



# General Assembly

Seventy-fourth session

## First Committee

**20**<sup>th</sup> meeting

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Official Records

*Chair:* Mr. Llorentty Solíz . . . . . (Bolivia (Plurinational State of))

*The meeting was called to order at 10 a.m.*

integrated forum for members of both Committees to consider the issue together.

### Joint panel discussion of the First and Fourth Committees on possible challenges to space security and sustainability

**Co-Chair Llorentty Solíz:** I warmly welcome everyone – including Mr. Thomas Markram, Director and Deputy to the High Representative for Disarmament Affairs, Ms. Simonetta Di Pippo, Director of the United Nations Office for Outer Space Affairs, and our panellists – to this joint meeting of the First and Fourth Committees, convened pursuant to resolutions 73/72 and 73/91.

It is a pleasure to co-chair this meeting with the Chair of the Fourth Committee, His Excellency Ambassador Mohammed Hussein Bahr Aluloom of Iraq. We have agreed to take turns in guiding the proceedings of the meeting. Accordingly, I will chair the first half of our proceedings and my co-Chair, Mr. Bahr Aluloom, will preside over the second half.

The question of how best to preserve outer space exclusively for peaceful purposes has been considered by both Committees over the years. This year, the First Committee has addressed matters relevant to this subject under the agenda item 96, entitled “Prevention of an arms race in outer space”, and under item 98, on general and complete disarmament, sub-item (w), entitled “Transparency and confidence-building measures in outer space activities”. The Fourth Committee considers it under sub-item (b) of agenda item 49, on international cooperation in the peaceful uses of outer space. This joint meeting provides an

The programme for today’s joint panel discussion has been circulated. As it notes, the meeting today will consider the general topic of possible challenges to space security and sustainability. In that context, we will also focus on four sub-items to promote a focused and structured interactive dialogue among delegations, namely, the identification of issues that intersect with both space sustainability and security; taking stock of the status of recent United Nations processes on space sustainability and security; an exchange of views on international cooperation and coordination, in particular on space science and technology and their applications and on the characteristics of expert processes in the various United Nations bodies; and the identification of issues where coordinated approaches could advance long-sought objectives for space sustainability and security.

We will first hear introductory statements by Mr. Thomas Markram, Director and Deputy to the High Representative for Disarmament Affairs, on behalf of the High Representative, and Ms. Simonetta Di Pippo, Director of the United Nations Office for Outer Space Affairs. They will be followed by a panel discussion.

I now invite Mr. Markram to address the Committee.

**Mr. Markram** (United Nations Office for Disarmament Affairs): I welcome this opportunity to participate in this third joint meeting of the First and Fourth Committees. As with the previous iterations, I wish to thank the Office for Outer Space Affairs for its

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close cooperation in organizing this panel and for its continuing partnership.

This joint panel takes place against the backdrop of accelerating challenges to the security and long-term sustainability of outer space, which includes the development of counter-space capabilities designed to inflict harm and damage across a full spectrum of violence, from cyber and electronic means of interference to the application of kinetic force. It also includes the development of dual-use capabilities, which, if operated without adequate transparency, can erode trust, lead to unintended consequences and prompt other space actors to seek countermeasures, citing the right of self-defence. In the absence of agreed norms, the expanding role and significance of the military use of outer space, including the growing numbers of actors recognizing outer space as a war-fighting domain, may encourage more countries to seek counter-space capabilities to protect their own assets. As is often the case with efforts to address the implications of emerging technologies, there is a risk that the pace of work within the United Nations will be insufficient.

However, even taking into account some of the setbacks we have seen this year, there are reasons to remain hopeful. It was regrettable that the Group of Governmental Experts on the Prevention of an Arms Race in Outer Space was unable to take the last step in agreeing to a substantive final report. Nevertheless, through the iterative process of considering multiple drafts, it made important progress in clarifying central concepts, narrowing differences and identifying future areas of work. Despite the inability of the Disarmament Commission to convene its substantive session, informal consultations held in April resulted in useful exchanges and the discussion of new ideas in the context of formulating recommendations on the implementation of transparency and confidence-building measures with the goal of preventing an arms race in outer space. The Committee on the Peaceful Uses of Outer Space adopted the preamble and 21 guidelines on the long-term sustainability of outer space. Significantly, it also re-established the working group with the mandate to, *inter alia*, consider possible new guidelines, which can include those with direct relevance to transparency and confidence-building measures.

Finally, delegations have already made use of the current session of the General Assembly to raise possible new areas that can be pursued in future

deliberations, including, to name a few, measures to address the development and testing of anti-satellite weapons, guidelines on rendezvous and proximity operations, and norms of responsible behaviour that address all of the possible threats to space activities, whether they originate from Earth or from space. There is no reason why we should have to confront a choice of approach. Each of these measures can be pursued through multiple pathways. As the 2013 report of the Group of Governmental Experts on Transparency and Confidence-building Measures in Outer Space Activities (see A/68/189) recognized, legally binding approaches, on the one hand, and transparency and confidence-building measures, on the other, are not mutually exclusive.

