United Nations COPUOS/T.602

Committee on the Peaceful Uses of Outer Space

Unedited transcript

602nd Meeting
Friday, 5 June 2009, 3 p.m.
Vienna

Chairman: Mr. Ciro Arévalo Yepes (Colombia)

The meeting was called to order at 3.12 p.m.

The CHAIRMAN *(interpretation from Spanish)*: Ladies and gentlemen, distinguished delegates, I now declare called to order the 602nd meeting of the Committee on the Peaceful Uses of Outer Space.

We will be continuing and hopefully concluding our consideration of agenda item 5 this afternoon, Ways and Means of Maintaining Outer Space for Peaceful Purposes, item 6, Implementation of the Recommendations of UNISPACE III, and item 7, Report of the Scientific and Technical Subcommittee on its Forty-Sixth Session, and, time permitting, we could begin our consideration of agenda item 8 as well, the Report of the Legal Subcommittee on its Forty-Eighth Session.

We will be hearing five technical presentations this afternoon. The first one by the representative of Nigeria, Mr. Akinyede, on the "Status Report on the Operation of the African Regional Centre for Space Science and Technology Education", this in English. And the second presentation will be by Mrs. Zhou You from China on "Small Satellite Constellations for Environment and Disaster Monitoring and Forecasting". The third presentation by ESA on "Space Situational Awareness Plans for NEO" or rather ESA will be speaking about the space situational awareness plans for NEO. And the fourth presentation will be by ITU on the "Report on the Workshop on the Efficient Use of the Spectrum Orbit Resource", that is Mr. Attila Matas doing that one. And the fifth one by Mr. Ben Baseley-Walker on behalf of the Space Generation Advisory Council on "Space Generation at Glance: 10-Year Evaluation".

Now could I ask delegations to kindly review and submit in writing to the Secretariat any corrections they may have to the provisional list of participants and this as soon as possible. You have up until Tuesday, 9 June, 13.00 hours. The list that we have established please submit your corrections, if any, by then. Norway has indeed suggested, have requested that they should be attending as an observer with the right to speak.

General exchange of views (agenda item 4)

I believe that Iraq has asked for the floor. You have the floor Sir.

Mr. S.S.M. RAOUF (Iraq) *(interpretation from Arabic)*: Thank you Mr. Chairman for giving me this opportunity.

Mr. Chairman, distinguished delegates, I would like at the outset to congratulate you as well as the members of the Bureau for your positions and I wish you all success.

I will give you a brief overview of our activities in the matters of space during the past year.

In Iraq, and especially in Baghdad, normalcy has sort of returned. We have focused on reconstruction in order to achieve social and economic development. Space applications have also earned our interest in achieving that goal.

At the end of 2008, and considering the role of space technology in promoting social and economic development, we have used the peaceful uses of outer space encompassing all ministries, including the

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Province of Kurdistan. A Committee has been formed to prepare a strategy in terms of space that would encompass as well all our goals for the year 2000 and beyond in order to achieve sustainable development. This Committee coordinates with various ministries in promoting the role of space in a very accurate way and an efficient way.

Iraq has also shown its readiness to participate in the new Arab satellite, ARABSAT-5, and we have also deployed efforts to participate in that. We think this will contribute to achieving social and economic development in Iraq.

Space communications have had a big role in achieving communications and infrastructure in Iraq since 2003. Space communications were our main door to the open world. Small VSATS are the backbone of such digital communications with the outside world as well as communications within Iraq.

Within our electronic efforts, governmental efforts, we used tele-health and tele-medicine. This provides specialized services to remote areas which suffer from a lack of such services. We rely on space communications and the infrastructure available.

Currently we also have many initiatives within our e-Government Initiative to set up a network of geographic information which would encompass also all ministries and parties which have such information available.

We have also strived to create a Centre for Geographic Information and a Mineralogical Survey and Geological Survey has also established this database for such data by using GIS as well as other space data in addition to in situ services.

The Minister of Science and Technology is also creating a Centre for Information Relating to Disasters. We try to provide geographical information in this regard to all parties that would need it.

The Ministry for Planning and Development will achieve a census of our population by the end of this year. We have used the GIS as well as space satellite images to a great extent. This will allow us to complete our work in an efficient and quick way. Here, we would like to thank Egypt and there is an Agreement between Egypt and our authority in this regard and Egypt is helping us.

Iraq is fully satisfied at the progress in the UNSPIDER. We hope we will continue to progress in order to use space technology in order to reduce disasters. We hope that international cooperation as well will be promoted in this regard.

The signing of Agreements by forming Regional Centres such as the one done yesterday is a big step forwards in this regard.

The peaceful uses of space technology helps humanity in achieving its development without any discrimination. We hope that all States will be helped to be able to use this technology.

Here we would like to praise the latest initiative by the United States to give all the archival LANDSAT imagery provided such as the representative of the United States said yesterday. We will be able to those images and we hope that developing countries and other countries also will be able to benefit from that.

All these archives represent all images taken by LANDSAT ever since it started working. Here, we would, therefore, thank the United States for this important step and call on other countries who have also archives of satellite imagery to follow the United States example.

At last, Mr. Chairman, I would like to profusely thank the Office for Outer Space Affairs for all their support. The capacity-building of various countries helps them to use space in achieving all the goals of that Office. We look forward to further cooperation with that Office and other countries, regionally and internationally, in establishing projects and providing satellite imagery. This would allow us to have a promising tool in facing the challenges, present and future, especially the constant diminishing water resources in our area in addition to the desertification and climate change. We have to address all these challenges within the human development plans of our region. Thank you.

The CHAIRMAN *(interpretation from Spanish)*: Thank you very much distinguished representative of Iraq for having in this fashion significantly contributed to the work of this Committee.

Ways and means of maintaining outer space for peaceful purposes (agenda item 5)

Now let us straight away broach item 5 of the agenda. I would straight away like to turn to Mr. Kenneth Hodgkins of the United States delegation.

Mr. K. HODGKINS (United States of America): Thank you Mr. Chairman. My delegation, once again, welcomes the opportunity to address specific measures for maintaining outer space for peaceful purposes. This agenda item was first taken up by the Committee at its twenty-eighth session in 1985 and since that time we have seen highly positive developments in the work of the Committee and in the world's peaceful exploration and use of outer space.

Today there is an unprecedented level of international cooperation in space. The United States has a long and successful history of civil space cooperation with other partners. Over the past five decades, the United States has concluded almost 4,000 Agreement with over 100 nations and international organizations and the level of new cooperation is rising each year. During the past year alone, NASA signed 77 new International Agreements with other government and non-governmental entities.

The number of nations investing in space activities has also steadily grown and we now have a significant private sector presence in outer space.

Looking to the future, international cooperation will continue to be fundamentally important to the United States.

Since our last meeting, the United States has engaged in a variety of international ventures that would produce significant benefits in the use of outer space. For example, the United States has many productive bilateral relationships in satellite navigation.

United States/Japan cooperation on GPS has included regular policy and technical consultations since 1996. The United States and Japan held their annual GPS consultations in Tokyo in November 2008. Japan's MTSAT Satellite-Based Augmentation System, known as MSAS, which was declared operational in September 2007, is fully compatible and interoperable with GPS.

Japan's Quasi-Zenith Satellite System, or QZSS, which will improve GPS coverage over Japan and the region, has also been designed to be compatible and interoperable with GPS.

The United States and Japan signed Agreements in August 2008 to set up QZSS Monitoring Stations in Hawaii and Guam.

The European Union and the United States signed a GPS Galileo Cooperation Agreement in 2004. We jointly designed a new civil signal that would be used for the new GPS-3 Civil Signal in the Galileo Open Service.

We also confirmed compatibility and interoperability between the planned signals known as L-5 on GPS and V-5A on Galileo.

The United States and the European Union held the first Plenary Meeting under the 2004 Agreement at the United States Naval Observatory in Washington D.C. in October 2008.

Russia and the United States continued cooperation between the GPS and GLONASS systems. The Working Group on Search and Rescue Cooperation held its latest meeting in May in St. Petersburg. And the Working Group on Radio-Frequency Compatibility and Interoperability has met many times. The latest session was in December 2008.

India and the United States have been engaged in policy and technical consultations on GPS cooperation since 2005. Meetings were held in early 2009 to examine India's possible signal choices and to encourage overall compatibility and interoperability of the planned Indian Regional Navigation Satellite System.

Interoperability between the United States Government-supported Wide Area Augmentation Service, known as WAAS, and India's planned GAGAN Augmentation System based on GPS, has been established.

And additionally, we are engaging with current future GNSS service providers and major user groups through the United Nations-sponsored International Committee on Global Navigation Satellite Systems.

From a broader perspective, the United States is reaching out to other nations to consider cooperation in conjunction with the United States Space Exploration Policy. Our objective is to promote common space exploration objectives and cooperative and complementary space exploration missions along with the development of new technologies that would open up many opportunities for exploration and discovery.

The United States also works through GEO with the other 69 member countries and the European Commission and 46 participating organizations to establish a Global Earth Observation System of Systems. The GEO vision for that System of Systems is to realize a future where any decisions (indecisions?)

or actions for the benefit of humankind are informed through coordinated, comprehensive and sustained Earth observations and information.

In light of these developments, in the accomplishments of COPUOS, my delegation remains unconvinced that a need for action to be taken by this Committee relating to concerns regarding the weaponization of outer space. There is no scarcity of appropriate multilateral mechanisms where disarmament matters can be discussed. COPUOS is not and should not become one of them.

Five decades ago, the United States and 19 other States submitted resolution 13/48 which established the Ad Hoc Committee on the Peaceful Uses of Outer Space. The resolution marked the significant step forward for the world community in that it established COPUOS as the only standing body of the General Assembly to consider international cooperation in the peaceful uses of outer space. At the time, the concept, which is still valid today, was to establish COPUOS as the body of the General Assembly concerned exclusively with promoting international cooperation in space. It was clear that there would be entirely independent efforts to deal with disarmament issues and these would include fora such as the First Committee of the General Assembly and the Conference on Disarmament in Geneva.

This Committee has played a notable role in advancing space cooperation and provides an unique forum for the exchange of information among the developed and developing countries on the latest developments in the use and exploration of space.

In our view, there are tangible opportunities to enhance international cooperation in keeping with the Committee's mandate. Our consideration of the ways and means of maintaining space for peaceful purposes has produced measurable results in the revitalization of this Committee. Under this particular item, member States concluded that reinforcing international cooperation in space implies the need for the Committee to improve the form of its work and this has been reflected in the restructured agendas of the Scientific and Technical Subcommittee and the Legal Subcommittee. The unique organizational aspects of UNISPACE III and the addition of new items to the agenda of COPUOS concerning, for example, spin-off benefits of space, space and society, space and water, and the consideration of developments in the international satellite-aided search and rescue programme known as COSPAS-SARSAT.

Another indication of the success of our efforts to revitalize COPUOS is the growing relevance of our Committee's work to the international community more generally, as shown in part by the steady increase in the number of other intergovernmental organizations, as well as NGOS and private firms, that seek participation in the Committee's work. This is an extremely positive development. The presence of non-governmental entities and the willingness of experts to make special presentations have enriched the Committee and its Subcommittees and the ultimate success in implementing the recommendations of UNISPACE III depend heavily on their continued involvement.

Finally, Mr. Chairman, in this regard, I am pleased to note that my delegation includes representatives from the American Institute for Aeronautics and Astronautics, the Space Foundation, the Centre for Strategic and International Studies, and the George Washington University Space Policy Institute. Next week, they will be making special presentations on their international activities on ways and means by which they could support the work of this Committee. Thank you.

The CHAIRMAN *(interpretation from Spanish)*: I would like to thank the distinguished representative of the United States, Mr. Kenneth Hodgkins, for his statement under agenda item 5.

