its Legal Subcommittee have a distinguished history of working through consensus to develop space law in a manner that promotes space exploration. The Legal Subcommittee played a key role in establishing the primary outer space treaties: the Outer Space Treaty, the Rescue and Return Agreement and the Liability and Registration Conventions. Under the legal framework of these treaties, space exploration by nations, international organizations and, now private entities, has flourished. As a result space technology and services contribute immeasurably to economic growth and improvements in the quality of life around the world.

Notwithstanding, the continued relevance of the space law instruments, many States have not accepted

key treaties, including some members of COPUOS. The United States has encouraged the Subcommittee to invite States to consider ratifying and implementing the four main space law instruments cited above. And of course, it should encourage States that have accepted the core instruments to look at the sufficiency of their nation's laws to implement them.

At the most recent session of the Legal Subcommittee, some States called for the negotiation of a new, comprehensive convention on outer space. It is my delegation's view that such an approach would be counterproductive. The principles contained in the key outer space treaties establish a framework that has encouraged the exploration of outer space and benefited both space-faring and non-space-faring nations. It is important that we not lose sight of how much has been — and continues to be achieved — for humanity's common benefit within this framework. Articles 1 and 2 of the Outer Space Treaty establish that the exploration and use of outer space is to be carried out for the benefit and in the interests of all peoples, that outer space exploration and use are open on a non-discriminatory basis, that there is freedom of scientific investigation in outer space, and that outer space is not subject to national appropriation. The United States fully supports these principles and believes that the Subcommittee should undertake activities that support the continued vitality of these principles. We remain convinced, in particular, that to entertain the possibility of the negotiation of a new, comprehensive space law instrument, might undermine these principles and the existing space law regime.

At this year's session, the Legal Subcommittee began a new multi-year workplan entitled "Review of the international mechanisms for cooperation in the peaceful exploration and use of outer space." The United States is particularly pleased that the Subcommittee elected Professor Aoki of Japan as Chair of the working group. In accordance with the workplan, the Subcommittee conducted an exchange of information on the range of existing international space cooperation mechanisms. During the exchange, NASA's Associate Administrator for Human Exploration and Operations, Mr. William Gerstenmaier, gave a presentation highlighting the ongoing International Space Station programme. Additionally, legal representatives of the International Space Station space agencies presented a panel entitled "The legal framework for the International Space Station", where they discussed the legal aspects of the ISS Intergovernmental Agreement, which has provided for a long-term multilateral framework among the partners for the utilization of the ISS in accordance with international law. In its upcoming sessions, the Subcommittee will continue to take stock of the range

of international cooperative mechanisms employed by Member States with a view to identifying common principles and procedures. This information will be helpful to Member States as they consider relevant mechanisms to facilitate future cooperative endeavours in the peaceful uses of outer space. In this regard, this item is particularly timely in that 2017, the final year of consideration of this agenda item, coincides with the fiftieth anniversary of the Outer Space Treaty.

Also at this year's session, the Legal Subcommittee considered a revised draft set of recommendations on national legislation relevant to the peaceful exploration and use of outer space. The Subcommittee agreed on the text of the set of recommendations, as revised, and recommended that the text be submitted as a separate draft resolution for consideration by the General Assembly at its sixty- eight session. My delegation would like to again congratulate Professor Marboe of Austria for the exceptional leadership she demonstrated in chairing this working group.

Finally, Mr. Chairman, the Subcommittee considered the item on capacity-building in space law. Member States and observers had the opportunity to exchange view on efforts underway at the national and international levels to promote a wider appreciation of space law. Such efforts, including the draft curriculum on space law developed by OOSA and the regional workshops, are vital to our work to build capacity in this area. Thank you, Mr. Chairman.

The Chairman I thank the distinguished representative of the United States of America for his.

The next speaker on my list is the distinguished representative of Venezuela. You have the floor.

Mr. V. Cano (Bolivarian Republic of Venezuela, translation from Spanish) Thank you very much Mr. Chairman.

Chairman, the delegation of the Bolivarian Republic of Venezuela would like to thank the secretariat for the report of the Subcommittee on Legal Affairs for its fifty-second session. And we express the wish to continue with constructive discussion on the areas that it addresses, to contribute to its work and strengthen its framework of action. The Subcommittee on Legal Affairs of COPUOS has had a key role for over 50 years of space developments. The Subcommittee began formal activities of COPUOS itself and set, as a result, the international legal framework that governs States' activities in outer space. However, we should examine that since the end of the 70's — since the Moon Treaty was presented to the international community for ratification — there has not been further progress in creating space law. At

the same time, my delegation is somewhat concerned in that some proposals of the Scientific and Technical Subcommittee, in other words the guidelines for mitigation of space debris and the safety framework for the use of nuclear power sources in outer space — were not submitted to the Legal Subcommittee for legal examination, and this was a request made by a large number of Member States. Accordingly, the Legal Subcommittee has a tremendous responsibility to review, update and amend United Nations treaties on outer space and also to generate new legal instruments allowing to cover the current situation in States' activities in outer space.

Following that same line, my delegation is of the view that the Moon Treaty establishes clearly the general interest of all humanity in the process of exploration and utilization of outer space for peaceful purposes, on the basis of equality and cooperation among States, and we call for its ratification.

And, equally important is the discussion on matters related to the definition and delimitation of outer space besides new topics to address the current challenges derived from space activities. With that prospect, we are somewhat reticent regarding the proposal made by other delegations to delimit time and duration of the Subcommittee to make its work more efficient when actually — and this is the opinion of Venezuela — we need to carefully examine the current problems of space activities. We need greater interaction between the two Subcommittees, in other words the Scientific and Technical and the Legal Subcommittees of COPUOS in order to strengthen the guiding principles governing space activities of States, and especially peaceful use, and to strengthen international cooperation.

Mr. Chairman, my delegation would like to stress the historic fact of including in the new items of the agenda, the general exchange of views on legal mechanisms for measures to reduce space debris taking into account the work of the Scientific and Technical Subcommittee. This delegation, furthermore, attaches especial attention to equitable access of States to the orbits spectrum resource in the geostationary orbit. The various orbital positions are a limited natural resource, and the method used to assign frequencies, is of fundamental importance. On that basis, we believe that it is necessary that an examination of this topic be maintain as a permanent discussion in COPUOS in a fully inter-State environment through the creation of various forms of action, working groups, panels — whatever is necessary.

Finally, with great optimism, my delegation would like to call on States to focus on critical aspects, currently endangering space activities, with a view to

update and amend international existing space legislation. And also, to continue with gradual developments for international law. Thank you.

The Chairman I thank the distinguished representative of Venezuela for his statement.