Upon request, there is also more that United Nations entities — the Office for Disarmament Affairs, the Office for Outer Space Affairs and the United Nations Industrial Development Organization — and others can do together to facilitate the implementation of agreed measures. Some examples include the creation of a platform for exchanging information and dialogue on military space policies, doctrines and programmes and for promoting the implementation of agreed norms within the private sector. Joint meetings like today's play an important role in bringing all relevant parts of the space-policy community together to share their respective experiences and to ensure the coordination of efforts. Today's meeting also serves as a means for facilitating multi-stakeholder dialogue and engaging with the private and non-governmental sectors.

In that spirit, I look forward to the presentations by the panellists and hope that the ensuing interactive dialogue among Member States will translate into concrete proposals to take forward all aspects of the aforementioned issues in a way that makes full use of the potential, all available forums and unique experience in Vienna, Geneva and New York.

**Co-Chair Llorenty Solíz:** I thank Mr. Markram for his statement.

I now invite Ms. Simonetta Di Pippo to address the Committees.

**Ms. Di Pippo** (Director, United Nations Office for Outer Space Affairs): It is my pleasure to address this joint panel discussion of the First and Fourth Committees on the topic of possible challenges to space security and sustainability.

The organization of the joint panels in 2015 and 2017 (see A/C.1/70/PV.13 and A/C.1/72/PV.11, respectively) — and today's — is proof of a shared commitment by the Office for Outer Space Affairs and the Office for Disarmament Affairs. Any action to respond to space security and sustainability concerns in a broader perspective must relate to the fundamental development needs of all nations and peoples. The 2030 Agenda for Sustainable Development, with its 17 Sustainable Development Goals, gives us a unique opportunity for reflection on how the future role of space exploration, science and technology should be further shaped to provide indispensable tools for our efforts aimed at addressing global challenges for all of humankind.

This year is of a historic significance to the entire world, with the commemoration of the fiftieth anniversary of the Apollo 11 mission and the first humans on the surface of the Moon. This milestone marked a new phase in space exploration and has inspired humankind in ways that extend beyond space activities. As we commemorate this achievement, the international community is also looking forward to inspiring current and future missions through low-earth orbit to the Moon, Mars and beyond. Space exploration and innovation are becoming increasingly important for a broader group of space actors.

With regard to innovation, I would like to draw the Committees' attention to the holistic, modern and strategic approach that the Office for Outer Space Affairs takes towards capacity-building. With the goal of making space activities as inclusive as possible and ensuring that the benefits of space are made available to everyone everywhere, the Office's Access to Space for All initiative exemplifies innovative triangular cooperation among established space actors, the United Nations and entities from non-space-faring countries. As an example, our successful long-standing cooperation with the Japanese Aerospace Exploration Agency on the United Nations-Japan Cooperation Programme on CubeSat Deployment from the International Space Station, commonly known as the KiboCUBE programme, continues to grow, now extending into its sixth and seventh rounds. The Office's collaboration with the China Manned Space Agency for flying experiments onboard the China space station is another innovative and future-focused initiative aimed at opening up space-exploration activities to all nations. Furthermore, under this initiative, the Office

is pursuing partnerships with private-sector entities, including the Sierra Nevada Corporation and Airbus Defence and Space.

In considering the broader perspective of space security as a fundamental pillar for meeting the objectives of the overarching 2030 Agenda for Sustainable Development, transparency and confidence-building measures in outer space activities may reduce mishaps, misinterpretations and miscalculations; foster cooperation; create more predictability; and gather consensus on matters crucial to maintaining outer space for peaceful purposes. We are collectively building up the knowledge base for Member States and intergovernmental organizations that was set in motion by the Group of Governmental Experts on Transparency and Confidence-building Measures in Outer Space Activities in document A/68/189, with subsequent reporting by United Nations entities and exchange of information by Member States, which all give us a comprehensive basis for moving ahead.

The Committee on the Peaceful Uses of Outer Space, at its sixty-second session this year, made a tremendous achievement in adopting the 21 guidelines for the long-term sustainability of outer space activities (A/74/20, annex II) and the preamble thereto, and took important decisions on the way ahead, including the establishment of a dedicated working group. The preamble to the 21 guidelines states that they duly take into account the relevant recommendations contained in the GGE report contained in document A/68/189 and could be considered to be potential transparency and confidence-building measures.

Outer space is a fragile environment where steps taken by one actor may have an impact on others, including users of space services on Earth. In that sense, the broader application of space operations and the increased strategic value of space has resulted in a growing need to enhance the safety of space operations and the security of space assets and space systems, including critical infrastructure, and to preserve the space environment. The long-term sustainability of outer space activities is key in responding to those concerns.