The next speaker on my list is Eun Jim Park from the Republic of Korea. You have the floor.

Ms. E. J. PARK (Republic of Korea): Thank you Mr. Chairman for giving me the floor. On behalf of the Government of the Republic of Korea, I take great pleasure in having this opportunity to address specific measures for maintaining outer space for peaceful purposes.

The Korean Government put great emphasis on the peaceful use of outer space as we have witnessed great advantages of space technology. Korea has enjoyed benefits such as developed communication network and the Global Positioning System using the satellite in service.

We are also certain that the peaceful use of outer space will benefit the mankind as a whole through various regional and international cooperation mechanisms. With this in mind, Korea would like to draw more attention to maintaining outer space for peaceful purposes and taking this opportunity, I would like to propose three concrete actions to be taken by all space-faring nations.

The first thing is promoting greater transparency in outer space activities. We take note that there is growing concerns for a possible arms race in outer space and it is our view that space-faring nations should take necessary measures to ensure outer space remains an arena of cooperation and mutual benefits.

The second thing I would like to highlight is encouraging information-sharing among the international community. It would not only ensure transparency in outer space but also foster capability-building in emerging space actors.

Last but not least, I would like to emphasize the need to abide by all existing international norms related to the peaceful use of outer space. The Korean Government takes note of the ceaseless efforts that this Committee has endeavoured in building the current legal framework concerning the peaceful use of outer space and we believe that all nations should take its full responsibility in complying with the legal framework that has been already agreed upon.

Mr. Chairman, taking this opportunity, I would like to introduce some other concrete measures that the Government of the Republic of Korea has undertaken and plans to conduct in relation with the launch of its first space launch vehicle, KSLV-1.

We have informed the international community of our plan to develop and launch a space launch vehicle from the early phase of its development through our statement in the COPUOS and through the Annual Report submitted to the HKOK.

We also have consultations with the neighbouring countries, in particular Japan, in a bid to ensure that our activities are pursued in a transparent and safe way.

In addition, we plan to take necessary safety measures in compliance with existing international conventions, such as the International Civil Aviation Organization Convention, and the International Maritime Organization Convention.

After the successful launch, we plan to register the space object in due course, as stipulated in the Registration Convention.

In conducting these measures, the Korean Government wishes to set good examples of ensuring transparent and safe outer space activities and contribute to accumulating the best practices regarding ways to maintain outer space for peaceful use.

Mr. Chairman, I would like to conclude by reiterating my Government's full commitment to the collective efforts of the international community to maintaining outer space for peaceful purposes. Thank you.

The CHAIRMAN *(interpretation from Spanish)*: I would like to thank the distinguished delegate of Korea and in particular Madam Park for her statement.

I now call upon Ambassador Jaime Barberis of Ecuador. You have the floor Ambassador.

Mr. J. BARBERIS (Ecuador): Thank you Chairman. Three years ago I had a chance to participate in a meeting of the Scientific and Technical Subcommittee of COPUOS where I made a technical presentation on the Pro Tempore Secretariat of the Fifth Space Conference of the Americas entrusted to Ecuador. On this occasion, I am pleased to be able to address members of the Committee under agenda item 5 with a view to contributing to the debate recommended by the United Nations General Assembly in its resolution 63/90 to deepen regional and interregional cooperation based on the experience of the Space Conference of the Americas through its Pro Tempore Secretariat.

I will start by emphasizing that based on the premise outer space is the common heritage of humankind and as such must be used in a rational and equitable way for peaceful purposes for the benefit of current and future generations, the Space Conference of the Americas was convened in an arena that favours the exchange of strategies and actions with a view to maximizing benefits and opportunities in terms of the use of space technologies in the context of the new global economy. The Conference has promoted regional and interregional cooperation in outer space since it was initiated in the 1990s, that is for 20 years almost.

Distinguished delegates, the Fifth Space Conference of the Americas, held in Quito in July 2006, proclaimed two essential principles for its work, contribute to maintain peace and security in the international arena and promote cooperation with respect for the legal principles that underlie the exploration and utilization of outer space for peaceful purposes.

In this context, the Declaration of San Francisco de Quito underscored the need to create effective coordination mechanisms with a view to promoting the development of space activities and the application of the peaceful use of technologies derived from such activities. And for that it set up the Pro Tempore Secretariat which used to be run in cooperation with the United Nations and the specialized agencies, space agencies, extra-regional entities, the Regional Centre for the Education of Space Science and Technology in Latin America and the Caribbean, and the academic sector.

On the other hand, the Fifth Space Conference of the Americas defined five thematic areas such as space education, access to knowledge, tele-medicine and tele-epidemiology, preventing and mitigation of natural disasters, protection of the environment, protection of cultural heritage and development of space law.

Taking this into account, the Pro Tempore Secretariat of the Fifth Space Conference of the Americas has signed a number of Agreements with international bodies and has received representatives of these bodies and engaged in joint projects. A Memorandum of Understanding and Cooperation with the Office for Outer Space Affairs, signed in 2007, has allowed the Pro Tempore Secretariat to carry out joint programmes and projects in the five thematic areas defined above. For that purpose, we convened meetings and the International Group of Experts and the Pro Tempore Secretariat has worked to organize the current and future Space Conference of the Americas 2007-2008. The Secretariat and the Office for Outer Space Affairs have jointly worked to carry out such events as the International Workshop on Space Law in the Face of New Challenges in 2008.

In the area of space education to promote the distribution of science and technology among the young generation, the Secretariat has been working with UNESCO, through its Space Education Programme, to develop Space Camps in Ecuador and in the region. The effect of such Camps in terms of motivating young people and raising their awareness of space activities has been spectacular. Activities have been carried out also with CNES of France and the Institute of Space Research of Brazil, the National Observatory of Bogotá, the Space Agency of Japan, JAXA, which has provided experts and important contributions.

Space workshops, meetings and seminars have been carried out throughout the years 2007 and 2008 and a special Inter-Institutional Committee on Space Education was set up.

In the area of tele-medicine, the Pro Tempore Secretariat set up a National Programme of Tele-Medicine in Ecuador and a Regional Programme of Tele-Health with Amazonian countries which has an important impact particularly for remote and under-served populations with the support of such organizations as the World Health Organization, the Pan-American Health Organization, and the Amazonian Cooperation Treaty Organization, as well as space agencies such as ESA and NASA.

In the area of preventing and mitigating natural disasters, the Secretariat works with the Regional UNSPIDER Network in Ecuador and has carried out with the support of the United Nations Office for Outer Space Affairs and the Government of Spain, a number of events bringing together experts of high-level involved in managing natural disasters and emergency situations to build national capabilities in that regard.

I would also like to point out that the Pro Tempore Secretariat of the Fifth Space Conference of the Americas has given priority to identifying space applications of regional interest, in particular those linked to development and Agenda 21 and the commitments taken by the World Summit on Sustainable Development.

Mr. Chairman, the experience accumulated in the work of the Pro Tempore Secretariat of the Fifth Space Conference of the Americas emphasizes promotion of cooperation in such areas as:

One, to articulate in a better way the Scheme for Regional Cooperation which absolutely requires strengthening of nations among member States of the Conference and international organization, specialized agencies of the United Nations and non-governmental organizations and space agencies;

Second, strengthening regional cooperation with a view to advance in terms of interregional cooperation;

Third, it is indispensable that we institutionalize and strengthen the management of the International Group of Experts of the Space Conference of the Americas with an emphasis of identifying mechanisms for international cooperation, being aware of the important impetus given to our activities by the International Group of Experts;

Fourth, to step up international cooperation, it is absolutely indispensable to identify donor States and international organizations and space agencies and other mechanisms that could support the implementation of regional projects. It would be appropriate to think of convening a special meeting on the mechanisms for international cooperation that would pinpoint potential sources of funding for space projects with regional components and this initiative could be pursued by the Office for Outer Space Affairs;

Fifth, with a view to making the most of international cooperation and getting the best results, it would be useful to have an instrument containing guidelines for the development of international cooperation in the area of space activities for the qualification, assessment and selection of project; and

Finally, it is necessary to strengthen international cooperation in the framework of fora linked to space activities, particularly COPUOS, so that the cooperation on an international level should move from a purely declarative level to a guiding principle of international space law.

Mr. Chairman, delegates, in conclusion, I would like to inform the delegates that we have disseminated a Conference Room Paper which summarizes the activities of the Pro Tempore Secretariat of the Fifth Space Conference of the Americas throughout 2009. And we have started consultations with regard to the Sixth Space Conference of the Americas to promote educational activities for the International Year of Astronomy including a Regional Workshop on UNSPIDER, a meeting of space agencies and work to identify projects linked to space technologies and applications to strengthen the capabilities of developing States, to take the necessary measures to reduce the impact of air pollution, climate change, the shrinking ozone layer, ultraviolet radiation, which is an agreement with the recommendations and commitments put forward by the World Summit on Sustainable Development.

Mr. Chairman, management of the Space Conference of the Americas as a regional forum to promote knowledge and application of space science and technologies for the security, development and well-being of the countries of the region, would be more productive and in the end more efficient and more far-reaching if we strengthen the existing mechanisms for international cooperation. We believe that in future we should work on the basis of the vision that you, as the Head of COPUOS, has put forward a space policy of the United Nations which emphasizes the fact that international community should be able to benefit from activities in the space arena to preserve this environment for the benefit of the entire humanity. Thank you very much Mr. Chairman.

The CHAIRMAN *(interpretation from Spanish)*: Thank you Ambassador Barberis for your comments on the work of the Pro Tempore Secretariat of the Space Conference of the Americas. Just one fundamental aspect needs to be recalled. This work has been carried out in a most dynamic and efficient way and, of course, we need great international cooperation. You have called for that in a way that is very clear and very precise and you have expressed also the wish that the next seat of the Space Conference of the Americas will be chosen on the basis of the offer made and is of great use and of great benefit to the region. Thank you very much.

The next speaker on my list is Venezuela, Mr. Roberto Becerra.

Mr. R. BECERRA (Bolivarian Republic of Venezuela) *(interpretation from Spanish)*: Thank you Chairman for giving me the floor. The delegation of Venezuela believes that COPUOS should focus on the subject of maintaining outer space for peaceful purposes as a top priority. In outer space we need to address the challenges that exist that threaten security worldwide and in particular this has to do with the use of nuclear power sources in outer space.

We believe that we should work on updating the five outer space treaties and to make it very clear that outer space is an entirely peaceful arena, the province of all mankind and there has to be a programme of cooperation in that regard.

The legal principles applied to outer space activities require that no set(?) emanates from outer space to the security of the nations of the world.

COPUOS is the leading international body in charge of considering these issues to create, develop and oversee the application of preventive norms and standards. The existing regulations have certain gaps and certain lacunae in this regard which need to be addressed. Thank you very much Mr. Chairman.

The CHAIRMAN *(interpretation from Spanish)*: I thank the distinguished representative of Venezuela for his statement.

Implementation of the recommendations of UNISPACE III (agenda item 6)

We continue and move on to agenda item 6, UNISPACE III, the Implementation of the Recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space, UNISPACE III.

I have four delegations on my list on this agenda item. The first is the delegation of Japan, Madam Takemi Chiku. You have the floor Madam.

Ms. T. CHIKU (Japan): Thank you very much Mr. Chairman. Mr. Chairman, distinguished delegates, on behalf of the Japanese delegation, I am pleased to present Japan's activities related to the implementation of the UNISPACE III recommendations.

Mr. Chairman, Japan has actively participated in and contributed to a number of Action Teams established to implement the Vienna Declaration UNISPACE III recommendations adopted in 1999. In particular, Japan has served as the Chair of Action Team 17 to enhance capacity-building by developing human and budgetary resources.

Through the discussions related to space education and awareness during the Asia-Pacific Regional Space Agency Forum, APRSAF, Japan supported activities to highlight the importance of space science and technology and their applications for sustainable development with a view to securing more support from the general public for space education, especially to deepen the understanding of the younger generation of space benefits.