The next speaker on my list is the distinguished representative of Canada. You have the floor.

Mr. D. Kendall (Canada) Thank you Mr. Chairman.

Mr. Chairman, distinguished Member States, Canada acknowledges that the Legal Subcommittee has concluded another successful meeting in its fifty-second session and fully endorses its report. This Subcommittee is the appropriate forum through which to encourage discussions and build consensus toward the international legal environment, while at the same time sharing information of interest to States in the context of their domestic legal and policy framework.

Canada reiterates its support to the core United Nations legal framework; notably the Outer Space Treaty, the Rescue and Return of Astronauts Agreement, and the Liability and the Registration Conventions, and believes all States, especially COPUOS Member States, should adhere to this international legal framework in order to preserve and make safe and secure the outer space environment for the benefits of all.

Mr. Chairman, Canada welcomes the new agenda item on the Review of international mechanisms for cooperation in the peaceful exploration and use of outer space. This new agenda item will encourage a better understanding of the range of collaborative mechanisms currently employed by States and the circumstances in which certain mechanisms are chosen over others. Canada notes that many presentations on this topic were already provided by Member States and international organizations at the Legal Subcommittee meeting. Taking advantage of the work programme approved for the working group, Canada will prepare a review of its lessons learned through international cooperation, which we intend to submit as a contribution to next year's session of the Legal Subcommittee. Canada also looks forward to participate in the activities of the Working Group that should be created next year.

Canada supported the work of the working group on National Legislation Relevant to the Peaceful Exploration and Use of Outer Space. We also support the text of the set of recommendations, as adopted at the Legal Subcommittee session, and recommend that the text be submitted as a separate draft resolution for

consideration by the General Assembly at its sixty-eighth session.

Mr Chairman, space debris raises major issues in relation to access to space, the protection of space assets, development of new technologies and the sustainable development of outer space. Solutions proposed to address these issues bring new terms, concepts and actions that need to be taken into consideration by current policy and national regulatory frameworks. International collaboration, discussions, and exchange of information are essential to effectively and efficiently address problems related to space debris.

The Legal Subcommittee encourages the continued exchange of information on measures designed to mitigate space debris, and by doing so promote the implementation of those measures at the national level. Canada has supported the adoption of the UN COPUOS Space Debris Mitigation Guidelines adopted in 2007. Last year, the Canadian Space Agency adopted the Space Debris Mitigation Guidelines of the Inter-Agency Space Debris Coordination Committee for the conduct of its future space projects and missions. Canada believes that a document compiling domestic practices and legislations on space debris mitigation guidelines and instruments adopted by Member States and regional organizations will encourage the development of new domestic measures and practices.

Canada also co-sponsored the creation of the new agenda item on general exchange of information on non-legally binding United Nations instruments on outer space under the Legal Subcommittee as proposed by Japan. Canada is pleased with progress made during this session under the leadership of the Czech Republic and Austria in refining the proposal, especially in relation to the potential overlap with respect to the agenda item on the general exchange of information and views on legal mechanisms relating to space debris mitigation measures. In parallel, and in harmony with the Japanese proposal, Canada has developed a preliminary document documenting space debris mitigation standards adopted by countries and looks forward to working with other countries in producing a more mature version for submission to the Legal Subcommittee next April.

Mr. Chairman, current and future discussions on the topic of space debris are leading to the desirability and feasibility of debris removal. An Inter-Agency Space Debris Coordination Committee (IADC) 2013 report showed how important the removal of space debris is for the future of space activities. However, there are legal implications and concerns associated with this activity. As a first step, we suggest that the

Legal Subcommittee should be invited to consider the legal issues that would be raised by the removal of orbital debris in the context of the international legal framework of the United Nations. It is important that the United Nations and its expert committees continue to lead when new issues arise. These discussions could take, or be accommodated, under the existing agenda regarding orbital debris of the Subcommittee. Thank you Mr. Chairman.

The Chairman I thank the distinguished representative of Canada for his statement.

The next speaker on my list is the distinguished representative of Indonesia. You have the floor.

Mr. B. B. Tejasukmana (Indonesia) Mr. Chairman and distinguished delegates, the Indonesian delegation would like to congratulate the chairman of the Legal Subcommittee for his able leadership of this year session of the Legal Subcommittee which resulted to a very fruitful deliberation on the various pertinent issues of international space law. We would like also to convey our utmost appreciation for the secretariat which had compiled the report for this year session of the Legal Subcommittee.

Mr. Chairman, Indonesia looks on various agenda items of the Legal Subcommittee and put important attention on several issues of the session. On the agenda item "Matters relating to the definition and delimitation of outer space", Indonesia supports the continuation of this agenda item in this Subcommittee to find a consensus. There has not been any progress on this agenda item since it was started. The development of territorial arrangements, space technology and space activities require clear definition for the basis of territorial sovereignty arrangements. Even a minimum consensus, we believe, could facilitate progress in other related multilateral forums.

Mr. Chairman, on the one hand, an international treaty that does not have a provision on the definition, like the Outer Space Treaty of 1967 and the Moon Agreement, could prevent a long legal dispute in the law-making process and its implementation. On the other hand, it creates legal uncertainties because of different interpretations of subscribing State parties of the existing terminology and parameters, especially for such basic terminology as "outer space", "space weapon", "space object" and "peaceful uses of outer space".

Therefore, Indonesia encourages efforts to achieve a minimum consensus on basic definitions. It is crucial to guarantee clarity in space activities, both for spacefaring nations and for the States vulnerable to the impact of outer space activities. Again, we believe

that this consensus will serve developments in other forums.

For the Agenda item in relation to the geostationary orbit, Mr. Chairman, as an equatorial country, Indonesia has a national view on the geostationary orbit. Physically, GSO is by nature part of outer space; GSO is a limited resource having certain characteristics and conditions, possessing strategic and economic values for the countries which use it. The irrational use and inefficiency in utilizing GSO risk saturating it. Therefore, the geostationary orbit should be preserved. Indonesia is of the view that member States should make efforts to seek alternative ways of using the geostationary orbit which are more rational and balanced.

In regard to this matter, Indonesia is of the view that consideration of this issue would allow us to reach a decision in assuring, guaranteed and equitable access to the geostationary orbit according to the needs of all nations, taking into particular account the needs of developing countries, as well as the geographical position of certain countries. To extend the access of the geostationary orbit to developing countries to boost their socioeconomic development; developing countries should be provided with assistance and technical capacity in order that satellite communication could help alleviate the digital divide.