The Office has been mandated for four decades to maintain the central United Nations Register of Objects Launched into Outer Space under an obligation in the Registration Convention of 1975. The Register functions as the core mechanism for treaty-based

transparency and confidence-building, including on the change of status of space objects in orbit, information on re-entry events and de-orbiting of space objects, and similar information, in order to enhance the safety of space operations. I am specifically mentioning the registration regime in this context because together with the established procedures for discharging the responsibility of the Secretary-General under the United Nations treaties and principles on outer space, including the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, and the principle on the use of nuclear-power sources in outer space activities, the Office is mandated to assist in global efforts to enhance the international governance and long-term sustainability of outer space activities.

We are heading towards challenges to the registration regime, not least in view of the future deployment of large constellations and mega-constellations. This stand is crystal-clear, and we need to be prepared accordingly. I assure Committee members that the Office is putting actions in place that make it fully fit for purpose.

I would like to emphasize here that in promoting the safety of space operations, which is of critical importance and urgency, we could further elaborate the following key measures: first, enhanced capacity- and awareness-building; secondly, increased dialogue with private space actors; thirdly, organized reporting on the implementation of the 21 long-term sustainability guidelines and further development of this area; and fourthly, structured information exchange on space objects and events. Such actions could encompass measures for building trust, confidence and stability as well as mechanisms for the safety of space operations, including on avoiding in-orbit collisions, emerging situations, loss of control of spacecraft and re-entry risks.

We are facing critical challenges to sustainable space operations, and we must jointly meet those concerns in a responsible manner. The Office stands ready to work with Member States to build appropriate and robust information exchange and notification procedures in promoting the safety of space operations.

I look forward to the panel discussion and interactive dialogue that will follow today. We have a common interest in maintaining outer space for peaceful purposes. From a space-related perspective, it must be our key objective if we are to secure peace, prosperity

and sustainable development for all humankind. I also look forward to continuing good cooperation with the Office for Disarmament Affairs.

**Co-Chair Llorentty Soliz:** I thank Ms. Di Pippo for her statement.

Before introducing our panellists, I remind the Committees that due to unforeseen circumstances, Ms. Diane Howard, Chief Counsel for Space Commerce at the United States Department of Commerce, will make the presentation that was to be made by Mr. Kevin O'Connell, Director of the Office of Space Commerce at the United States Department of Commerce.

I now have the pleasure to warmly welcome our panellists today: Ms. Diane Howard, Chief Counsel for Space Commerce at the United States Department of Commerce; Ms. Rajeswari Pillai Rajagopalan, Distinguished Fellow of the Observer Research Foundation, who is joining us via video link; and Ms. Cynda Collins Arsenaault, Co-Founder and President of Secure World Foundation. In order to manage the time available to us efficiently, panellists are requested to kindly limit their statements to no more than seven minutes.

I now give the floor to Ms. Diane Howard, Chief Counsel for Space Commerce at the United States Department of Commerce.

**Ms. Howard** (United States Department of Commerce): My name is Diane Howard, and I am speaking on behalf of Mr. Kevin O'Connell, Director of the Office of Space Commerce at the United States Department of Commerce. Our Office thanks the United Nations Office for Outer Space Affairs and the United Nations Office for Disarmament Affairs for the invitation to highlight the role of the commercial sector in addressing possible challenges to space security and sustainability.

We are seeing incredible space entrepreneurship in the United States and around the world, which is certain to change the nature of space security and sustainability. Some entrepreneurs are bringing forward new and enhanced capabilities in such areas as communications, navigation and remote sensing, designed to enhance our lives on Earth, while other entrepreneurs are bringing forth wholly new capabilities, such as space-based manufacturing, on-orbit servicing and space tourism, even in addition to capabilities designed to help us



explore the heavens through travel to the Moon, Mars and beyond.

The global space economy today is estimated at \$400 billion and expected to reach between \$1 trillion and \$3 trillion by 2040. In essence, the future of space is projected to be overwhelmingly commercial, which means that our thinking about space must shift from a traditional security mindset to one that incorporates more robust thinking about space safety and sustainability and an environment that is more collaborative in the name of space safety and sustainability. At the United States Department of Commerce, our view is that a more robust commercial environment in space also improves space security, as many more nations benefit from both the additional services created from space and the economic opportunities and scientific benefits that space provides to all countries.

There is a common misunderstanding — and it is at times misrepresented — that commercial actors do not care about space safety and sustainability. That is false. Space safety and sustainability are key to economic growth, protection of investment and continuing service provision and innovation on behalf of customers here on Earth. During the most recent session of the Scientific and Technical Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS), Mr. O'Connell emphasized as much in a technical presentation on the United States national space traffic management policy. The interrelationship between commercial success and space safety and sustainability has also been highlighted by United States and other commercial actors in technical presentations at COPUOS, as well as at several recent workshops organized by the United Nations Institute for Disarmament Research.