In recent years, space education has become one of the many activities of APRSAF. For example, the Fourth APRSAF Water Rocket Event was held last December in Hanoi, Viet Nam, during APRSAF-15 with a large number of participants, including many school students from the region. In addition, the Third APRSAF Poster Contest was held during the meeting. We are planning to have the APRSAF Space Education Seminar in Sri Lanka, with support from UNESCO, in early September.

The Space Education and Awareness Working Group of APRSAF also discussed ways and means to contribute to improving the space education for young people through each country's space activities and how we can introduce space materials into the classrooms to make it more enjoyable for the students to learn. Japan will continue to carry out activities that stimulate interest among young people in space and inspire them to develop regions for the future of space activities and we made a presentation on space education activities of JAXA under this agenda item this morning.

As for the Earth observation education, Japan earnestly addresses the cultivation of human resources contributing to the training and the promotion of remote sensing applications through pilot projects carried out with organizations in Thailand and Indonesia.

In addition, the National Astronomical Observatory of Japan developed a Four-Dimensional Digital Universe Viewer named Mitaka and with this system we can really travel in the far-reaches of space beyond the Solar System and even the Gastic(?) System using a personal computer. We hope that the people all over the world enjoy learning about outer space using the English version of this Programme that has already been made available.

We plan to demonstrate Mitaka in a technical presentation under agenda item 10 and we hope that all delegates will take this opportunity to enjoy it.

Mr. Chairman, now I would like to turn to the other recent activities to implement the recommendations that have been carried out by the Action Teams in which Japan has participated.

To begin with, on Action Team One, the development of the comprehensive Worldwide Environmental Monitoring Strategy. Japan has contributed to fulfil the 10-Year Implementation Plan as a member of the Group on Earth Observation, GEO, Executive Committee, and the Committee on Earth Observation Satellites, CEOS. It has been agreed that Japan should chair the CEOS Strategy Implementation Team, SIT, this year.

Moreover, Japan intends to contribute to GEO on the issue of climate change through the global and detailed observation of the distribution of greenhouse gas concentration such as the carbon dioxide methane. This will be done using the Greenhouse Gases Observing Satellite, GOSAT, or now known as IBUKI, launched last January, and by the forest monitoring by the Advanced Land Observing Satellite, named DAICHI.

Furthermore, with the cooperation of the Iwate Prefecture in Japan and the Iwate University and using the satellite images from DAICHI, the Industrial Waste(?) Monitoring Pilot System was established and has only become into use. Following the success of this pilot project, a pilot system to prevent the expansion of illegal dumping of industrial waste,

similar monitoring pilot projects have been planned in some other prefectures. And based on the results of the evaluation of these pilot projects, nationwide promotion and implementation of these projects are expected.

In order to promote remote sensing activities in the Asia-Pacific region, APRSAF has been active in exchanging information and has been making specific _____(?) also to promote cooperation activities in the field of space technology.

Mr. Chairman, regarding Action Team 10, Improvements of Universal Access to United Nations(?) Compatibility of Space-Based Navigation and Positioning System, called Global Navigation Satellite Systems, GNSS, Japan will continue to participate in the International Committee on Global Navigation Satellite Systems, ICG, as a member country, to discuss the utilization of GNSS and the cooperation realized(?) and the compatibility and interoperability among GNSS. According to the Basic Plan for the Advancement of Utilizing Geospatial Information, AUGI, which the Cabinet approved in April 2008, and an Action Plan for the AUGI, which was established last August.

Additionally, Japan is developing the Quasi-Zenith Satellite System, QZSS, and has developed and is utilizing the multi-functional transport Satellite-Based Augmentation System, MSAS, which are the augmentation systems of the Global Positioning System, GPS. QZSS consists of several satellites with highly-inclined orbits and a geosynchronous period.

At any given, at least one of the QZSS satellites is located over Japan. Unlike geostationary satellites, QZSS can transmit signals even in the presence of possible obstructions in urban or mountainous areas because the satellite remains aloft at all times. In addition, the system, used together with GPS, promises to enlarge the area where GPS can be used to improve the convenient standards for GPS users and generally to provide much more accurate positioning information than before.

QZSS is acceptable also in East Asia and Oceania and the research on the positioning experiments system is expected to increase benefits to GPS users and promote most sophisticated uses of the current(?) future satellite positioning system.

Mr. Chairman, regarding Action Team 7, Implementation of an Integrated Global System to Manage Natural Disaster Mitigation Relief and Prevention Efforts, Japan is now working closely on the Sentinel-Asia Project together with countries and organizations in the Asia and Pacific region. Through these activities, Japan will contribute also to the UNSPIDER Project.

Japan is of the view that the recommendations of UNISPACE III can be firmly implemented in collaboration with COPUOS member countries, the United Nations and other international organizations. In particular, we believe that with countries of the Asia-Pacific region, Japan can play a critical role by balancing activities through the APRSAF and strengthening relations between APRSAF and international frameworks such as the Regional Space Applications Programme for Sustainable Development, RESAP, of the United Nations ESCAP and the United Nations International Strategy for Disaster Reduction, UNISDR. Thank you very much for your attention.

The CHAIRMAN *(interpretation from Spanish)*: Thank you ever so much delegate of Japan, thank you Ms. Takemi Chiku.

I would now like to call on the United States, Mr. Hodgkins.

Mr. K. HODGKINS (United States of America): Thank you Mr. Chairman. Mr. Chairman, we have expressed our views on many occasions concerning the positive results of our efforts to implement the recommendations of UNISPACE III so I will not repeat those. Instead, this being the tenth anniversary of UNISPACE III, I would like to focus my comments on looking back at the significance of that event and what contributed to its success.

In 1958, soon after the launching of Earth orbiting satellites, an imparted new intensity to the Cold War, the United Nations General Assembly acted to create the Committee on the Peaceful Uses of Outer Space in the hope that the use of space be channelled away from military applications and harnessed instead for constructive gain. Recognizing space as another new frontier of human endeavour that held both promise and danger in equal measure, nations aimed to erect a structure that would foster cooperation and shared benefits.

In the past five decades, COPUOS has acted under that mandate to develop and adopt five major outer space treaties and promulgate valuable standards that serve as international principles.

In so doing, the Committee has generated nothing less than an entirely new branch of international law. COPUOS has also acted as a

catalyst, promoting international cooperation in space activities and fostering a broad information exchange among developed and developing countries.

Like this Committee, the American Space Programme was borne at the height of the Cold War amid a looming rivalry for supremacy in missiles in space. Over time, fortunately, that conflict evaporated and we are now able to see our space activities primarily as an instrument of human advancement and international cooperation.

UNISPACE III was the last major United Nations Conference of the twentieth century. Member States and the Office for Outer Space Affairs worked under severe time and resource constraints but despite this, the Conference was a real success from an organizational and substantive standpoint.

The Secretariat's report to the forty-fifth session of the General Assembly, A/4/54/9, on the unique organizational matters relating to UNISPACE III, provides concrete examples for other bodies of the United Nations on convening conferences that address important global issues while keeping costs within existing resources.

In addition to our success in organizing the Conference, we were especially pleased with the breadth and scope of the topics considered at UNISPACE III, as well as the extensive involvement of leading scientists, governmental officials, young aerospace professionals and private sector representatives.

The emphasis on space applications, private activities and potential opportunities for cooperation at that time and into the twenty-first century, made the programme of work highly relevant to the needs of developed and developing countries.

In reviewing the Vienna Declaration in the Conference's Report, we were encouraged that the event produced recommendations and conclusions that supported our overall objectives. Among those were broader participation in activities related to the monitoring and understanding of the Earth and its environment, the identification of new areas conducive to international cooperation, endorsement of and increased support for existing mechanisms utilized for international cooperation, strengthening the Space Applications Programme, dissemination of information on space research areas and strategies for developing countries, improved coordination and less duplication among United Nations organizations involved in space, greater involvement of young scientists and engineers as well as industry in COPUOS activities, strengthen regional cooperation, and promotion of civil and commercial applications in use of outer space.

Mr. Chairman, five years after the Conference, the Committee produced a comprehensive report, A/59/174, on the review of the implementation of the recommendations of UNISPACE III, including a Plan of Action consisting of a set of concrete proposals by the Committee for steps to be undertaken in further implementing those recommendations.

We supported the Plan of Action and worked at the national and international levels to ensure that as many of the recommendations as possible were fulfilled. We were particularly pleased with the unique contribution that the Action Teams made to these efforts. Under the voluntary leadership of governments, this innovative mechanism allowed the participation of governmental and non-governmental entities in the follow-up to UNISPACE III while preserving the pivotal role of member States.

In concluding my remarks, I should like to call to the attention of delegates, that many individuals from member States, international organizations and private entities, as well as the staff of the Office for Outer Space Affairs, contributed countless hours in leading and participating in the Action Teams and other follow-up activities. Without their dedication, COPUOS would never have been in a position to demonstrate the progress in implementing the recommendations of UNISPACE III. They all deserve our deep appreciation. Thank you Mr. Chairman.

The CHAIRMAN *(interpretation from Spanish)*: Thank you ever so much the United States represent. I think that we can but endorse the kind words that you have conveyed to the members of the Secretariat.

Ms. Ramachandran, India, you have the floor.

Ms. R. RAMACHANDRAN (India): Thank you Mr. Chairman. Mr. Chairman, distinguished delegates, as endorsed by the Scientific and Technical Subcommittee at its forty-sixth session, the tenth anniversary of UNISPACE III was conducted on the first day of the session through our brilliant Panel Discussion. The Indian delegation congratulates the Secretariat for organizing this event in an efficient manner involving the key persons present at the UNISPACE III in the year 1999. The primary objective of UNISPACE III has been strengthening the capabilities of member States, especially developing countries, to harness the benefits of space technology

for economic and cultural development. Attaining food security, alleviating poverty, eradicating illiteracy, access to health care, management of depleting natural resources, handling natural disasters and extreme events are some of the challenges faced by developing countries. Implementation of UNISPACE III recommendations is sure to directly enable and access to developing countries in meeting these challenges in a very efficient manner.

The Indian delegation places on record its appreciation of the Working Group of the Whole and the Commission on Sustainable Development in implementing the recommendations of UNISPACE III. It is heartening to note that many recommendations have been implemented and satisfactory progress has been made in implementing some of the outstanding recommendations.

Mr. Chairman, we do believe that a closer link established by the United Nations COPUOS and the Commission on Sustainable Development will certainly help to obtain the desired results.

It is also impressive to note that the Committee has agreed for its contribution to the work of the Commission on Sustainable Development for the thematic cluster for the period 2010-2011, namely towards identifying areas where space technology and its applications play an important role.

Mr. Chairman, the recent natural disasters including the one in India and Bangladesh have once again reminded us of the necessity of space-based systems which can help us with disaster management support in a timely and effective manner.

In this context, we would like to recognize the contributions of Sentinel-Asia and also reiterate the relevance of Sentinel-Asia and UNSPIDER in disaster mitigation.

The Indian delegation is of the view that the International Charter on Space and Major Disasters is a concrete initiative and has contributed significantly to support disaster assessment and relief activities since its inception.

Mr. Chairman, we feel that the developed countries can pool in the necessary available resources to enable some of the developing countries in initiating their space-based application programmes and services. This will enable in implementing the recommendations of UNISPACE III in an synergetic fashion.

Mr. Chairman, the Indian delegation is satisfied with the manner in which the recommendations of UNISPACE III are being implemented, in particular the use of multi-year work plans, the establishment of Action Teams, and reports from different Working Groups on their activities. We agree with the view of the Committee that this flexible approach has enabled it to address a wide range of important and related issues.

The Indian delegation would like to express its willingness to participate and contribute actively in the discussions and activities under the agenda of the implementation of UNISPACE III recommendations.