Mr. Chairman, Indonesia also looks closely to the agenda item "National legislation relevant to the peaceful exploration and use of outer space". Indonesia is currently finalizing the drafting of national space law, giving particular attention to the implementation of outer space related treaties that have been ratified by Indonesia, and measures that need to be taken to improve national capacity-building in the area of outer space. The draft law itself has integrated some recommendations provided by the working group National Space Legislation. With regard to this, since we are developing our national law in a rapidly changing situation and swift technological development, we would like to encourage other States that are also developing their national law to share their experiences and best practices. Indonesia has also benefited from the development of various national space laws and discussion with stakeholders. In relation to this, Indonesia is of the view that international organizations and non-government organizations could contribute to the development of national legislation relevant to the peaceful exploration and use of outer space by sharing their research or presenting related studies.

Mr Chairman, Indonesia has also special concerns in enhancing national capacity-building in space law. Today, some public and private universities

in Indonesia have offer space law courses or lecturers. Some Indonesian university also actively participated in the space law court competition.

With regard to the development of capacity-building in the regional context, Indonesia also welcomes the initiative for the establishment of the United Nations affiliated Regional Center for Space Science and Technology Education in East Asia and the Pacific, which we expect will contribute to the development of space law.

Lastly, Mr. Chairman, Indonesia looks attentively on the proposal made by the Japanese delegation and cosponsored by several others delegation in the last Legal Subcommittee session. Indonesia considers that the proposed new agenda item may potentially have positive outcome to the member countries if the proposal adjusted to address the concern convey by several delegations. As such, Indonesia is ready to consider closely on the amendment made on the proposal as well as ready to participate actively on the discussion with regard to the proposal. I Thank You, Mr. Chairman.

The Chairman I thank the distinguished representative of Indonesia for his statement.

The next speaker on my list is the distinguished representative of Greece. You have the floor.

Mr. V. Cassapoglou (Greece) Thank you Mr. Chairman and good afternoon to one and all.

Mr. Chairman, first of all, through you, I would like to congratulate my colleagues and friends from Italy for the presentation that we saw this morning regarding the interdisciplinary post-graduate programme on law and other areas. So, I feel I should congratulate them and also wish them the best in that very difficult task that they have.

Mr. Chairman, I would like to announce that my Government nominated me as expert for the Beihang University Jury for Aeronautics and Astronomy for this to be a regional centre regarding applications of space science and technology. And now I would like to look at the joint proposal from some time ago from the Russian Federation, the People's Republic of China, Greece, Iran and I apologize for omitting co-sponsors from other countries. For a discussion regarding progressive codification of international space law. I just heard our wonderful friend and colleague from the US say that we are fine without convention text containing all subjects addressed by the space treaty general principles and the four other treaties and special principles. For those who are younger here, I must say, from the sociological point of view regarding international space law, at the beginning of the space

age, quite rightly, the larger space powers opted for an approach that was a fragmented one, or compartmentalized, because that was one way to have general and specific regulation of space activities, avoiding arms races in space and at the same time setting a solid legal basis for collaboration, not just cooperation, international collaboration on space affairs, including the two super power, that were also nuclear super powers at the time. But it has been a half a century since then, and there are some draw backs — some problems with application. We got a small number of Member States as parties, even in the general treaties, that do not feel the conviction possibly because they are afraid of jumping into this whole story with five different texts, Moon and so on. Even just from the sales promotion point of view — sorry for doing this comparison, but it is very difficult to promote something: 5 conventions at the same time instead of trying to sell just one single one. Throughout the whole history of international law from the very beginnings to date, there has been a trend, a tendency to have ad hoc regulations and then move on to conventions, and especially in the law of the sea — post-war we had the 5 thematic conventions on law of the sea — 58 in Geneva. And then, after about 30 years in Montego Bay in '82, we managed. But there are some States that signed in Montego Bay in '82, but for political reasons — understandable at all — they have not ratified. And that makes me think about the fatal history of the League Nations at the US Congress did not approve for the wonderful piece of work done by president Wilson — the basis for peace in Europe — which led on to the total failure of the international system of the time and the world war. I do not think conditions are the same. I do not think history is repeating itself, however, we have history, and we can learn lessons from it and that lesson to be learned is to move on as quickly as possible to a multilateral, single conventions, codifying human activity in outer space.

There is a tendency, which is more political than legal — almost an axiom — saying that regulations create problems for business development. That is regrettable. Unless you want total deregulation of State activities in any area of international law — that axiom, which is totally incomprehensible, saying that development of technology and business could be blocked by regulation. Regulation does not call for an economic dictatorship over another State. It is up to States to watch over investors. It is up to States to exercise their sovereign powers so as to watch over businessmen or investors. Unfortunately, our history — and the US is suffering from this tendency too, even — and to other economically advanced countries. Our suffering from the fact that the investors and businessmen dictate to the Government. That being

said, I think we need an effort for understanding each other here. We have a Japanese proposal. While I might have some misgivings as to content, it is a matter of phrasing, really, rather than substantive questions. However, we should say that — it is not a question of having a new item with Germany, France, Greece and I do not know who else — having supported the idea of reorganization or restructuring the agendas of the Legal Subcommittee and the Scientific and Technical Subcommittee. In other words, to have a more logically ordered structure. So, through you, while I feel great understanding towards the proposal, in April when our eminent colleagues from Tokyo approached me, I was the first to give to my views and I said, it was a question of statistical and sociological approach, I might understand your endeavours, but now, what I see in the text is a list of 12 instruments, which have no substantial relationship with the declaration on principle. There are 3: direct broadcasting, remote sensing, nuclear power sources and the more recent one on space debris. All the other documents, resolutions and so on are not similar in nature to the resolutions which are normative texts form the General Assembly. So, that, Chairman, cover our reservation on moving further with that and through you, if you would agree, I would ask our Japanese colleagues not to press too hard, and rather to wait for next year and act, step by step, with developments in Franco-Germano-Greek proposals on restructuring and rationalization for our work. Thank you, Chairman, for your attention and while waiting for our colleague from Indonesia, I would like to say that in the ITU, there was questioning of a principle that is not 100 per cent democratic. It goes back to Roman days: first come, first serve, which applies to the use of the geostationary orbit for broadcasting and this is something that is considered not to be applied shortly, but rather to apply the planning system that we have for direct satellite broadcasting. In other words, Annex 30 and not 38 for radio broadcasting. Thank you for your attention.

The Chairman I thank the distinguished representative of Greece for his statement.

Distinguished delegates, as I recalled earlier this week, in accordance with the agreement of the Committee at its fifty-fifth session, the Legal Subcommittee considered the revised draft set of recommendations on national legislation relevant to the peaceful exploration and use of outer space at its fifty-second session. The Subcommittee agreed on the text of the set of recommendations and recommended that the text be submitted as a separate draft resolution for consideration by the General Assembly at its sixty-eighth session. This set of recommendations, in the form of a draft resolution, is contained in annex III

of the report of the Legal Subcommittee on its fifty-second session, in document A/AC.105/1045.