As one example of a private-sector response, there is the recently announced Space Safety Coalition, which is a group of companies and other organizations that actively promotes responsible space safety through the adoption of international standards, guidelines and practices. One of those companies spearheaded an initiative to promote space safety and sustainability through responsible design, launch and operational practices, including end-of-life practices. Another industry-led effort is the Consortium for Execution of Rendezvous and Servicing Operations, in which a consortium of stakeholders is actively involved in articulating practices and developing standards for on-orbit servicing, which is particularly important,

since successful commercial execution of rendezvous and proximity operations is key to the paradigm shift in the burgeoning space economy we see ahead.

Every day, companies approach us at the Department of Commerce with ideas about how to make space safer and more sustainable from both an economic and a security perspective. In April, the Department issued a request for information on commercial capabilities in space situational awareness (SSA) and space-traffic management. The inputs we received highlighted industry's commitment to space safety and called for an open-architecture data repository for SSA data, which will allow for collaboration, including international collaboration, and leverage private-sector innovation.

One of my colleagues at the Office of Space Commerce, Mark Mulholland, has noted that such collaborations can build on lessons learned from collaborations on weather forecasting. As he recently noted, collaboration on weather forecasting relies on sensors of many types, operated by both Governments and the private sector. This sensor data, both current and historical, is processed using peer-reviewed algorithms to produce forecast data containing the best predictions possible with the lowest statistical uncertainties. Sensor observations are good; within this open architecture, more sensor observations are better. In their collaborations through this open architecture, meteorologists around the world agree upon common data formats, common quality standards, common algorithms and common sensor characteristics. They meet frequently to review and update these agreements, technical parameters and forecast techniques. They share their successes and their failures. All of this is done in a spirit of openness and cooperation and of sharing results. Why do they do that? It is simple: severe weather is an equal-opportunity destroyer of lives, property and economies.

Looking ahead, the United States Department of Commerce sees similar opportunities for international collaboration on space-flight safety. As one example, the Department of Commerce recently signed a declaration of intent with the French national space agency, the National Centre for Space Studies (CNES). This declaration charts a path forward for space situational awareness and for other important efforts driving the commercial development of space. In signing the declaration, Secretary of Commerce Ross noted that as we quickly race towards a trillion-dollar space economy, our relationship with CNES and other

like-minded institutions around the globe will become even more crucial.

To summarize, the United States believes that an economically robust space domain is a more secure space domain. However, it is possible that some other space actors may be less ready or willing to engage in such public-private cooperation. This means that those nations that are collaborating will benefit from deliberate, diplomatic long-term discourse about how the increasingly important private sector as well as new space actors can have a positive impact from a space-security perspective, which is discourse that this panel in this forum exemplifies.

**Co-Chair Llorentty Solíz:** I thank Ms. Howard for her statement.

I now give the floor to Ms. Rajeswari Pillai Rajagopalan, Distinguished Fellow of the Observer Research Foundation, who is joining us via video link.

**Ms. Rajagopalan** (Observer Research Foundation): At the outset, I wish to thank the two co-Chairs and the organizers of today's meeting for the opportunity to participate. In my presentation I am going to be looking at some of the current trends and what they mean for space governance, as well as what it is that we need to do in the immediate term.

Governance of the outer space environment has undergone major changes over the past two decades. Among these developments are an increase in the number of players and a change in the type of players that we are seeing in outer space. Today, there are more than 80 players active in outer space. Overcrowding could therefore mean that the challenges of managing both space traffic and orbital debris will become much greater problems in the years ahead than they are today.

With the significant changes in the outer space environment in the past two decades, space is no longer seen as a domain of exclusively peaceful activities. Several countries are using space for military and security applications. Incidents involving cyber and electronic warfare and outer space — such as intentional attacks using radio-frequency energy to interfere with or jam communications to and from satellites, laser dazzling, blinding — are already becoming a reality. Of course, these actions do not create permanent damage, but they do create temporary disruptions or a denial of services.

Similarly, cyberwarfare technologies that use software and network techniques to compromise control of, interfere with and destroy computer systems linked to satellite operations are also a major challenge today. They are becoming more attractive options because they are more affordable and far more accessible, and the possibility to deny the use of such techniques makes them a means of device for which users opt. In addition, there are kinetic physical operations and capabilities that cause permanent damage to and the irreversible destruction of a satellite or to ground support infrastructure through the force of impact both by anti-satellite missiles as well as co-orbital systems, which are becoming popular again.

Some of these technologies existed in the past during the decades of the Cold War. However, today, the changed circumstances in which States have a greater incentive and greater willingness to develop and potentially deploy such counter-space capabilities make the situation far more precarious. Greater reliance on space for conventional military operations today, as opposed to the previous emphasis on strategic cooperation, is another great change that we are currently seeing. There are also technologies with peaceful applications, such as satellite inspection, refuelling and repair, on-orbit satellite servicing and technology to clean out space junk, that can be used in a harmful manner.