Having recognized the benefits derived from the UNISPACE I, II and III on several phases of space technology and applications for the member States, it would be worthwhile for the Committee at this juncture to engage in a comprehensive stock-taking process and chart out a way forward for the next 10 to 15 years. Thank you Mr. Chairman.

The CHAIRMAN *(interpretation from Spanish)*: Thank you very much representative of India. Thank you for these comments that you shared with us. Indeed we have heard and it would be good to organize UNISPACE IV. This is the gist of what the Director of the Office for Outer Space Affairs has said as well.

I would now like to give the floor to the representative of Nigeria.

Mr. S. O. MOHAMMED (Nigeria): Thank you Mr. Chairman. The Nigerian delegation appreciates the extent of which the recommendations of UNISPACE III have been implemented by this Committee. As we celebrate the tenth anniversary of UNISPACE III, we should also review not only what we have accomplished but also the other issues, the recommendations that are still outstanding.

Let us recall at UNISPACE III in 1999, the Conference addressed a broad range of subjects on how to maximize the benefits of space activities to meet the needs of people, particularly in the developing countries, and how to promote sustainable development to enhance the human condition in our countries.

One such action of the Conference is the enhancement of the United Nations Programme on Space Applications which has the mandate to carry out a wide range of space-related activities including

strengthening of capacities, particularly of developing countries.

Mr. Chairman, my delegation appreciates the contribution of the Committee to the work of the Commission on Sustainable Development through its biennial(?) programmes for the biennium ending this year, agriculture, rural development, land, drought, desertification in Africa we have identified as specifics in the work of the Commission on Sustainable Development.

For the biennial period of 2010-2011, this same Commission has identified three thematic programme areas, namely the role of space in transport, the area of space technology and sustainable resource management, and space solutions for sustainable consumption and production.

My delegation notes and commends the activities proposed and outlined by the Office for Outer Space Affairs in document A/AC.105/2009/CRP.7, to contribute to the work of the Commission. We believe that the Programmes can complement the work of the Commission.

We, however, wish to note that in the area of capacity-building in space application techniques, such as satellite-aided search and rescue, satellite navigation, and location-based services or GNSS, the English-speaking African countries were not covered. We hope that this solution can be addressed. We all recognize the importance of space-based information systems for sustainable development, sustainable management of our environment, but its wide-spread use can materialize only if these space application techniques is equally wide-spread.

While a significant amount of work has been done, the implementation of the recommendations of UNISPACE III should not be considered completed or totally accomplished or to the vast majority of people, especially in the developing countries experience the benefits or space-based information systems. Such experience should include those in agriculture, water resources, early warning for food security, disaster monitoring and environmental management. If these programmes are effectively implemented and followed up, their impact, including the spin-off benefits, will go a long way in assessing these countries to achieve the Millennium Development Goals aimed at improving human living conditions and the environment. Thank you Mr. Chairman.

The CHAIRMAN *(interpretation from Spanish)*: Thank you very much distinguished representative of Nigeria.

The last speaker on my list is China. You have the floor.

Ms. Y. ZHOU (China) *(interpretation from Chinese)*: Thank you Mr. Chairman. On this item we would like to talk about the Chinese updates on the support of the UNSPIDER Programme.

Mr. Chairman, the Chinese Government attaches importance to applying space technologies to disaster reduction and relief and has actively participated in the international disaster reduction efforts.

The Chinese Government actively supports the UNSPIDER Programme and has carried out specific work as follows.

First, a Special Support Working Group was set up in China's National Disaster Reduction Centre to help the UNSPIDER Beijing Office to implement its Work Plan for 2008. The Group was actively engaged in the Workshop hosted by the UNSPIDER in Fiji and Bonn and the Fifth United Nations-wide Meeting on the Use of Space Technologies for Emergency Response and Humanitarian Assistance, hosted by the United Nations Office for Outer Space Affairs in Bonn, and made a technical presentation on China's practical experiences in the field of disaster reduction with space technology in China.

This Group assisted in drafting strategies and formulating plans for booklets to raise public awareness. It also helps revise the templates for the country profile and provides the relevant information about China.

Secondly, China launched two satellites, HJ-A and HJ-B, of the small satellites constellation for environment and disaster monitoring and forecasting, in September 2008. The two satellites carry three payloads, namely, a CCD camera, a supra-spectron imagery device and an infra-red camera for the purpose of the environment and disaster monitoring early warning and assessment.

With regard to specific information of the small satellite constellation, there is going to be a special technical presentation later.

China is ready to use the constellation to enhance disaster mitigation capacity of all countries

using space technologies within the framework of the United Nations.

Thirdly, the Chinese Government supports the early opening of the UNSPIDER Beijing Office and will offer it six million Chinese RMB to cover if there is any cost for the period of 2009 to 2012 and the sum for 2009 is already earmarked.

The Beijing Office premises and office equipment will be provided by China free of charge. In 2009, the UNSPIDER Beijing Office is temporarily housed within the building of the National Disaster Mitigation Centre. Rooms and office equipment are already made available to it. At the end of this year, a new office building for the National Disaster and Mitigation Centre will be ready and already office space and equipment for the UNSPIDER are reserved. Once the Beijing Office is visually running, the Chinese National Disaster and Mitigation Centre which hosts the Office will see to it that the Office is fully backed up technically.

China expects to further strengthen its cooperation with the Office for Outer Space Affairs so that the Beijing Office will be up and running without delay in the interests of promoting the international cooperation in disaster mitigation. Thank you Mr. Chairman.

The CHAIRMAN *(interpretation from Spanish)*: Thank you very much representative of China.

Colombia has the floor.

Mr. J. H. OJEDA BUENO (Colombia) *(interpretation from Spanish)*: Thank you very much Chairman and good afternoon to one and all. I will possibly be speaking in English which would allow the Spanish booth to rest a bit.

(Continued in English) Thank you very much for all the presentations at a country level. I think it makes it more understandable for us and thank you for updating us on the achievements made after now 10 years the UNISPACE III. I did not prepare a statement but thank you for your attention because what I would like to recall is your attention in matters that have been running for these 10 years. As you remember, the Millennium Goals were not formulated at that time so I think that we have before a new agenda and I think that many of the goals that we suggested to ourselves at that time 10 years ago are now to be again updated. That is why the suggestion by some member countries to renew UNISPACE, not as a UNISPACE III + 10 but probably as a UNISPACE IV, comes very much welcome at this point.

We have seen new challenges in these 10 years. We have probably one of the largest numbers of natural disasters, how we call it now, technogenic disasters as well as androgenic disasters. We have seen so many things like last week the disaster of an Air France plane in the Atlantic and I take the opportunity to present my condolences to Brazil. And we have seen that probably we have a ground that mature in the application of space technology that we probably can do better, that it is time probably to reformulate while we can do with space technologies. Thank you very much Mr. Chairman.

The CHAIRMAN *(interpretation from Spanish)*: Thank you very much distinguished representative of Colombia and for your comments.

And we will straight away now going to be giving the floor to Iran. You have the floor Sir.

Mr. S. JALAYERIAN (Islamic Republic of Iran): Thank you Mr. Chairman, distinguished delegates. Regarding the implementation of the recommendations of the United Nations Third International Conference on Space Applications, UNISPACE III, we, as ever before, fully support the implementation of the recommendations and are ready to step forward based on our capabilities and potentials in this regard.

We continue to support the work of the Action Teams established by COPUOS members for the implementation of the recommendations of UNISPACE III.

Moreover, in capacity-building and public awareness, the wealth of(?) efforts is being carried out almost all in care of the Iranian Space Agency. The Agency contributes widely in promoting space science and technology applications in public, particularly among the younger generation. Capacity-building in the public domain as well as the specialized domain is also followed up by the Agency. It provides good support to the academic sector in setting up university courses, workshops and seminars.

The World of Space Week occasion is also celebrated, broadly supported and coordinated by the Iranian Space Agency every year and country-wide.

Mr. Chairman, my delegation is pleased to reiterate its effective contribution in supporting the United Nations Platform for Space-Based Information

for Disaster Management and Emergency Response, the UNSPIDER Programme.

Also we would like to appreciate the Group of Asian Countries and the Office for Outer Space Affairs for their kind consideration of the proposal of the Iranian Space Agency to establish the Regional Support Office. I am delighted to inform that following to the signing ceremony for the Cooperation Agreement between the Iranian Space Agency, on behalf of the Government of the Islamic Republic of Iran and the Office for Outer Space Affairs, although we have started our work and cooperation several years ago, we believe that from now the successful operation of this Office fully relies on the cooperation and support of the countries, organizations and the experts in the region. Therefore, I hereby announce that this Office is looking forward for your cooperation.

Mr. Chairman, following extensive communication and cooperation with the medical(?) authorities in the country, the Iranian Space Agency was successful in capacity-building in that sector to utilize the space technology for implementation of tele-medicine and tele-health projects. In this regard, last month we brought a pilot system into operation successfully. This system consists of one central hospital in Tehran as the call-in(?) and control system, and two other hospitals, one in the mountains near the north of Tehran and the other one which is 100 kilometres south-east of Tehran. These two hospitals were selected because they are facing a high rate of fatal accidents and injuries every day.

Also a research institute is also established in the central hospital which will act as the control centre for the whole network to provide sustainable and extendable solutions for the operation of the network. Thank you so much.

The CHAIRMAN *(interpretation from Spanish)*: Thank you very much Iran for that presentation.

Ladies and gentlemen, under this agenda item, we are going to be considering our contribution to the consideration of the sustainable development issue and we should refer to CRP.7 in this regard. I would like to go through that paragraph-by-paragraph. We are going to be doing that subsequently, however. I just wanted to point that out at this present time so that you could read that CRP.7 in due time to prepare our consideration next week.

Report of the Scientific and Technical Subcommittee on its forty-sixth session (agenda item 7)

Now I suggest that we straight away take up agenda item 7 and that is the report of the Scientific and Technical Subcommittee on its forty-sixth session.

Before I start the debate on that, I would like to draw your attention to the fact that the decisions adopted by the Committee and the views of delegations' recommendations in this Subcommittee are reflected in the appropriate document, A/AC.105/933, but it refers to space-based disaster management support. I would like to draw the attention of the distinguished representatives of document A/AC.105/937 which presents for consideration endorsement by this Committee the proposed Work Plan for the biennium 2010-2011 of the United Nations Platform for Space-Based Information for Disaster Management and Emergency Response.

I would also like to draw your attention to document A/AC.105/934 which document contains the Safety Framework for Nuclear Powers Sources Applications in Outer Space, as adopted by the Subcommittee at its forty-sixth session.

And I would also like to draw to your attention paragraphs 15 to 22 of the report of the Subcommittee which reflects the views of delegations and recommendations of the Subcommittee regarding its agenda for forty-seventh session of the Subcommittee to be held in 2010.

I wish to first give the floor to France in examining this matter. In doing this, I am also paying due tribute to my predecessor, Mr. Gérard Brachet. Unfortunately, he will not be able to be with us next week but I would really like him to refer to the proposal of France. We have all got this proposal. If you have any comments or observations to make, I would like to ask you to indeed keep them until next week. I would like to first hear the gist of my predecessor's presentation on this point.

Mr. G. BRACHET (France) *(interpretation from French)*: Thank you very much. I thank you very much Chairman for having given me the floor at this point though the logic of our consideration should rather have given us the opportunity to take the Scientific and Technical Subcommittee report paragraph-by-paragraph.

As you know, France has proposed, as you have heard Ambassador Florence Mangin mentioned

when she spoke yesterday, the following. France is proposing that as from 2010 a new item should be presented as an item for the agenda and has to do with the sustainability in the long term of outer space activities.