Distinguished delegates, if there are no objections, may I take it that the Committee endorses the set of recommendations on national legislation relevant to the peaceful exploration and use of outer space, to be submitted as a separate draft resolution for consideration by the General Assembly at its sixty-eighth session?

I see no objections.

It is so decided.

We will continue and hopefully conclude our consideration of agenda item 7, "Report of the Legal Subcommittee on its fifty-second session" on Monday morning.

This afternoon, I would like to begin our consideration of agenda item 14, "Other matters" by first considering the following sub-items:

- Membership of the Committee;
- Observer status with the Committee

Distinguished delegates, the Committee has before it the applications for membership in the Committee from the following two States: Belarus and Ghana. The official communications have been duly communicated by the Secretariat to all Permanent Missions of member States of the Committee. The Committee has before it for consideration those applications for membership in the Committee in conference room paper 3 for Ghana, and conference room paper 4 for Belarus.

The Committee will now take action on the application of Belarus and Ghana for membership in the Committee to be recommended for final decision by the General Assembly.

If I see no objections, do I take it that the Committee agrees to recommend to the General Assembly the granting of membership in the Committee of Belarus and Ghana?

I recognize the distinguished representative of Greece.

Mr. V. Cassapoglou (Greece) Thank you Chair. There are two things, if you would allow me, I would like to find out on the two candidate States: are they already at least members ratified — have they joined the '67 Treaty? That would be my first question. And my second point, as you know, the rules in '58 is that the number of subsidiary bodies, which is limited in the United Nations, should be more or less one third of the membership of the United Nations. So, if you divide 193 by presently, we are 66 right now — 75,

sorry — 74, actually. Well, we are being that one third. But that does not depend, it does not depend on me. I think the main point is the criteria that a given State has already joined the Outer Space Treaty because I believe that if a State has not committed itself to this important instrument of international law, I think it is very important, because otherwise, if we let this criteria fall, the situation is ridiculous. We are just making light of things which are important. So these are my reservations with respect to acceptance of any State. It is true that, if the proportionate rules are broken, and everything becomes open-ended, I think we can along that situation, if the decision is taken. But I really do believe that a commitment to outer space law is necessary as a criteria.

The Chairman I thank the delegate of Greece. I know would like to give the floor to the secretariat. Nicolas, you have floor.

Mr. N. Hedman (Secretary) Thank you Mr. Chairman. Yes, just to inform delegations that the application of Ghana was made available to all delegations at the Scientific and Technical Subcommittee and the Legal Subcommittee and the note verbale was passed on to all Member States of the Committee when we received the application in the fall of 2012. The application was Belarus was also made available to all Member States of the Committee at the Legal Subcommittee and the note verbale was communicated to all Member States right after the Legal Subcommittee. There has a discussion, of course, been brought up by some Member States, on the relationship between accession to the space treaties and membership of the Committee. I would like just to make delegations aware that there are current Member States of the Committee on the Peaceful Uses of Outer Space that are not members to the treaties. So, the discussion is quiet significant — that, of course, if we should allow or not allow new Member States to become of the Committee, there has to consequently also to be a discussion whether Member States are already part of the Committee should be abolished. Mr. Chairman, all the information — the treaty status of the respective treaties — are available on the website of the office for outer space affairs. They have also been made available — duly made available — to the Legal Subcommittee, as is regularly done all years. Thank you Mr. Chairman.

The Chairman I thank the secretariat for your explanations. Now, do I take that the Committee recommend to the General Assembly the granting of membership in the Committee of Belarus and Ghana?

Distinguished delegate of Greece, you have the floor.

Mr. V. Cassapoglou (Greece) Chairman. I am afraid that my friend, on behalf of the secretariat, has not really answered the questions that I put. I do not have before me the list of accessions and Member States having signed on and ratified — at the Outer Space Treaty. Secondly, the fact that at a given point in time, we made the mistake of not asking States applying, because there are some States which have been — have become Members since '67. They have been full Members and they have never even visited the room once since then. There are some 10 States that are like that. And other States are really interested and they have bear the full brunt of contributing to the work at hand. I am all in favour of universalization, but you cannot universalize with that kind of policy. The only way out of this dead end — this impasse — we should illicit at least a pledge on their part. That within a certain reasonable period of time, they will indeed be joining the Treaty, if they have not yet done so. I believe that Belarus was not a signatory at the time, for Ghana, I just do not know. But, here I am indicating a solution — a solomonic solution to the problem.

The Chairman I thank the distinguished delegate of Greece. Now I recognize that the distinguished delegate of Saudi Arabia.

Mr. M. Tarabzouni (Saudi Arabia) Thank you Mr. Chairman. I think we are accept the two countries to be part of our Committee. Besides, you know, in Belarus, they were mentioning in their speech just a few minutes ago — they signed 3 out of the 5 Treaties. So, I do not think there is anything that — we cannot, because we have to actually strengthen this organization, you know. And the more we have countries involved — not as an observer — so that means, you know, this will encourage looking into the 5 Treaties, revising of the 5 Treaties, all of this stuff. I think, you know, I would recommend that it is actually will be accepted. Thank you very much.

The Chairman I thank the distinguished delegate of Saudi Arabia. Yes, I recognize the distinguished representative of Belgium. You have the floor.

Mr. Mayence (Belgium, translation from French) Thank you very much Chairman. My delegation enthusiastically accepts the candidates in question — both candidates. But we also do take the point of Greece — there should be a correlation between when one becomes a party or is party to the Outer Space Treaty and COPUOS. I might have proposed, indeed — the Greek proposal — I do not exactly the situation of the countries applying for membership here, but could not we pack into our recommendation to the General Assembly, a reference to the fact that, if, as appropriate, that the States in

question are called up to consider joining, at least, the 1967 Outer Space Treaty as quickly as possible. I think that this recommendation, if we make it, should not just concern the applicant Member States, but also all of the other COPUOS Members. Thank you.

The Chairman I thank the distinguished delegate of Belgium for your intervention. I will give the floor to the secretariat. You have the floor.

Mr. N. Hedman (Secretary) Thank you Mr. Chairman. According to our statistics, the accession is situation is as follows: Ghana has signed the Outer Space Treaty, the Rescue Agreement and the Liability Convention. Belarus has ratified the Outer Space Treaty, the Rescue Agreement, Liability Convention and Registration Convention. However, having listened to the debate, Mr. Chairman, the secretariat suggests that, if we can — if there is a consensus — of granting these two States the membership of the Committee or recommendation to the General Assembly, there will also be inserted a paragraph under this heading in the report, for the encouragement of new States, and also States that also Members of the Committee, to ratify, at least, the Outer Space Treaty. So, Mr. Chairman, that is the suggestion by the Secretariat, so, in order to proceed.