Again, none of these developments are taking place in a vacuum. That is an important factor for us to keep in mind. There is a global power transition, but there is also a shift in the balance of power, including in the military balance. Some of the earlier trends may be more evident in the Asia-Pacific region because it hosts some of the largest and fastest-growing economies, which also play a part in developing some of the big military space capabilities.

None of the trends that we see today are in the interests of the long-term sustainability of outer space. The logic for countries to specifically develop military space capabilities is very clear. Despite the rhetoric today, the change in the regional military balance affects the space agenda of every major space actor. Fearing that inaction could leave them unprotected and lagging behind in critical capabilities, almost all major space actors today assign a greater militaristic role to their space assets.

At the same time, global governance debates have not kept pace with the technological developments. Today, existing arrangements face ambiguities and loopholes. There have been talks about the non-placement of weapons of mass destruction in outer space, but that does not include conventional weapons. Existing mechanisms have also become far too expanded and lack understanding of some of the realities. The lack of official clarity is an aspect in that regard. How does one define space weapons or the defensive use of outer space? What is the peaceful use of outer space, and so on?

Recent efforts in the area of global governance include the draft treaty on the prevention of the placement of weapons in outer space, proposed by the Russian Federation and China in 2008. In 2014, a new draft text was reintroduced. There has not been much progress on that front. The International Code of Conduct for Outer Space Activities, originally proposed by the European Union, also faced difficulties, primarily with regard to the process rather than the content. The 2018-2019 sessions of the Group of Governmental Experts on Further Practical Measures for the Prevention of an Arms Race in Outer Space did not see much progress either. The lack of consensus among all actors — the 25 member States — did not result in an outcome document.

In the absence of successful multilateral efforts and a multilateral dialogue process, States will be forced to rely on deterrence, and the effects of deterrence can have a cascading effect. That is, if one State relies on deterrence as a model, others will be forced to do the same, and the consequences will be negative for all. It could lead to increasing suspicion, which will make cooperation extremely difficult. The deterrence model with regard to space is not a policy for any particular State. It is therefore possible to prevent it. In fact, I would argue that it is necessary for us to prevent it before States go down that particular path.

In conclusion, I would therefore say that we need to urgently make clear in public certain red lines and escalatory thresholds so that States are aware of the limits that they should not cross. But, more important, I believe, we must strengthen efforts to develop norms of responsible behaviour while also working towards more binding mechanisms. Ways to control some of the issues that I have mentioned above could include developing norms, legally binding measures, transparency and confidence-building measures, efforts of Groups of Governmental Experts and so on.

We also need to strengthen asset capabilities — space situational awareness capabilities. That is a relatively uncontroversial area. Currently, the United States has the largest network, followed by the Russian Federation and Europe. There are certain capabilities being developed in India as well as China and other countries, but I think this is an area that needs to be strengthened. It needs to be an area of collaboration among all key space actors.

We need to overcome obstacles to global governance. I recognize that that is easier said than done but we need to create more platforms and initiatives aimed at strengthening confidence and trust in each other, or at least among the key actors, as well as multiple levels of dialogue — track 1, track 1.5 and track 2 level dialogues — that involve all the various stakeholders, because, as has often been seen, there are three stages in any effort to develop norms or any binding measures, namely, technical, legal and political. By and large, the dialogues involving the legal and technical communities have been easier to conduct, but those involving the political aspect have always been the most challenging. I would say that we need to have conversations as an inclusive process involving all the different stakeholders so that we have binding support from all the various parties involved. I will stop here and am happy to take any questions.

**Co-Chair Llorenty Solíz:** I now give the floor to the last speaker of the panel, Ms. Cynda Collins Arsenault, co-founder and President of Secure World Foundation.

**Ms. Collins Arsenault** (Secure World Foundation): I am the founder of Secure World Foundation. Many representatives know us because we have been active and copious in the United Nations Institute for Disarmament Research (UNIDIR) for many years. I am also the founder of Our Secure Future: Women Make the Difference, and it is my honour and pleasure to be at this gathering today to talk about both those subjects and why they are connected.

The question that I am most often asked is: why? Why do I give my money away and why space? On one slide I have a beautiful picture of space to say, who is not inspired by that, as well as a magnificent picture of Earth from space, which has transformed how we see ourselves and calls for new ways of working together. When you consider all the ways that space provides benefits to us here on Earth, I cannot think of a better

way to invest my money for the future of all our children and their children. Space offers us a unique opportunity to learn about Earth, to enhance our communication and to create new systems for working together.

And why women? Unfortunately, space also faces challenges to its security and sustainability, which is why we are here today. If we are going to solve those challenges, we need to use all our resources. Why would we not want to utilize the skills and talents of 50 per cent of our population? There is a bonus in that regard. There is evidence that shows that women add unique value to our multilateral and international discussions. When women are present, negotiations are more likely to be successful. Treaties last longer. They are 35 per cent more likely to last more than 15 years. There are greater benefits to society, and citizens have greater trust in their Government.