As you know, this is a fairly, it is a matter of fairly great concern for operators in space and both private and public. The involvement of both the public and the private sector in space activities, the proliferation of space debris may be even the future development of commercial space missions, poses the question of the possibility of continuing to use outer space in a sustainable way. Of course, we are talking about the long-term perspective here, Mr. Chairman. To ensure the sustainability of space activities, complete, precise, rapidly accessible information on space debris located in various orbits of the space environment, all the risks involved in space activities is indispensable and should be provided to all entities operating in outer space. In this regard, international effort at oversight coordination and coordination is necessary to provide such information.

As I had a chance to convey to the Committee at its previous session held in June 2008, France took in February 2008 the initiative of starting the work of reflection with a view to putting in place an informal working group with representatives of member States, intergovernmental organizations and non-governmental organizations as well as commercial entities operating communication satellites. We believe that such work, reflective work to start with, should be followed up by specific acts within the framework of the Committee so that all member States, without any discrimination whatsoever, get a chance to provide experts and contributors.

And, on this particular issue, the sustainability of outer space activity, France has suggested that starting with its forty-second session in February 2010, COPUOS should put this issue on its agenda. And this would be work based on what has preceded it which is mostly of a technical nature. We suggest reviewing the issue on an annual basis and in 2010 we would start by exchanging views within the Scientific and Technical Subcommittee on this issue of sustainability of space activities in the long term. The first analysis would be carried out on the challenges that space activities come up against and will come up against in the future and ways to improve risk management to promote sustainability. The Scientific and Technical Subcommittee can then establish a specialized Working Group to which, of course, all member States, and I emphasize that all member States will be invited to contribute. And this Working Group will proceed to draft a report on issues affecting long-term sustainability of space activities for the years 2011-2012 and this report will then outline the recommendations for best practices in terms of conducting space activities with a view to improving their long-term sustainability.

The Group will then, of course, submit to the Committee its presentations. They will be considered by the full Committee. Most likely that will happen in the year 2013 rather than 2012 and the Committee will then consider the proposals and the recommendations of the Working Group and the Subcommittee. And, of course, it will be the full Committee that will decide as to which format to espouse in working on these recommendations in terms of submitting them to the General Assembly.

To conclude, Mr. Chairman, I believe that this proposal meets the needs and the concerns of States with regard to the need to improve the conditions for the peaceful uses of outer space. This proposal, we believe, is in full conformity with the proposal that you, yourself, made when you opened this current session of the Committee. You outlined the idea of placing the United Nations outer space policies within a well-developed framework so it tallies very well with the vision which you shared with the delegations at the start.

The French delegation is ready to answer any questions that colleagues might have with regard to our proposal and we are also prepared to organize informal consultations, additional informal consultations in the coming days to address whatever questions come up. Thank you very much Mr. Chairman.

The CHAIRMAN *(interpretation from Spanish)*: I thank Mr. Brachet, the distinguished representative of France. Obviously we are grateful for the presentation that you have just made. It is the Chair's wish that we should consider all the various elements in terms of questions, comments during the week before we take a decision because this involves a major commitment. We take note of the availability of the French delegation in terms of answering questions and addressing concerns. So from now until Monday we will take this time to work through these questions and, of course, I am in the hands of the Committee for any decisions or any other course of action. Thank you very much again.

Technical presentations

And now we will continue with our agenda. At this time, we are moving on to technical

presentations. We have five technical presentations. The first is by ESA, the European Space Agency. It will be presented by Mr. Koschny, the Programme of ESA in terms of space situational awareness of the Near-Earth Object Programme. Thank you very much. You have the floor.

Mr. D. KOSCHNY (European Space Agency): Thank you very much Mr. Chairman, distinguished delegates. I am going to give you a quick report on ESA's Space Situational Awareness Programme and, in particular, the near-Earth object part of it. So let me first give you a summary of the top level of our Space Situational Awareness Programme, what do we say in our Programme Declaration. I will then give you an overview how this SSA Programme is embedded in ESA's activities and then I will focus on the near-Earth object part which, I think, is very relevant here because there is the Action Team Number 14 where discussions are ongoing on how to handle the potential impact. And you also heard Rusty Schweikart's presentation yesterday on what could happen or what the situation is.

So in general the objective of the Space Situational Awareness Initiative is to support the European independent utilization of and access to space for research or services, for providing timely and quality data information, services and knowledge regarding environment, the threats and the sustainable exploitation of the outer space.

So we have in our Programme three main what we call segments. One is called Survey and Tracking and what is meant with that is survey and tracking of space debris and complete satellites also. The second segment would be Space Weather, so radiation from the Sun, monitor the Sun but also the magnetic field environment of the Earth and things like that. The third one is the Near-Earth Objects and a potential fourth segment which will come later is Imaging. We have this little animated movie of the Space Station, that is what we call imaging so if you use radar systems to do this, due to the criticality of this we decided to currently not include it in the Programme yet.

So where do we stand with this? We have approved by our Ministerial Council in November 2008 a three-year preparatory phase which started on 1 January this year and we are hoping that after a confirmation this will go into a nominal phase with a minimum length of 10 years. We have established this as an optional programme within ESA. Optimal means member countries can subscribe to this Programme and they decide how much money they want to put in. We are currently for these first three years talking about 50 million Euros roughly, we join the Programme and I will tell you a list of the participating countries later.

What are we aiming at? We are aiming at what we call a setting up a network of sensors which is both ground- and space-based. We will have data centres. An important part is to have a common data policy and standardization. I said this before, actually it is an optional programme. It is located in our Operational Departments so even so in particular for the near-Earth objects, there is a strong link to science. We are not talking science here, we are talking to provide a service meaning a reliable assessment of the impact threat then in the case of the near-Earth objects.

Probably, I do not have to explain to you why we should care. This is my favourite picture which I like showing when I talk to other people about why the impact threat is important. I think here I just referred to Rusty Schweikart's presentation yesterday and continue going into details of the NEO segments or the near-Earth object segment of our Programme. The two top level main requirements which we have been given is that the SSA-NEO segments shall provide information on the impact probability and/or miss distances of such an object and to do this properly, it shall assess impact analyses, results and also perform its own impact risk assessments.

We should then classify the risk and issue warnings, and that, I think, is the key point. You have to say OK listen, there is a risk and, of course, you do not want to do this for any object so the statement is if the risk is higher than the background risk.

You may have seen this before. This comes directly out of the ASE Report which Rusty Schweikart mentioned yesterday. This is a proposal that now is currently discussed in this Action Team Number 14 where I want to show you where we think we contribute with our Programme.

We contribute to the left part where I say SSA-NEO segment direct tasks. So we address this Information, Analysis and Warning Network but, of course, being a space agency, there is a close link to the Operations people and also to what we call the Advanced Concept Team, I mentioned that on the right side of the viewgraph. These are people that do studies, probably some of you know the Don Quijote Study where we looked how you could deflect a potential threatening asteroid. That happens in this Group and we maintain strong internal links between the two groups so they are not directly funded from this

Programme but we can direct them and steer them in the right direction so that we all follow the same lines.

Current activities, we start on the upper left side. We are currently working on what we call Customer Requirements which will be broken down in more technical requirements called System Requirements and starting an Architectural Design Phase. It says 2009 there so the black arrow there a little bit below the first three boxes that is the time. So we are in 2009. We, at the same time, try to establish Service Level Agreements with data providers, namely telescopes, there are telescopes around that may not be 100 per cent used. We are talking to people like the University of Pisa who operates the NEO-DYS Centre with a duplicate system in Spain, in Valladolid. There are other groups in Europe which are already doing these things but normally, typically, at scientific research institutions and we need a service so it has to be really reliable. And that is something which we are currently discussing with them how to establish that and we have the mandate so by the end of this year, 2009, be ready with what we call a Precursor Service which should demonstrate sort of the rough idea of what we want to do and that will then feed into the Final Service Definition which is this box on the timescale again and then by 2011, when we end this preparatory phase, we should really precisely know what we need, we should actually be ready to set up the final operational system.

In parallel to that, the long box on the bottom, there are studies ongoing in other ESA programmes, again not coming from that budget, but from other ESA programmes which are related to the Space Situational Awareness so that gives us some additional funding which comes in. And, of course, there are a lot of activities going on in terms of policy, interfaces with other international players. We have ESA and the United States bilateral meetings and we talk to other groups also.

This is the first idea of the architecture but, as I showed before, the architectural studies are only just now starting but, of course, we already have a rough idea so the grey, large box on the right side is what we call the NEO Data Centre but it is distributed, I mean we have to also acknowledge the return requirements of the individual European countries here. There is an interface to existing assets. There is a data processing function and a data distribution function and we want to draw on light radar systems which are being prepared to look at space debris. We can also use them to look at near-Earth objects if the object is close enough to the Earth, for example.

Later, in Phase II, this is the start race(?) of Phase II meaning after 2011 we plan to set up dedicated sensors, both ground- and space-based, if you find out that this makes sense, and you also would then want to be more active in controlling these sensors.

Some of the system elements, we will start with what is already there. Here are just some screenshots, NEO-DYS, there is the Spaceguard NOAA(?) there, the European Asteroid Research Node, the telescope is our own Optical Ground Station on Tenerife(?). It is a one meter telescope which we start using for asteroids follow-up observations now. So we are talking to all these different groups, setting up this preparatory service. And then, of course, we have to add missing functionality, for example, public outreach, public information. We heard yesterday, this is an important thing which we already have now in our requirements, visualization of the Impact Corridor, that is currently not done, these nice pictures that Rusty showed yesterday where you see the path of Apophis or 2009KK on the Earth. That is something that we are going to set up very quickly. We were thinking about duplicating services of the Minor Planets and I know that this is single point data source right now so we are discussing that and more. And then in the next phase, we can go to dedicated telescopes, space-based elements if that seems to make sense.

These are the participating countries which are right now subscribed to the Programme. As I mentioned before, there is money coming from other ESA programmes. We have technology research programmes, general studies programmes, so in principle all the member countries are involved somehow.

So in conclusion, I think we in Europe now have the potential to contribute to the efforts of setting up a proper impact threat warning system as part of this SSA Initiative. We want this to be part of a global system, I mean it is not going to be a Europe activity, that does not make sense, we all realize that. So it should be part of a United Nations-sanctioned worldwide system and I think COPUOS is the key here. You can help by acknowledging the activity and comment on the Programme contents and the way to do this, I think, the length is by the Action Team 14 where we have in our so-called User Group which tells us what we should be doing, there are members of the Action Team 14 in there.

So that was the short summary and I thank you very much, Mr. Chairman, for giving me the chance to do this.

Mr. F. DUARTE SANTOS (Second Vice-Chairman) (Portugal): Thank you very much for the presentation from ESA. A very interesting subject and very important.

Before continuing with the technical presentations, I would like to inform that the French delegation has just told me that the informal consultations regarding the new item for the Scientific and Technical Subcommittee will take place in Conference Room VII from 5.00 p.m. onwards.

So I now give the floor to the next presentation, I give the floor to Mr. Joseph Akinyede of Nigeria who will make a presentation on the status report.

Mr. V. CASSAPOGLOU (Greece): I ask from the Chair to give the floor to the representative of ITU because the colleague has to leave immediately after to go back to Geneva so please be kind enough to give him the floor. Thank you.

The SECOND VICE-CHAIRMAN: I would like to ask Mr. Joseph Akinyede of Nigeria if this is convenient to you. OK. So we will go to the presentation from ITU, Mr. Atilla Matas, who will make a presentation entitled "Report on the Workshop on the Efficient Use of Spectrum Orbit Resource.

Just before, the delegate of France wants to take the floor. Please.

Mr. S. GUÉTAZ (France) *(interpretation from French)*: Yes, thank you Mr. Chairman. Just to point out that following the proposal made by Mr. Brachet, we are organizing in five minutes informal consultations. Thank you very much.

The SECOND VICE-CHAIRMAN: So the presentation has the floor please from ITU.