The Chairman I will give the floor to the distinguished delegate of ...

Mr. V. Cassapoglou (Greece) Yes, Mr. Chairman. I am happy to welcome the two new candidates. Thank you, because we have avoid this discussion, if from the very beginning, I had this explanation from the secretariat. Nevertheless, as in Greek, we say: "nothing bad with something good inside". Thank you very much. Welcome — I means it depends on the General Assembly, but for us is ok.

The Chairman Thank you distinguished delegate of Greece. So, now, do I take that the Committee recommend to the General Assembly the granting of membership of the Committee to Belarus and Ghana?

It is so decided.

Distinguished delegates, I would now like to proceed with the application for permanent observer status with the Committee. The Committee has before it the application for permanent observer status with the Committee of the international intergovernmental organization Inter-Islamic Network on Space Sciences and Technology (ISNET). The official communications have been duly communicated by the Secretariat to all Permanent Missions of member States of the Committee. The application of ISNET has been

presented to the Committee in conference room paper 5.

If I see no objections, do I take it that the Committee agrees to recommend to the General Assembly the permanent observer status of the Inter-Islamic Network on Space Sciences and Technology?

It is so decided.

Distinguished delegates, I would now like to open the floor for statements.

The first speaker on my list is the distinguished delegate of Ghana. You have the floor.

Mr. M. M. Alfa (Ghana) Mr. Chairman, distinguished delegates. Once again, permit me to express the sincere appreciation of the Government and people of Ghana for the adoption of our membership application as part of the Committee recommendations to the 68th UN General Assembly. While assuring you of our determination to commit our human, material and financial resources to this noble and important cause, we also hope to continue counting on the cooperative support of the entire membership, which in natural fact, has been demonstrated beyond doubt to the Ghana delegation today. Once again I thank all of you — thank you.

The Chairman Thank you distinguished representative of Ghana for his statement. The next speaker on my list is the distinguished representative of Intersputnik. You have the floor.

Mr. Veshchunov (Intersputnik) Thank you Mr. Chairman, distinguished delegates, ladies and gentlemen. As I was requested not long ago by the Secretariat to make my statement as short as possible, I will abstain from reading the statement, hoping that it will be published by the Secretariat, but I will touch upon the major points of my statement.

First of all, I would like to recall that Intersputnik in an international, inter-governmental organization, set up in 1971. On this year of '71 the agreement on establishment of our organization was signed by 9 countries. Presently, Intersputnik comprises 26 countries and I am to report to the Committee that last year, in the year of 2012, the Federal Republic of Somalia joined Intersputnik, becoming the first African country member of our international organization. Being an intergovernmental organization, Intersputnik has got a unique opportunity to, filed with the International Communication Union, its own satellite networks in the geostationary orbital slots. We started this work since '92, '93 and for the time being, we are having satellite networks of Intersputnik in 25 orbital slots. Obviously that the main aim of this

activity was to help the member countries of Intersputnik to use this very deficit orbital resource — orbital frequency resource — in the development of their national satellite systems based on the national satellites. I am very happy to report that we are in the process of negotiating with the Telecom administration of Belorussia and Telecommunication of Mongolia, of using their Intersputnik slots for their national satellite projects. But again, obviously that 25 orbital slots will not demanded by the member countries and therefore it was decided by the Board of Intersputnik some years ago that we should look for the third partners to develop this orbital resource by launching and injecting the satellites of the third partners — our partners — in the Intersputnik orbital slots. I am glad to report that currently, there are 5 orbital slots under their joint collaboration with the third parties and, in the above slots — the three slots — are already occupied by their satellites being operated by our partners and in two more slots, the satellites will be injected in the coming one to two years.

So in our view, it is a very important activity because it gives the opportunity to increase the number of the satellite operators using their satellites, providing all kinds of satellite sources all over the globe. But in the course of this activity, we found out that the constructive documents of the International Telecommunication Union — first of all, the radio regulations of the ITU — in no way regulate, in the legal sense, in the legal sense regulate, such activity as joint use of the orbital slot of the international intergovernmental organization with a third party, which is not a member of this organization. So, in our view, this is a very important legal issue, which really needs very careful attention, and in the view of Intersputnik, we believe that the Committee for the Peaceful Uses of Outer Space could make very important contribution to the development of the certain legal ways for this activity. And, first of all, I would like to point to out in this context, that areas and regions where our partners operate their satellites, mostly cover the developing countries — developing regions of the world. Therefore, this task and this activity becomes more and more important. Of course, we are in close touch with ITU on this issue, but I believe that the Committee would really facilitate and assist to cover this legal vacuum, which really exists at the moment. Thank you very much for your attention and the more detailed presentation will be available through the Secretariat. Thank you once again.

The Chairman I thank the distinguished representative of Intersputnik for his statement.

The next speaker on my list is the distinguished representative of Belarus. You have the floor.

Mr. S. Kilin (Belarus) Mr. Chairman, ladies and gentlemen, members of the Committee. The delegation would like to thank you for the decision taken following our request for membership. We can confirm that we are eager to work actively as I said during our statement. We will be active members here in the Committee and all decisions taken will be followed up by us.

Peaceful use and development of outer space is something very important for Belarus. Scientific development in Belarus is linked to multidisciplinary research on space matter and I am pleased that our application for membership as received so positively. Thank you very much for your decision.

The Chairman I thank the distinguished representative of Belarus.

Now I would like to give the floor to the distinguished representative of ISNET. You have the floor.

Mr. Siraj (Inter-Islamic Network on Space Sciences and Technology (ISNET)) Thank you Mr. Chairman. Mr. Chairman, I wish to take this opportunity to thank the Committee for accepting the request of the Inter-Islamic Network on Space Sciences and Technology, for granting observer status on this Committee.

The Network, in the last almost 20 years, has been working hard at improving the capability and capacity of its member countries in the realm of space science and technology. With a membership of 16 countries, it has undertaken a number of training courses, seminars and symposia, and does a lot of work that contributes to the objectives set forth for developing capacity and capabilities in space science and technology by this Committee, in that intends to enrich its scope of its activities to include aspects related to space law and other international legal frameworks, governing outer space exploration and its peaceful uses, sustainability of space operations, near Earth objects, along with numerous other space-related matters, there does discuss at the forum of UN COPUOS and its committees. We thank the Committee once again for accepting our observer status. Thank you Mr. Chairman.