In general, it has been found that women's participation is a predictor of peace. Women moderate extremism. They help to promote dialogue and build trust. They bridge divides and mobilize coalitions. An example of that is the recent Working Group on the Long-term Sustainability of Outer Space Activities, in which a number of delegations included women, who met together informally to find creative solutions that helped the Group to reach consensus on the 21 guidelines. That was a remarkable accomplishment for the space community.

So why is that? It is difficult to say, but there has been a great deal of research on women's and men's brains and personality traits and how they view the world. Of course, there is a continuum in and an overlap of characteristics, but, in general, women have been found to be stronger in such traits.

Turning to the slides, members can see my magnificent picture of Earth from space; we receive many benefits from our assets in space.

Some details of the evidence found that women have a greater capacity for participation in matters to find solutions. This slide presents the characteristics that have been found, showing that in general women are stronger in these traits, which also happen to have been demonstrated to be effective in global leadership and problem-solving. Traits such as navigating complexity and communication skills will be useful as the space community deals with the complex linkages of commercial interests, benefits to humankind and the military's warfighting domain.

In a global poll conducted by Our Secure Future with women from 63 countries, we found that they view security differently. They focus on having knowledge, equal opportunity, freedom of expression and participation. This is what they recommend: redefine security; take a holistic, long-term approach; have inclusive, bottom-up participation with 50/50 women and men and work with all those directly affected; promote economic opportunity; encourage good governance to fully implement laws and policies in practice, not just on paper; regularly monitor and evaluate our policies to see whether or not they are actively achieving our objectives; and improve infrastructure and institutions to promote safety.

What part of those recommendations would not apply to space security? Do members see how they might be applied to the development of a space traffic management system? It is easy to see how the evidence of women's participation — the skills and traits that women bring to the table — can all be applied to our common goals. That may be best captured here by the Sustainable Development Goals. We know that space can play a critical role in each of those. With the growing complexity of the upcoming challenges, such as artificial intelligence, new technologies and the emerging space economy, what norms and behaviour change do we need to ensure the protection and security of humankind?

Space security discussions have been at an impasse. Bringing new perspectives and a variety of skill sets to the table will help us move forward to solve such complex problems. But aspiration is not the same as implementation. A recent UNIDIR study, entitled *Still Behind the Curve: gender balance in arms control, non-proliferation and disarmament diplomacy*, found that the First Committee has had only one female Chair in 72 sessions. The Committee on the Peaceful Uses of Outer Space had its first woman Chair last year, after 59 years, and the International Astronautical Federation will welcome its first female President next year, after 71 years.

In fact, at any intergovernmental meeting on disarmament, only a quarter of the participants are likely to be women, and nearly half of all delegations are likely to include no women at all. This slide shows the low percentage of women in these group of governmental expert meetings. These are the forums where important topics are being discussed, and a critical and valuable part of our population is missing.



But we have some tools. In 2000, the Security Council adopted resolution 1325 (2000), which calls for the increased participation and representation of women at all levels of decision-making and for a gender perspective to be applied to all policies. It also calls on States to adopt a national action plan for implementation of the resolution. To date, 82 countries have developed a national action plan. If a country is not shown on the slide, Our Secure Future can help it to develop such a plan. Last year, the Secretary-General made a strong call for action for the full and equal participation of women in all decision-making processes related to disarmament and international security.

Yet, if one looks at the recent Group of Governmental Experts on the Prevention of an Arms Race in Outer Space, only three out of 24 representatives were women, even from those countries with a national action plan. Contrast that to the success of the guidelines for the long-term sustainability of outer space activities, in whose preparation there was greater female participation.

That is why I spend my resources and energy on space and women. We have much to gain from the greater inclusion and participation of women in our space security and sustainability discussions. We know that space technologies and applications have enormous potential for all of us, and we want to keep space secure and sustainable. As Van Gogh said: "I know nothing with certainty, but the sight of the stars makes me dream." So let us not just dream together about a time when the space community will benefit from the full participation of women in creating a secure and sustainable environment. We can work together now to make that the case.

**Co-Chair Llorentty Solíz:** On behalf of all delegations, I would like to thank our panellists for their thought-provoking statements.

It is my pleasure and honour to hand over to my co-Chair to preside over the rest of our proceedings this morning.

**Co-Chair Bahr Aluloom:** It is my pleasure to preside over the second part of our discussions today. Given the interactive nature of the panel discussion, there is no established list of speakers. Delegations wishing to take the floor should press the microphone button on their console.

Due to the limited time available to us for this meeting, I request all representatives taking the floor

to keep their statements concise and limit them to no more than three minutes. In that regard, delegations are encouraged to deliver a summarized version of their statement and submit the full written statement to the secretariat for publication on the PaperSmart portal. As noted, the co-Chairs will prepare and issue a summary of the panel discussion and interactive dialogue.