Mr. A. MATAS (International Telecommunication Union): Good afternoon ladies and gentlemen. *(interpreter)* Microphone please. *(No microphone)* Thank you Mr. Chairman again. Good afternoon ladies and gentlemen. On behalf of the International Telecommunication Union, ITU, I would like to make a presentation on information about the Workshop, the first Workshop in the history of ITU on the efficient use of spectrum orbit resources which was just one month ago held in Geneva at the ITU Headquarters.

I do not want to go through all the details of the Workshop because you can go to the webpage where you can see on the screen there are all the presentations, all supporting materials and the growing discussion which will start on the forum because just we are posting there also the outcomes of this Workshop.

What was the challenge or what is the challenge in front of us? The challenge is in the efficient use of spectrum orbit resources. This is really one of the most crucial challenges facing the international community network to promote the worldwide telecommunication development. We are trying to find a solution on this issue and all Plenipotentiary Conferences of Turkey in Antalya in 2006 addressed this problem and also the WRC of Geneva 2007 tried to solve the problem.

You know as participants of the COPUOS and also the Scientific and Technical Subcommittee and also the Legal Subcommittee that also your meetings are primed to address this issue and requesting Administrations, member States to use efficiently the geostationary and other orbits.

What do we need to improve? We are asking Administrations, satellite operators and industry also to look forward to find ways to improve the regulatory procedures governing access to the orbit and frequencies. If you are interested again, details are in resolution 86 of the last WRC. And the second point is that we have to improve the International Spectrum Regulatory Framework of the Radio Regulations to meet the demands on the current imaging and future radio applications.

There are limits because if you look to Article 44 of the ITU Constitution, you know that the geostationary orbit, or the orbits, are limited natural resources and they have to be used rationally, efficiently and economically. These three words are creating the big discussion between the member States and, you remember also in the Scientific and Technical Subcommittee has created a big discussion, how to understand and how to use these three words rationally, efficiently and economically, that countries and group of countries may have equitable access to the orbits and frequencies and taking account of the special needs for the developing countries and the geographical situation of particular countries when they have a difficult access to the geostationary orbit.

We try to address also these questions in studies and ITU-R Questions which are the ITU-R Question 83 and 274.

How to access this problem? We try to organize the first Workshop in the ITU history on the Efficient Use of Spectrum Orbit and to have a fair play open discussion with Administrations, satellite operators, consultants, observers, on the sensitive issue and we are hoping, and I can say that we were also happy to see the outcome to find a solution and to improve the international satellite regulatory and registration framework for the next WRC-11 which will be in Geneva.

The problem is really mainly in the finding suitable new geostationary positions and frequencies and for the Administrations also to fully coordinate these positions in the application of the relevant provisions of the Radio Regulations.

Up to now, we discussed several times that the orbit scarcity is a paper satellite but now we can say also that it is not only the paper satellite, but also the real overload of the geostationary orbit which occurs today in some parts of the orbit for some coverages and for some frequency bands are creating a problem.

That is why I repeat again that efficient use of spectrum orbit is really a crucial challenge for the international community and this is one of the also problems for to achieve the connectivity access targets set up by the World Summit on Information Society that in 2015 we have to connect the not-connected countries, that is why the target is that in 2015, anybody in the world interested to be connected have to be connected or we have to give them a chance to be connected.

What is the challenge and questions for ITU? For ITU and also for the Administrations and for the satellite community is that we have to continue to carry out our daily work in the recording of frequency assignments in the Space Master Register and to be sure that the frequencies and the orbital positions are associated with these assignments are compatible and they do not result in interference. This is the most important and crucial task for the ITU that there will be no interference between the frequencies and within the satellites and the frequencies which they are _____(?).

And there are questions for ITU that the ITU and the Radio Regulations through the procedures for the registration of frequency assignments bring value-added services to the Administrations and to the satellite community. This is one of the questions.

The second question is what mechanisms and practical strategies can be employed to ensure efficient use of spectrum orbit resources and to improve the existing international satellite spectrum management systems?

On the Workshop, we were extremely happy and pleased that 160 delegates and observers presented and participated in this Workshop. There were 16 presentations from big but also small Administrations accessing the space technology, for example, the United States of America, Russia, China, France, Brazil, but also Colombia had a very nice presentation on their efficient use of the spectrum use, Malaysia, Norway, Switzerland, but also big satellite operators like INTELSAT, SES New Skies, ASIASAT, etc.

They discussed between, or we discussed altogether in four sessions, the General Principles, Technical Questions, Regulatory Options, and some Case Studies. All these discussions are focused on trade-off between technical, operational, regulatory and economic strategies for the effective use of orbit resources.

At the end, we had the final Roundtable and all participants recognized that the challenges will require the combined efforts of all member States of ITU and there will be very few forums before and practically all member States are interested to get together to discuss this issue. That is why ITU is planning to organize such a workshop now more frequently also probably in all regions and you are all welcome to participate in these workshops.

There was also a consensus that the International Regulatory Framework for the Satellite Registering must be improved and an improved Framework to be operative or ready for operation by the next WRC if the ITU is to maintain its credibility and to remain fully relevant to the satellite community.

We have a suggestion-oriented summary on the forum, which is the address there, and you are welcome to visit the forum, participating in the discussion, download the documents and I hope we will see you at the next Workshop probably at the beginning of next year, somewhere in one of our regions, and we will send a circular information to all member States and certainly also to the Office for Outer Space Affairs, that is why it is going to be posted on the Outer Space webpage. Thank you very much for your attention.

The SECOND VICE-CHAIRMAN: Thank you Mr. Matas(?) for your presentation. Are there any questions or comments?

Please, the distinguished delegate from Greece.

Mr. V. CASSAPOGLOU (Greece): Thank you Mr. Chairman. Mr. Chairman, I would like to express our gratitude to the representative of the ITU for this information because not all of us have been able to participate in the Workshop. Nevertheless, on this opportunity, I would like to underline that the main problem in the use of this combined natural resource frequency bands and associated orbital positions, is the abuse and use of these unique in the world resource for military purposes. If I am not wrong, 80 per cent of the uses of the frequency and the orbital positions are for military purposes and not for civil purposes. That is the main challenge. So in order to have larger access, especially of the developing countries, in this, let us say, unique, how can I say, grant of the natural to the humans, is to reduce the uses for military purposes. It is simple. And not only for military communications but also for many applications of military, let us say, weapons. So we have to reconsider and if operators, satellite operators, have a problem in their operations, in their investments, etc., we must, an appropriate form is to go to Geneva in the preparation of the forthcoming Plenipotentiary which will take place in October in Mexico or in Geneva in 2011. This is the remark that I would like to make on this opportunity. Thank you very much Mr. Chairman.

The SECOND VICE-CHAIRMAN: Thank you. Any more comments?

If not, then I would like to give the floor to Mr. Joseph Akinyede of Nigeria who will make a presentation on the "Status Report on the Operation of the African Regional Centre for Space Science and Technology Education" in the English language.

You have the floor Sir.

Mr. J. AKINYEDE (Nigeria): Thank you Mr. Chairman. I will be presenting an analysis of the activities of the African Regional Centre for Space Science and Technology Education in English, in Ile-Ife, Nigeria, from its inception in 1998 to date, 2009, that is a decade of graduate diploma programmes at the Ile-Ife Centre.

The inauguration of the Centre took place on 24 November 1998, attended by eight out of the 22 member countries, and these are the eight listed here. On the same day, and venue of the first meeting of the eight member States, a Memorandum of Understanding was signed with Dr. Ade Abiodun signing for the United Nations Office for Outer Space Affairs as the Expert on Space Applications at that time.

I want to also say that a few of the members listed here at the time of inauguration did not sign because they wanted to consult their countries, their own countries.

The Centre as we see in the pictures, the first building there, the Ground Floor housed the Centre within the Obafemmi Awolowa University campus at Ile-Ife.

I also want to inform the Committee that the same University has donated 15 acres of land for the permanent site which is gradually being developed.

These are the faces of the previous and current Directors of the Centre. The first Director, Professor Balogun also a Professor offices at the same University, and Professor Jegede, who was the second Director from June 2005 to February this year. Then myself as you will see. There I have taken over from Professor Jegede, consequently on his resignation from the Centre.

You will see also the picture on the left, the first Governing Board Meeting on 11 March 2008. That is outside in the Inaugural Meeting, there was no meeting of the Governing Board until last year, 2008.

The mission and mandate of the PGD Programme as reflected in all the presentations of colleagues from other Regional Centres to build the indigenous capacities in space science and technology applications, serve as an educational research training institution in space science and technology, to boost the growth and capacities of the participating African countries, enhance Anglophone countries' knowledge, understanding and skills in space science and technology applications, drive the applications of SST for national and regional development through teaching, research and development in four prime areas of space science and technology. That is the four prime areas of space science and technology. That is the four prime areas of courses taken at post-graduate level, remote sensing and GIS, satellite communication, satellite meteorology and global climate as well as basic space and atmospheric sciences.

Now with an extended mandate, the Centre will take additional responsibility to add programmes

and short courses and possibly post-graduate courses on GNSS and space law beginning from next year.

The nine-months programme Diploma Programme implementation undertaken in line with the curriculum approved by the United Nations Programme on Space Applications, and modular courses with assessments at the end of each module. This is also similar to other Regional Centres.

In addition to this, field trips and educational tours are arranged for course participants and some practical, the Centre has a functional library, where materials were used, resource persons drawn from within and outside Nigeria, particularly among the staff of the Obafemmi Awolowa University, and scholarships and Fellowships plus stipends funded by Nigeria, while return air tickets are provided by the Office for Outer Space Affairs.

Initially, the course commences in April every year from 2000, from September to July, that is from the year 2000, the course started in September and ends in July the following year. From 2005, the course is re-scheduled to run from January to October every year and PGD Award Certificates are awarded to the course participants, jointly signed by the United Nations and the Centre at Ile-Ife.

So far, the total number of participants per country since 2000, you can see from that, about 16 countries so far have participated in the Programme, with 177 participants. You will observe that 119 from this comes from Nigeria where the rest 58 from other African countries. Now I will tell you the reason why this is so.

In 2009, the current year, we have 39 course participants distributed as shown on the board, also with 26 are Nigerians participated. This is the statistic of the PGD participants by course options and gender. The longer bars reflects the courses in remote sensing and GIS. The purple ones are those in communications and then the lower ones are the courses in meteorology and basic space science, while the lower graph shows gender sensitivity from 2006 to 2009. The yellow are the female participants while the thick brown bars are the male participants.

And again the yearly distribution of participants since 2000, as you will see, from 2000/2001 when the course started to the current year 2009. You will see the distribution on the total course participants by year as well as for each of the courses that are then taught there, also the total number of graduates as well as the current course participants are shown. The distribution is shown in the map of Africa for English-speaking areas.

These are typical dress codes for opening and graduating students of the Centre. And below is the new Post-Graduate Diploma Hostel which was opened for students and students have occupied the building from February this year.

In addition to the nine-months Post-Graduate Diploma courses, there are workshops, conferences, seminars and publications also by the Centre, like the Workshop on Nigerian MESOSCALE Project for Nigerian universities in conjunction with IPPS, Uppsala University in Sweden, the GEOFORMING Workshop on Nigerian Stakeholders in conjunction with the National Space Agency and the Space Application and Governmental Laboratory the Institute of Ecology at the campus there, and Capacity-Building on the Use of LANDSAT Dataset for Sustainable Resource and Environmental Management in Africa. These are workshops that the Centre has hosted in the past and the Centre presently is publishing and circulating a bi-annual magazine called “Orbit”.

The Second Governing Board Meeting took place this year on 11 March 2009. As you will see the photographs of the Centre, of the photographs, the Director-General of NASRDA and Mr. Sergei Chernikov who was also the Guest of Honour from the Office for Outer Space Affairs. This was attended by 12 member countries, as you will see there, mostly by their Commissioners and Ambassadors from Abuja.