The Chairman I thank the distinguished representative of ISNET for his statement.

We will therefore continue our consideration of agenda item 14, "Other matters", by considering organizational matter and other matters, on Thursday next week.

Distinguished delegates, I would now like to proceed with the technical presentations. Presenters are kindly reminded that technical presentations should be limited to 10 minutes — I am sorry — 10 minutes in length due to time constraints.

The first presentation on my list is by Mr. Victor Cano, Head of the Bolivarian Agency for Space Activities of the Bolivarian Republic of Venezuela, entitled "Satellite Miranda".

Mr. V. Cano (Bolivarian Republic of Venezuela, translation from Spanish) Thank you very much Mr. Chairman for giving me this opportunity to give you the technical presentation on the first Earth orbital observation satellite, Miranda.

This is a programme that was developed in the Bolivarian Republic of Venezuela with a view to have in orbit an observation satellite. Because of time limitations, I will just into the background of this, which goes back to 2010. The ideal dream of having a remote sensing satellite in Venezuela is something that goes back even further and in the programme we have more than 6 government institutions participating, each with national scope of work. We had an evaluation — an assessment of all national needs to set the necessary technical characteristics for the satellite. We did a diagnosis as to the payload that would appropriate for this observation satellite and we also assessed the technical proposal from our friends and colleagues in the People's Republic of China, who helped us with the construction and launching of the satellite. And then, after all that activity on the 26 of May 2011, there was a signing of the contract between the Bolivarian Republic of Venezuela and the People's Republic of China for the VRSS-1 project: Venezuela Remote Sensing Satellite.

After the signing, we then moved on to the whole process: description of the programme VRSS-1, where we have three areas: enhancing human talent, space segment and the land segment. For the human talent, we had 54 Venezuelan professionals involved: 10 in the space segment, in another words, everything that is related to the health of the satellite; 10 professionals for the satellite control segment and flight plans; and 11 professionals in the land control and global control, antennas; 21 professionals for global applications, in another words, people who take the images and process the images for use at the various levels as established; and then we have two other professionals who were trained for typical application systems for use of the Miranda images.

This is a picture of people being trained in the People's Republic of China and in the background you can see the satellite under construction. The satellite

was launched successfully on 28 September from Jiuquan in China and put into orbit immediately. This is the satellite, its description with the space segment. It weighs 880 kg with dimensions — almost a cube — 1.5 on each side with altitude almost 640 km, going over Ecuador at 10:30 in the morning. In the highest resolution camera, it has a repetition phase of 57 days without repetition and revisit with manoeuvres 4 days. With the cameras on the payload, we have 2 panchromatics with a 57 km swath with 2.5 spatial resolution multifilter with 10 m. This multispectral includes the 3 bands visible and infrared. Then we have 2 cameras for a 369 km range. These are multispectral with space resolution of 16 m. These multispectral cameras are also for 3 visible band and 1 infrared close.

That is the description of the satellite with the ground control system and everything that is the satellite the applications. And I will just move on to the next slide. Looking at applications and benefits: we have environmental management, production, health, planning, risk management, basic information, especially geology, geomorphology, cartography, hydrography and bodies of water, and security and defence. The satellite Miranda is already being used in a special programme by the Bolivarian Government of Venezuela with housing being offered to the needy in our country, and we use Miranda in seeking land and plots fit for housing construction. This is a panchromatic image where you can look at the international airport Simon Bolivar in Venezuela with a zoom also in the upper right corner, zooming in on construction of new urban housing for Venezuelans who are in need.

Since its launch and to date to the 25 of May, there were 3,581 images with a cloud cover under 20 per cent. Venezuela is a tropical country and, as such, has heavy cloud cover and we have had more than 9,000 images that we have received. Sadly only one third are actually fit for image examination because of the cloud cover.

And to conclude, and not take too much time from the plenary, I would like to say Miranda is the second satellite that we have in orbit in Venezuela and we thus will be continuing with projects to consolidate our study and peaceful use of outer space with the pure objective of giving visibility where it was not available for our people to have and enjoy equal conditions.

The Chairman Thank you Mr. Cano for your presentation.

The second presentation is by Mr. Hmam of Tunisia, entitled “The state of utilization of space

technologies by the National Weather Service of Tunisia”. Mr. Hmam, you have the floor.

Mr. A. Hmam (Tunisia, translation from French) Thank you Chair. It is really a pleasure to participate in the work of this 56th COPUOS session as organized by the OOSA. I would like to give you an idea as to the present state of use of space technologies in our national meteorological institute: I will present to you the INM in question, the information system, the observation network, the use of Met satellites and then Met radar, some projects, ongoing training and conclusion.

The National Meteorological Institute is non-administrative public establishment under the aegis of the Ministry of Transport set up by law 74-101 of 25 December 1974. The first meteorological observations took place in 1873 in Tunisia. The Institute works with a staff of 350 and a budget of 10 million dollars in 2012. Fields of application: assistance to various actors of the economy, air transport, ground and maritime transport, water resources, agriculture, urbanism, industry, energy, tourism and the environment. The Institute is certified in ISO 9001:2008 in the field of meteorological assistance to air navigation.

The main mission of the institute is observation and weather forecasting and meeting general Met and geophysical requirements. Secondly, it conducts basic research and applied research for the development of Met sciences and geophysical sciences. And thirdly, the preparation and application of international agreements in the fields of competence and technical cooperation with foreign departments and specialized organizations.

We are conducting our missions in a systematic fashion. We collect observation data automatically, or at an altitude or space observation is conducted as well. Products are managed and then distributed to the various users. This climate database, digital weather forecasting takes place. We have a well-coordinated and national observation system, including in airports. Our regional telecom centre works with Toulouse in Algiers.

Weather forecasting takes place at various levels. There is surface observation — here you have automatic stations working — deficiometres, transmissometres are used. Cloud metrics are used as well. Then, there is also altitude observations with radio stations participating and space observation. This is ensured with European satellite: Meteosat satellites. And we also conduct radar observations, there is rain and wind radar systems. We have licences from the competent radio frequency sources. Our network has

various subdivisions: north, south. We have 263 stations in climate network and 9 stations in the agro weather network. The Institute also is managing a telemetrics seismological network. There are 7 regional subcentres, 21 seismological stations, autonomous GPS stations work on processing seismological data.