The floor is now open for comments and questions.

**Mr. Penaranda (Philippines):** I thank the co-Chairs for convening this important meeting. I would also like to thank the secretariat.

The Philippines supports the exploration of outer space to generate new knowledge and to prevent and address global challenges such as catastrophic and disastrous natural events. Weather forecasting was mentioned by the representative of the United States Office of Space Commerce. That is a priority for a country faced with extreme weather conditions such as the Philippines.

The Philippines recognizes that outer space is threatened by its potential weaponization in an arms race — a development that would run counter to the objective of exploring and preserving outer space for peaceful uses. As such, we strongly support the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS), which is mandated to govern the exploration and use of outer space for peace, security and development for the benefit of all humankind. In its participation in the intersessional meeting of the Working Group on the Space 2030 agenda, the Philippines, along with other States members of COPUOS, agreed to contribute to stronger global governance of outer space activities and to strengthen its contribution towards achieving the global agendas that address the long-term sustainability of outer space activities.

The Philippines also particularly recognizes and commits to international cooperation to assist developing countries in the development of their respective space technology and application programmes. We are of the view that the interests of developing nations and emerging space nations should be the main priority of Space 2030.

As the representative of the United States of America said earlier, the absence of agreed norms is a challenge for us. The Philippines therefore joins the calls on spacefaring nations to respect the existing

relevant instruments and norms. We agree that defining parameters is also crucial and that Member States should move forward, as appropriate, towards an effective, legally binding multilateral instrument on the prevention of an arms race in outer space. We believe that developing norms of responsible behaviour is important to that end.

At the same time, the Philippines recognizes the critical importance of transparency and confidence-building measures and the urgency of preventing an arms race in outer space. We welcome the readiness of all Member States to contribute to that objective.

I would also like to comment on the importance of the gender perspective, which was mentioned earlier. The Philippines is a champion of a gender-balanced disarmament programme, which I believe to be very important.

**Mr. Liddle** (United Kingdom): I am pleased to make this intervention on behalf of the following group of countries: Albania, Australia, Belgium, Canada, Chile, Croatia, Denmark, Estonia, France, Germany, Georgia, Hungary, Iceland, Italy, Japan, Latvia, Lithuania, Luxembourg, Malta, Montenegro, the Netherlands, Norway, Poland, Portugal, the Republic of Korea, Romania, Slovakia, Spain, Switzerland, Ukraine and my own country, the United Kingdom.

At the outset, we thank the co-Chairs for organizing this timely discussion of our future efforts to ensure the security and long-term sustainability of outer space activities. Our thanks also go to the panellists for their contributions.

Today, the world is increasingly reliant on space assets for its prosperity and its security. Indeed, more countries are becoming spacefaring nations, and more companies are able to access and operate in space. The development of space technology has brought tremendous benefits to all nations, such as Earth observation for agriculture, navigation for ships and aircraft, remote sensing for measuring the effects of climate change, telecommunications and weather monitoring.

All actors need to take responsibility for keeping space a stable, safe and sustainable environment, allowing the current actors to continue to operate with minimal disruption and assuring emerging ones that the domain will remain accessible for future

generations. We believe that there is a common interest in maintaining peace and security in outer space for the benefit of all, although we recognize that there are different views on how to achieve that.

As the concept note points out, safety and sustainability concerns in space now intersect with traditional security concerns. We welcome the convening role that the United Nations system is playing in bringing together Governments, commercial actors and academics through initiatives such as the annual Space Security Conference of the United Nations Institute for Disarmament Research, held in Geneva, and the Space 2030 agenda of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS).

We note that there is an important distinction between discussions in the Conference on Disarmament in Geneva on security and those at COPUOS in Vienna on peaceful uses, which is mirrored in the General Assembly between its First and Fourth Committees. At the same time, the issues covered are often the same, even if the emphasis or focus differs between each venue. As there is merit in avoiding duplication, we particularly welcome today's discussion.

Existing international law, in particular the Charter of the United Nations, the Outer Space Treaty and related guidelines, provides us with a framework of principles, such as the freedom to use and explore outer space for peaceful purposes. The effective implementation of the legal framework, alongside the promotion of regulatory arrangements that encourage safety, participation and innovation, will be increasingly important as space activities increase.

In the context of the rapidly changing space environment, our countries have identified a number of substantive issues that, if addressed more effectively, would help to improve sustainability, security and transparency. Those issues are primarily discussed in COPUOS but are also relevant to traditional security concerns. There is an increased risk that crises or conflict in space would extend to Earth. We would like to describe four such issues today.

The first issue concerns launches. With the rapid growth in the launch industry, we need to reduce the risk of mistrust and misunderstanding caused by launches that are not deconflicted or properly notified. That could be done by ensuring that minimum safety standards are met, by publishing timely notifications and by operators explaining to the international

community what their spacecraft will do and the effects that they will have.