So far, we have not been able to get any participants at the Governing Board Meeting from outside Abuja. These are from the home countries and is part of the problem the Centre is facing which I shall elaborate on later.

Now at the Governing Board Meeting, because of the extensive and the nature of the problems this caused, these recommendations came up at the Meeting:

One, establishment of linkages to contacts between the Centre and the relevant ministries and member States;

The respective High Commissions and Embassies offered to facilitate this process;

Ministers and Directors of relevant ministries and member States to attend the Governing Board Meetings which has been scheduled to be held in March every year;

Also the High Commissions and Embassies have agreed also to facilitate this and the Office for Outer Space Affairs has promised that this communiqué will be communicated to the member States and governments in their countries;

Directors and Principal Officers of the Centre to pay advocacy visits to governments of member States and this way are formed is available;

Peer review mechanisms to be established with the Regional Centres to facilitate the exchange of ideas and collaboration and learning processes;

Ministerial meetings of member States to be organized by the host country, Nigeria, as need arises, apart from the Governing Board Meeting which comes up in March every year;

Linkages and collaborations with relevant tertiary institutions to mobilize course participants and resource persons;

All the Ambassadors and Commissioners also promise to get back to their countries to help to facilitate this as well;

The host country, Nigeria, to increase efforts in fund mobilization from corporate bodies and international organizations. Nigeria, the Centre has been able to get some funding from local companies in the past but these are the very minimum. And at the Meeting of the Governing Board, the Centre promised to, the Governing Board encouraged the Centre to also improve on the efforts in this area, particularly on institutions outside Nigeria; and

Reports on course participants including areas of application and benefits of their studies to be forwarded to home countries through the High Commissions in Nigeria. Now the Meeting also agreed that copies of the reports of the students should be forwarded to the High Commissions so that these can be forwarded to their home countries, as least to also get the governments of the countries aware of what the students and the participants are doing in Nigeria and the Centre.

Now in addition to the nine-months programme of the Post-Graduate Diploma, the Centre has been put this responsibility also to spread awareness of space education in Nigeria and the map you are seeing has chose the areas of coverage of the Outreach Programme. A couple of the other slides you will see the areas of coverage of the outreach programmes of space education outreach activities which the Centre's slogan is "teach them young", among the children and in primary and secondary schools. The Programme is run through the Annual Schools' Space Education Outreach Programme with participation of nursery and primary schools using poetry, rhymes and songs on space technology, space science and technology. Secondary schools, the Centre has been organizing quiz competitions, debate, art and essay competitions, science projects, exhibitions by schools, and educational tours and excursions.

And during this Space Education Outreach Programmes, the teachers also are engaged in interaction on curriculum, development of curriculum for space education in primary and secondary schools in Nigeria. So these teachers, the Obafemmi Awolowa University has provided the resource persons and the Centre had already put in place a Committee with experts from the University who are working on development of curriculum for primary and secondary schools' education collaboration with the Federal Ministry of Education in Nigeria.

Also during the World Space Week, with the collaboration of the International Space Week Association, the Centre has been able to produce some students through this competition that might taught at this competition to participate at the Zeronaut Flight Programme at the Kennedy Space Center in Florida. These are part of the activities marking the World Space Week annual.

This year, the Centre, through the organization of this Space Educational Programme has produced already waiting students that will be participating in this year's Zeronaut Flight.

Now the other slides I am going to show are just the Space Outreach Programmes in Nigeria which has gone a long way to educate both children in primary schools, secondary schools and their teachers, and over 3,000 children or students have been covered and impacted by this education. Last year, for example, you will see in the top left, Dr. Favier, an astronaut, invited also to feature in one of the Space Outreach Programme of the children. And here the astronaut is presenting a prize to the winner of a debate competition. And these are some of the faces at the Outreach Programme.

Also a Training Workshop on Space for Space Science Education - Contact for Teachers. Also the teachers are benefiting as I said earlier from this Programme.

This year, this is the first time that the Programme will move to the northern part of Nigeria, Kano City, one of the most populated cities in Nigeria and we had a successful Programme on Space Outreach Workshop with all participating secondary schools, about 38 secondary schools, their teachers, and imagine also at the competition is a student of one of the schools will be participating at this Zeronaut Flight this year.

The Annual Space Education Workshop which was held currently just before we started coming to this meeting at Ile-Ife. It had about 100 schools from all over the nation participating in the Programme which took place at the Centre at Ile-Ife. This is a photograph of the Zeronaut Flight, as you will see. The first one is the student that imaged(?) top of one of the competitions and participated in the 2006, the middle one 2007 and the last one is the 2008, courtesy of the Space Week International Association and the Kennedy Space Center in Florida, United States of America.

Now challenges of the post-graduate programme implementation, poor funding especially without any funding support from other African countries since its inception from the beginning to today. I will observe that for the current learning programme for this year 2009, there is no single budget, even from Nigeria, to the Post-Graduate Diploma course, neither from any of the member States.

The money provided by the Office for Outer Space Affairs is met to transport the course participants from their countries and back to their countries. The Centre had to fall on other means of getting funds to pay the resource persons and also add to the Office for Outer Space Affairs' money for space(?) stipend for the students for maintenance of the students, especially the foreign students, students outside Nigeria.

Now you will see in the first slide that I showed that Nigeria forms the bulk of those who have benefited so far. We have to admit more Nigerians who had paid for their own courses and we use what they pay to pay resource persons to run this course. So the situation(?) is as tough as that.

And this, of course, has dire implications on inadequate hostel accommodation, inadequate research materials and equipment, inadequate project vehicles, limited number of lecture rooms, and, of course, to sustain the scholarship and fellowship.

Within all of this that I have said so far, it is still a matter of concern to us at the Centre.

I thank you very much for your attention.

The SECOND VICE-CHAIRMAN: Thank you Mr. Akinyede for your presentation. Are there any questions or comments?

Yes, the delegate of Greece.

Mr. V. CASSAPOGLOU (Greece): Yes, thank you very much. Just two words. I am extremely happy because at the very beginning I was participating in the effort of our dearest friend, Ade Abiodun, in the concept and then the implementation of this project. It is fantastic and especially for Africa. As you may know, I have very close ties with Africa and family(?) and I am really not just happy but also proud for the success. And I have in 1982 one of the most moved impressions and experiences when I visited during the ITU Plenipotentiary in Nairobi. I visited a small village, some miles, 100 miles out of Nairobi. And I saw a small switchboard like the one we had in the army of the 1940s with just four lines, in a small cabin made by bamboos and I there realized what means to be not, to be out of the communication of the world communication. And I am saying that the idea of the phrase(?) little _____(?) the then Secretary-General of ITU to extend and the axiom of his, let us say, chairmanship, I mean as the Secretary-General between 1982 and 1989 is by 2,000 every house has one fixed line. And for Africa, unfortunately, I never visited the far eastern and south eastern Asia, but in Africa was a real image of our communication. Communication is not the one third of the world. It is the two thirds of the world which even now out of the channels of communication. And that is the very important human and also political and philosophical and ethical contribution of COPUOS and the idea of our friend, Ade Abiodun, in the implementation of these projects for regional schools. Thank you very much.

The SECOND VICE-CHAIRMAN: Thank you. I also share with you the view that this is a remarkable achievement that has been made in Nigeria.

I give the floor to the delegate from Nigeria.

Mr. A. A. ABIODUN (Nigeria): Thank you very much Mr. Chairman. Basically, I have no question. I just want to make comments which I call my own reflections on the contributions that have been made in this room yesterday and today on the United

Nations-affiliated Regional Centres for Space Science and Technology Education.

The constraints presented by Dr. Joseph Akinyede notwithstanding the Nigerian delegation has given me this floor to make my own personal reflection, particularly given my personal association with the establishment of these Centres. And as I listened to the presentations yesterday and today, I have had to struggle with my own personal emotions on the Centres. Why? Because when the United Nations Space Applications Programme floated the idea of establishing such Centres in 1981, as we prepared for UNISPACE '82, the Programme met with most scepticism and doubts among you, distinguished delegates, at this Committee. But in your own wisdom, you concluded, at UNISPACE '82, with a mandate to the Programme, thrusted(?) at developing countries through the indigenous capability in space science and technology at the local level. When I served as the United Nations Expert on Space Applications, I supervised the Programme, we succeeded in translating that mandate among many obstacles which at that time appeared insurmountable into the establishment of today's United Nations-affiliated Regional Centres for Space Science and Technology Education.

Mr. Chairman and distinguished delegates, I want to thank the host countries and the Directors of these Centres for their respective contributions and the contributions of the Centres themselves, the ones they lead, in fulfilling both the vision as well as in carrying out the mission of these Centres. In a nutshell, through these Centres, the United Nations has followed what I understand is a shining _____(?) days as follows, give a man a fish and you feed him once; teach a man how to fish and you feed him for life.

My delegation is particularly encouraged that the establishment of these Centres has and is continuing to encourage the establishment of other space-related education centres around the world.

Mr. Chairman and distinguished delegates, on behalf of the Nigerian delegation, I wish to congratulate all the Directors of these Centres and let me state that this Committee and the international community as a whole is counting on you and on the leadership of Dr. George Joseph of India, Dr. Touzani of Morocco, Dr. Akinyede of Nigeria, Dr. Sausen of Brazil and Dr. Sergio Camacho and Panel(?) of Mexico, not to lose sight of the vision and mission of these United Nations-affiliated Regional Centres.

Finally, Mr. Chairman and distinguished delegates, over the years we have had several briefings on these Centres but it is one thing to give back to these Centres. It is another thing to nurture them to maturity and fruition. In this connection, we all owe much gratitude to the Office for Outer Space Affairs, the Secretariat and its Director, Dr. Mazlan Othman, for these efforts.

In particular, my delegation is very grateful to Professor Hans Haubold of the Office for Outer Space Affairs for his unrelenting commitment to the continued growth of these Centres and to the establishment of new ones in order to meet the needs and the aspirations of the developing countries. Thank you Mr. Chairman and distinguished delegates.

The SECOND VICE-CHAIRMAN: Thank you very much for your statement and we take note very much of what you said and the importance of these Centres for the development of space technology in developing countries.

So if there are no more questions or comments, I will give now the floor to Ms. You Zhou of China who will make a presentation entitled "Small Satellite Constellations for Environment and Disaster Monitoring and Forecasting". You have the floor.

Ms. Y. ZHOU (China) *(interpretation from Chinese)*: Thank you Mr. Chairman. This is a presentation about China's Small Satellite Constellation for Environment and Disaster Monitoring and Forecasting, SSCEDMF, and its application for disaster reduction. The data and the information of this presentation is provided by the Satellite Disaster Reduction Application Centre of the Ministry of Civil Affairs of China.

This presentation has four parts. The first part is the basic introduction of SSCEDMF. The second part is the application and the capabilities of the SSCEDMF. The third is a case study of the use of SSCEDMF for the Disaster Reduction Service to Australia in times of forest fire in Australia. And the final part is a brief summary.

First, the introduction of the SSCEDMF. There are two phases in achieving the overall objectives of the SSCEDMF. In the first phase, a 2 + 1 constellation composed by two small optical satellites and an SAR satellite would be built. In the second phase, a 4 + 4 constellation would be put into operation in orbits and this constellation would be composed of four small optical satellites and four SAR satellites.

At present, for the first phase, HJ-1A and HG-1B were launched successful on 6 September 2008.

For HJ-1C, that satellite would be launched in 2010. By that time, the objective for the first phase would be accomplished.

For the second phase, the overall objective of putting into orbit operation of the 4 + 4 constellation would be achieved in around 2013.

This transparency is the main technical parameters of the three satellites launched, or to be launched, in the first phase of the SSCEDMF.