The work started in 1964 with Intelsat-2 in our country. There are various applications. With our Met satellites we observe the atmosphere. We forecast weather and we monitor the ozone layer. We monitor dust and volcanic ash, the ozone layers, as I have already said. Weather forecasts for aviation, marine threshold transport, cyclone forecasting, digital forecasting. We have climate applications as well. The validation of climate models and observation of ocean and ground surface. We have a second generation Intelsat now and Meteosat. We have an MSG ground station working in the Institute. These Meteosat data give a better than 1 km resolution, coverage for 15 minutes and 12 observation channels. We used visible range, infrared range also absorption channels. We monitor the tropospheric layers, inter alia. We also monitor ozone and CO₂ distribution. We also monitor volcanic data, convection data, cloud cover and dust, and these projects are variously analysed and distributed. This is an example of a satellite image on the screen, which we use for TV.

Now, dissemination of weather data. This is done with the Retim and SADIS systems at Toulouse and United Kingdom. We have digital and satellite products. This is a presentation of the dissemination done, date and products. Over and above, these data. We also have radar, which works in synergy and it allows us to detect and to identify position precipitation, to determine real time precipitation with very good spatial resolution and we followed the movement and evolution of cloud cover and estimate precipitation through various products here: PPI, RHI, MAXCAPPI, CAPPI, VCUT, ETOP, EBAS and vertical integration liquid as well.

Now projects done: we have developed a catalogue of MSG products, we have developed colour imagery for TV, newscasts. These data are also used in the SMAS project. The generation of clouds takes place on the basis of these MSG data.

The Institute has recently developed a study on radar networking, the objectives being to detect and signal in real time dangerous phenomena linked to convectivity, to evaluate quasi-instantaneously, spatial distribution of precipitation, estimation of quantities of water on a given watershed, processing Doppler radial wind data and estimation in real time of the distribution of the Doppler effect and its force.

I believe I have to conclude. The use of these capabilities is necessary for the users that we have in our country and the use of our satellite imagery makes it possible for the Institute to really improve the forecasting services made available. We count on our development plan on the stepping up of the utilization of space technologies, as well as the stepping up of capacities of our staff in order to better exploit the potential of space products with the development of new applications for final users and to give better services to support decision-making in the climate analysis, early warning and environmental monitoring. Thank you.

The Chairman Thank you Mr. Hmam for your presentation. I am sorry to make you your presentation shorten.

From now, we will not have the interpretation service. The presentation will be made in English. The third presentation is Mr. Enes Koytak of Turkey, entitled "Recent space activities in Turkey". Mr. Koytak, you have the floor.

Mr. E. Koytak (Turkey) Thank you, Mr. Chairman, distinguished delegates, my name is Enes Koytak, I report to the Ministry of Transport, Maritime Affairs and Communications in Turkey, as an advisor. Today I would like to inform you about recent administrative and technical space activities in Turkey.

Mr. Chairman, my presentation will include following subjects: firstly I will give some information about the new Directorate General, secondly, I'll move on to the turkey's satellite and space technology and subsystem roadmap, after that I will present Turkish space studies and projects and lastly I will focus on some application examples.

The Turkish government established the Directorate General of Aeronautics and Space Technologies under the Ministry of Transport, Maritime Affairs and Communications in November 2011 and it has been operated since August 2012. The Directorate General's main aim is to coordinate the diversified space activities in Turkey and maintain a solid base for the development of aerospace industry, technologies and sciences in Turkey. Its duties include to specify the Turkish space policy, strategy and goals and to prepare an implementation programme in coordination with relevant Turkish agencies and organizations; to regulate the space activities and to manage matters related to national sovereignty in space; to produce, establish, operate and develop aerial vehicles, satellites, launch vehicles, design and test centres and to support private sector with incentives; to support space research and development activities; to support the applications of space technologies in public

health, preservation of environment, disaster management and determination of natural resources. And lastly, to represent Turkish Government in international space activities and platforms

Now I'd like to move on to The satellite-space technology and subsystem roadmap of Turkey. The satellite-space technology and subsystem roadmap is prepared by Turkish agencies and organizations related to space in 2013 after one year of extensive work. The roadmap paves the way for the future space activities in Turkey until year 2030. It provides Turkish industry a clear view of the future market opportunities and encourages them to invest more in space-related areas. It also shows the strengths and gaps of the sector, therefore it will lead the public and private players to the efficient investments for the country.

In Turkey, communication, earth observation, reconnaissance satellite systems and sub-systems and also launch vehicle projects are already carried out by public and private sectors. The roadmap will support the future endeavours of Turkey in its aspiration to be a space fairing nation.

Here we see the general roadmap of Turkish satellite activities. Turkey has operated until now 4 communications satellites namely, 1A, 1B, 2A, and 3A. Next year and in 2015, Turkey will launch 2 more comsats namely 4A and 4B. They are now being manufactured by Japan in a Japanese Mitsubishi company. A Turkish engineer team also monitors and joins the manufacturing process through a technology transfer programme.

Turkey also started its own satellite programmes and developed 3 earth observation satellites until now, namely Bilsat, Rasat and Göktürk2. Turkey also contracted a high resolution Earth observation satellite namely Göktürk1 which is developed in France. Turkey plans to be able to manufacture its own communication satellites in the end of this decade. Turkey will also continue to launch several new optical and radar Earth observation satellites in the following decade.

Like many other countries Turkey began using space in terms of meteorological services. The Turkish State Meteorological Service joined the European Organisation for the Exploitation of Meteorological Satellites in 1986 as a founding member and began using meteorological satellite products.

In Turkey there are many universities with aerospace engineering departments. Here I want to give you two examples: the 2.5 meter resolution Earth Observation Satellite Camera development project initiated in 2007 by the Middle East Technical

University, Department of Physics and completed in 2011.

Another university is the Istanbul Technical University. The satellite communications and remote sensing centre in Istanbul University: ITU-UHUZAM was established in 2000 and currently operated as an up data uplink down in Earth station. Istanbul Technical University also developed a pico satellite and launched under the QB-50 European project. A low-earth orbit experimental satellite, Turksat-3USAT, was designed and produced in Turkey by Istanbul Technical University and launched from this year.

The Turksat company is the satellite operator company of Turkey. Turksat manages and operates geostationary satellites and provides all types of satellite communications through Turksat and other satellites since 1994. With its high-tech infrastructure and experienced staff, Turksat is one of the world's leading operators in the satellite communication business. Here we see the satellites by Turksat.

TÜBİTAK UZAY (Space Technologies Research Institute) was founded in 1985, under the framework of a protocol signed between the Middle East Technical University and the Scientific and Technological Research Council of Turkey as a publicly funded research institute. TÜBİTAK UZAY specializes in space technologies, electronics, information technologies and related fields, keeping abreast of latest technological developments. TÜBİTAK UZAY gives special emphasis on developing capability on small satellite design, manufacturing and test, leading the Turkish space programme and initiating international collaboration in space technologies.