The HJ-1A and HJ-1B satellites now in operation have three payloads, namely, CCD cameras, supra-spectrum imaging device and infra-red camera and they can be used widely in different sectors. They provide environment, disaster monitoring, early warning and assessment services to sectors like disaster management, environment, agricultural, ocean and land resources, forestry and meteorology.

As for the management and operation of the SSCEDMF, falls under the responsibility of the Satellite Disaster Reduction Applications Centre of the Ministry of Civil Affairs.

Now I would like to focus on the introduction of the application and the capabilities of the SSCEDMF in disaster reduction. The SSCEDMF can be applied differently, in different phases of the disaster management. This pie chart classify the disaster management into five phases or stages into for forecasting, early warning, preparation, against a disaster, disaster reduction, recovery and rehabilitation. For each of the phases, there is a more detailed application scenario.

There are four steps in specific procedures of disaster reduction. The first phase is to initiate the emergency response. The second step is to acquire satellite data. The third step is to process remote sensing data and produce a disaster reduction emergency product. The final step is to provide a service to the users and also to disseminate information.

After being successfully launched, HJ-1A and HJ-1B satellites have been used actively for disaster reduction. Now what I am going to do is to show you some of the satellite images.

This group is about the land use distribution in China's Heihe River Basin and also the map of origination(?) around the Qing Hai area. The purpose of these images is to acquire the disaster background parameters.

These are the water body information maps and also the snow inversion map and also a drought distribution map. The purposes of the images is to identify and acquire disaster features information.

This is a group of maps or images concerning the disaster risk distribution. They are used for the early warning of the disaster risks and also pre-warning or early warning for the disaster risks.

This is a snow coverage map in Tibet, China. This map is used to monitor the scope of the snow disaster and also used to assess the disaster.

These are the satellite images of the forest fires in Australia. I will go into more details in the third part of my presentation.

This is the map of remote sensing images(?) in dynamic monitoring of the ice flushes in the Yellow River of China. All these images are used for assessing the disaster.

These are the remote sensing images of the earthquake(?) lakes after the earthquake in Sichuan and also the images of the landslides and these pictures are used for monitoring the secondary disasters.

This is the map about the vegetation in the earthquake affected areas and this map is used to monitor and assess the need for reconstruction and recovery.

Now the third part of my presentation is about the case study where the SSCEDMF is used to provide a disaster reduction service to help Australia in fighting the forest fires. On 6 February 2009, in the State of Victoria, Australia, there was the biggest forest fire which caused the biggest losses in Australia. After the breaking out of the forest fire, Australia, via diplomatic channels, requested China to provide an environment and disaster reduction satellite service. The Satellite Disaster Reduction Application Centre, under the Ministry of Civil Affairs, as the focal point, was responsible for carrying out the related work.

After one month of efforts, that Centre altogether produced a total of 24 tracks of environment and disaster reduction satellite emergency observation plans and processed 126 frames of satellite data and came up with 24 issues of the fire disaster monitoring and additional products.

This chart is about the monitoring of the places of fire by using satellite emergency observation

data that identified and acquired the information concerning the fire and compared the data with the data got from the previous day and identified the new fires and after that transmitted the data to Australia so that the Australian side would have a basis to make decisions in terms of remedial measures and also to control the spread of the forest fire.

This group of images are for monitoring the areas which had been burnt. These images are used for the statistic calculation of the areas that are burnt.

The Disaster Reduction Service provided by China to Australia was highly recognized by Australia.

Now the final part of my presentation is the summary.

The Small Satellite Constellation for Environment and Disaster Monitoring and Forecasting has a great capability and a potential for application. China is willing to contribute to other countries capacity-building on disaster reduction by offering services of this SSCEDMF under the United Nations Framework. China is willing to improve the exchange and the cooperation of space technology applications for disaster reduction with other countries. Thank you Mr. Chairman.

The SECOND VICE-CHAIRMAN: Thank you Ms. Zhou for your presentation. Are there any comments or questions regarding these very interesting capabilities?

If not, then I will move to the last presentation. So I would like to give the floor to Mr. Baseley of the Space Generation Advisory Council who will make a presentation entitled "Space Generation at Glance: 10-Year Evaluation". You have the floor.

Mr. B. BASELEY-WALKER (Space Generation Advisory Council): Thank you very much Mr. Chairman. It is with great pleasure that the Space Generation Advisory Council addresses the Committee today. As Chair of the Committee, it is my great pleasure to announce that this year is our 10 year anniversary after our creation at UNISPACE III 10 years ago.

The Space Generation Advisory Council was created, as I said, out of UNISPACE III, held in Vienna between 19 and 30 July 1999. At that meeting, a group of space-passionate young people calling themselves the Space Generation met here in Vienna and they submitted 10 youth recommendations to the Conference and five were incorporated in the United Nations Vienna Declaration.

Enhancing education on space activities was already an important issue to the United Nations but through the Space Generation's participation in the Conference and the passion and dedication that they demonstrated, the United Nations discovered something else, that this youth involvement was not only desirable but powerful, beneficial and essential. They incorporated wording into the resultant Declaration to officially create a youth space consultative group. And so the Space Generation Advisory Council was born.

The Space Generation creates a global volunteer base of young people who have an interest in space, a passion for making a difference and a commitment for action. Our Organization aims to connect them to each other and to top space professionals and organizations around the world with a clear focus on the Committee on the Peaceful Uses of Outer Space. We believe that giving young people around the world, as our current membership stands, 93 countries, and connecting them to the global space community and allowing them to take part in what is one of the most important processes in international relations over the coming years is incredibly valuable.

As regards our Organization, the Space Generation has had permanent observer status in the United Nations Committee on the Peaceful Uses of Outer Space in 2001 and consultative roster status with the Economic and Social Committee since 2005. Our main office is based here in Vienna. However, we also have registration within the United States of America.

As I said, we currently have representation of over 90 countries where we have a national point of contact which represents our Organization and coordinates activities within that particular country around the world. We currently have over 4,000 registered members who subscribe to our regular news updates of the work of the Committee and take part in our many events both here in the United Nations environment, in the United Nations regions and within their national countries.

The structure of our Organization is that we have an Executive Council which is made up of myself, as the Chair, a co-Chair, our Executive Director, Ariane Cornell, who is based in Vienna, and various elements of our core staff. We have two Regional Coordinators for each of our United Nations regions, Africa, Asia-Pacific, Europe, Middle East, North and Central America and the Caribbean, and

Latin America. And our national points of contact, which as I said, are very active both at the national and governmental level and we do try and make sure that they are facilitated to attend a space policy as it is made in the international environment.

Space Generation is a reference to the notion from Peter Diamandis, Bob Richards and Todd Hawley, the founders of the International Space University, that all people born after 12 April 1961 had something in common which makes them different from all generations before them. For them, human space exploration has become a reality.

To give you some background on some of the products that we do and some of the events that we carry out, the Space Generation has initiated several groups with the intention of becoming independent entities run by young people. Here are a few examples of our products.

Some of our major achievements over the last few years, and especially last year, were our 50 Year Visions on Space, organized in conjunction with Boston University in the United States. This took the visions which many of you members of the Committee have already seen and took the visions of young people from around the world on what should happen in the next 50 years in space.

We have also organized with various governmental and United Nations organizations contests and events which support some of the key themes in space policy as it stands today.

One of our major events which we run every year is the Space Generation Congress which we run in relation with the International Astronautical Congress which this year will be held in Daejeon, Korea. This is a three-day Congress which takes place before the IAC and brings top technical-, legal- and policy-minded young people around the world who are interested in space to one location to discuss and produce information and research on key space topics of that particular year.

After a few years of COPUOS and Committee meetings, forums and summits across the globe, we started our Annual Congress in conjunction with the IAC to allow students to congregate with each other and with top space professionals to gather at that event.

In the three days of the Space Generation Congress, delegates focus on global products they have been dedicated to for months previously while feeding each other shared passion and enthusiasm and in addition spend time working on projects with each other in person. Delegates also gather to learn leadership skills.

One of the key focuses of the Space Generation is to provide opportunities, both financial and intellectual, to students and young professionals from around the world. We understand that it is very important in terms of capacity-building to be able to support such students and it is our great pleasure as this weekend we hold our 10-Year Anniversary Conference to inform the Committee that we have sponsored students and young professionals to be in Vienna this weekend from Tanzania, Pakistan, Romania, Bulgaria, Brazil and Colombia.

Some of the keys aspects in which we operate in policy. Firstly, we are headquartered in the European Space Policy Institute, a renowned Centre of space policy excellence in Europe. Secondly, the Space Generation Advisory Council Working Group support various Action Teams, including Action Team 14 on Near-Earth Objects. We are involved in space policy and we always try to make sure that the youth input is included. It examples are our input to an EU Green Paper and also the United Nations Action Teams.

We have undertaken various consultancy projects with various organizations around the world on some of the hot topics of space policy over the last 10 years. And we also aim to inform COPUOS and the Office for Outer Space Affairs through presentations in this body and also to our publications and reports about activities and ideas of the Space Generation.

We believe that the United Nations has clearly put the voice of youth of today as very clearly are going to be tomorrow's space leaders. We believe, and what our Organization strives to do, is to facilitate the opportunities for youth from around the world, from all the United Nations regions, to step up and start contributing and we intend over the next 10 years to continue to play a key role in facilitating that process.

Should you require information, these are our websites of our Organization and our Congress. And it is our great pleasure to invite all the delegations and all the permanent observers to a Reception which will be held this evening at the Bösendorfer Klavier Fabrik, the Bösendorfer Piano Factory, from 7.30 p.m. until 9.30 p.m. and if you have not currently received an invitation, please contact myself and my colleagues and we will be happy to provide you with information and directions. Many thanks and we look forward to

contributing to the work of the Committee over the next 10 years as we have over the last.

The SECOND VICE-CHAIRMAN: Thank you Mr. Baseley-Walker for your presentation and congratulations on the reported achievements of your Organization. We, of course, all share the view that the younger generation is absolutely essential for the continuation of space exploration and space applications.

Are there any questions or comments?

I see none so I will shortly adjourn this meeting of the Committee. Before doing so, I would like to inform delegates of our schedule of work for Monday morning. We will reconvene promptly at 10.00 a.m. and at that time, we will continue and conclude item 5, Ways and Means of Maintaining Outer Space for Peaceful Purposes, continue our consideration of agenda item 6, Implementation of the Recommendations of UNISPACE III, item 7, Report of the Scientific and Technical Subcommittee at its Forty-Sixth Session, item 8, Report of the Legal Subcommittee on its Forty-Eighth Session, and, time permitting, we will begin consideration of agenda item 9, Spin-Off Benefits of Space Technology: Review of Current Status.

Following the Plenary, there will be three technical presentations. The first one by the representative of the United States of America on "Sustainable Development In and Through Space: Governance, Financing and Education Issues". The second one by a representative of the Russian Federation on "Solar Mission 'Coronas-Photon: Scientific Objectives and First Observational Results". And the third one by Pakistan on "Application of Satellite Remote Sensing for Monitoring Crops and Land Cover Pictures".

Are there any questions or comments on this proposed schedule?

I see none and I will now give the floor to the Secretariat, Niklas Hedman.

Mr. N. HEDMAN (Deputy Secretary, Office for Outer Space Affairs): Thank you Mr. Chairman. Yes, an announcement by the Secretariat. We would like to remind delegations to provide the Secretariat with possible corrections to the provisional list of participants which was distributed as Conference Room Paper No. 2 so that the Secretariat can finalize the list of participants. Any corrections should be submitted in writing to anyone in the Secretariat here by Tuesday, 9 June, in the afternoon. Thank you Mr. Chairman.

The SECOND VICE-CHAIRMAN: Thank you. This meeting is now adjourned until 10.00 a.m. Monday morning.

The meeting closed at 6.03 p.m.