To this date Tübitak UZay completed 3 satellite projects: first, BILSAT which was co-produced with the SSTL. It was an electro-optical satellite. Secondly, RASAT: The overall objective of RASAT was to establish and develop small satellite technologies in Turkey. It is the first remote sensing satellite that is being developed and manufactured in Turkey by Turkish engineers. Throughout these projects, TÜBİTAK UZAY developed many subsystems for these satellites. For example: GEZGİN — it is at real-time image satellite sub-system; COBAN Multi-Band Camera; BİLGE: Flight Computer and Data Path; X-BAND is an X-band communication subsystem; flight and Ground Station Software.

Lastly, Tübitak achieved to finish its first operational satellite GOKTURK-2 Satellite, which was developed for the Turkish army, it will also be used for civil purposes. Tübitak also takes part under IMECE Satellite System as a sub-system developer,

which is a new earth observation satellite project in Turkey.

If you look at this graph you can see development of Satellite sub-systems designed by TUBITAK Space. Here we see that with each satellite they achieved to add new indigenous sub-system and upgrade the old ones. They are now working on a power distribution Unit and a hall thruster which will be used in future satellites. Tübitak and METU is also planning to establish an institution for optical satellite payload systems in the near future for indigenous satellite camera systems.

Here we see the tübitak satellites in historical order, Tübitak gained the first expertise with Bilsat. In Rasat they created their infrastructure and capacity and implemented their knowledge to develop a more advanced satellite. Finally in Göktürk they built up capacity for state of the art satellite development and exceeded to customer focused development. Here we see again the indigenous sub-systems developed by Tübitak in 10 years' time.

Now, I would like to announce an important event: the forty-first COSPAR Scientific Assembly will be held in Istanbul, Turkey, in 2016 by Tübitak. All delegates are cordially invited to this event.

Now let me give you some information about TAI. Turkish Aerospace Industries, Inc. was established by Turkish and US partners in 1984 for the coproduction of F-16 aircraft in Turkey. As a result of the acquisition of foreign shares by Turkish shareholders, the company was restructured in the year 2005 and TAI became Turkey's centre of technology in design, development, modernization, manufacturing, integration and life cycle support of integrated aerospace systems, from fixed and rotary wing air platforms to UAVs and satellites. Here we can see some of the Space System Key Capabilities of TAI. The first main achievement of TAI is the Göktürk2 project; as I said before, it is an indigenous satellite development project of Turkey. TAI took the work packages as seen on the screen.

The objectives of the GOKTURK-1 programme is to procure a satellite with a earth observation payload in order to provide high resolution images from any location in the world for both defence and civilian purposes, such as forest control, illegal construction, crop management and casualty assessment after natural disasters, and to establish an Assembly Integration and Test Center for testing and integrating all type of satellites up to 5 tons in weight.

TAI is performing direct participation to specific work packages in France and Italy. TAI is also

manufacturing in-house some components for the GOKTURK-1 Satellite.

The Turkish Spacecraft Assembly Integration and Test Center will serve national and international space programmes for spacecraft assembly, integration and test activities. The AIT Center infrastructure is capable of supporting AIT activities for both GEO and LEO satellites simultaneously.

Along with the ongoing GOKTURK-1 project, TAI has signed contracts and MOUs for 3 other satellites for the Turkish Government. These are the GÖKTÜRK-3 SAR 1 Satellite, IMECE Earth observation Satellite and the National Communication Satellite. These are some other projects of TAI: Roketsan, was founded in 1988 by the resolution of the Defence Industries Executive Committee for the purpose of "possessing a leading institution in the country for designing, developing and manufacturing rockets and missiles". ROKETSAN is defined as the local company to develop Satellite launch and propulsion systems in TURKEY.

Turkey is keen to own indigenous launching systems for peaceful uses of outer space. In this context, Turkey plans to win satellite launching capability to LEO and GEO orbits in the next 15 years. The studies will begin with launching sounding rockets capable of carrying small payloads in the following years.

Now I will give some space application examples used in Turkey. There are many companies marketing space application solutions in our country, but as a satellite operator company, Turksat develops and implements vastly used remote sensing and satellite telecommunication solutions. One of the recent tool developed by Turksat is the TurksatMaps. TurksatMaps is a web mapping service application and technology which can be used freely by public to access high-resolution aerial or satellite images for most urban areas in Turkey.

Turksat provides data and communication solutions for Turkish public living in remote areas over VSAT systems. For example over 5,000 remote schools are connected to the Internet via vsat systems now. Turksat also connects Ministry of Justice local branches which significantly improved national justice system. Turksat also gives vsat service to the Turkish Red Crescent and the Directorate General of Meteorology. There are many other public organizations which benefits the vsat satellite communications as you can see here.

Turksat also provides data and communication solutions during emergency situations when terrestrial and cellular networks are effected by catastrophic

events. Turksat provides TV/radio broadcasting services, emergency communication systems, uplink and teleport services, live broadcast services, rural telephone communications and VSAT services to public and disaster management organizations when disasters occur. For example in 2011 when Van earthquake happened, Flyaway VSAT Satellite Systems were used. Also Turksat provided Satellite communication services to the Ministry of Health of Pakistan and Somalia for some years. Thank you Mr. Chairman.

The Chairman Thank you Mr. Koytak for your presentation.

Distinguished delegates, I will shortly adjourn this meeting. I would like to inform delegates of our schedule of work for Monday morning.

We will meet promptly at 10.00 am. At that time, we will continue and hopefully conclude our consideration of agenda item 4, “General exchange of views” and item 7, “Report of the Legal Subcommittee”. We will begin our consideration of agenda item 6, “Report of the Scientific and Technical Subcommittee on its fiftieth session”. We will also begin our consideration of agenda item 8, “Space and sustainable development”, and agenda item 9, “Spin-off benefits of space technology: review of current status”.

There will be 3 technical presentations on Monday morning: by a representative of Poland entitled “Introduction to Chopin in Space”, by a representative of Japan entitled “Japanese proposal on Space and Sustainable Development” and by a representative of the United States, NASA Administrator Mr. Charles Bolden, entitled “Next steps in space exploration”.

On Monday morning, the Action Team on Near-Earth Objects will hold its first meeting, starting at 9.00 am, in meeting room C0435.

During lunch time on Monday, there will be a screening of the video “Chopin: the Space Concert”, here in Board Room D starting at 2.00 pm. This video is 42 minutes in length and is presented by Poland.

Are there any questions to this proposed schedule?

I see none.

Finally, I wish to remind delegations that starting at — already started, I think — 6.00 pm, there will be a reception in the Mozart Room of the VIC Restaurant, hosted by APSCO.

This meeting is adjourned until 10.00 am on Monday Morning.

I wish all delegates a nice weekend.