The second issue is debris mitigation and management. Without coordination and information exchange among Governments, space agencies, commercial space actors and other related parties, there is a significant risk to the safety, sustainability and security of future space operations. We also need to refrain from actions that intentionally create multiple long-lived debris, such as direct-ascent anti-satellite tests or kinetic attacks by space objects on others.

The third issue is space situational awareness. To keep space sustainable and safe, efficient communication and enhanced knowledge regarding objects and events in space are critical. As discussions in COPUOS have demonstrated, further work on space traffic management, particularly on how to draw on the innovative work done by the private sector, would also satisfy the common interest of the international community in improved space situational awareness.

Fourthly, with the recent developments in on-orbit servicing, rendezvous, proximity operations and active debris-removal capabilities, objects will increasingly be in close proximity to each other. It is therefore important to ensure that the intentions of approaching objects are known. In order to mitigate the risks in such circumstances, we should develop transparency and confidence-building measures or guidance materials for on-orbit servicing and active debris removal. It will also be crucial to have open lines of communication for incidents where a miscalculation could lead to a perception of a threat to an object.

The question for the international community is therefore what can we do to reduce these risks? And how do we deal with threats to space systems, including those from Earth? It is our belief that we must take steps to ensure a stable international environment. We can reduce risk, whether of a civil or military nature, through cooperation and effective communication that enhance international confidence in our outer space activities. We welcome the adoption at COPUOS in June of a preamble and 21 guidelines for the long-term sustainability of outer space activities. COPUOS has a proud history of developing the space legal framework that we have in place today.

The long-term sustainability guidelines once again highlight the important role of COPUOS in setting new international space standards. Its work in that

regard should therefore be supported and promoted. We look forward to discussing how to put the guidelines into practical effect, as well as considering topics for further work.

Our countries believe that the best way to address threats posed by and to objects in space is an incremental approach in Geneva that looks for solutions to practical problems. We need to establish norms of behaviour for both private and Government space operators. And we should consider how to treat threats from Earth. By developing and following norms, we would form the foundation for trust and cooperation among operators in the space environment. That could form the basis from which to further consider a legally binding instrument on the prevention of an arms race in outer space.

To keep space sustainable and safe, efficient communication regarding objects and events in space is critical. It will also be crucial to establish lines of communication for incidents where a miscalculation could lead to a perception of a hostile threat. We should also consider how to signal intent and demonstrate responsible behaviours.

We believe that progress in Vienna could be complemented in Geneva through discussions about how to reduce the risks and threats to operations in space. As a start, the Conference on Disarmament could encourage all spacefaring nations to present an overview of their national space defence policies. Encouraging that kind of exchange could play a crucial role in building a common understanding through increased transparency, thereby reducing the risks to operations in space.

We hope that everyone can be part of this discussion. We would welcome the panel's views on how States could become involved in a process to develop new ideas on how to reduce risks. After all, maintaining the sustainability and security of outer space is to the benefit of all.

**Ms. Jáquez Huacuja** (Mexico) (*spoke in Spanish*): It is always a pleasure to take advantage of moments of interactivity in the First Committee of the General Assembly. I would also like to express my delegation's satisfaction with this meeting, whose purpose is to foster consistency and avoid working in silos, which, unfortunately, almost always characterizes some areas of the work of the United Nations, though less and less so. More coherence is what can improve the Organization and make it more efficient.

In that regard, I would like to make a comment and ask the panel a question, if I may, taking advantage of the fact that we have great experts before us. We agree that space activities go beyond military security considerations and also far beyond the exploitation of the peaceful uses of outer space and their link to development. However, there is an understanding that the existing regulatory framework is insufficient to ensure that space is used only for peaceful purposes and for the benefit of humankind.

The question is whether the gap should be filled from the point of view of peaceful uses, that is to say, by Vienna, or from the point of view of security and avoiding militarization for hostile purposes, in other words, the disarmament perspective from Geneva, or whether it should be a political decision taken in New York. I would like to know the opinion of the panel on that, taking into account that many of its members — and we are very pleased to note the high number of them who are women — do not belong to the system.

**Mr. Rypl (Brazil):** At the outset, I would like to congratulate the co-Chairs and the panellists on this joint meeting of the First and Fourth Committees as a very valuable exercise of thematic and operational coordination in the United Nations system. Bringing together these two communities is a constructive approach that fosters dialogue and helps increase awareness of the importance of preserving space for peaceful purposes.

In 2018 and 2019, Brazil has chaired three multilateral processes related to space issues, namely, the subsidiary body of the Conference on Disarmament (CD) on the prevention of an arms race in outer space, the Group of Governmental Experts on Further Practical Measures for the Prevention of an Arms Race in Outer Space, and the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS), whose report will be presented to the Fourth Committee.

Today's joint meeting is an opportunity for my delegation to restate a fundamental view on this issue, namely, that the existing legal framework is not sufficient to address the risks associated with an arms race in outer space. Space is becoming increasingly congested and contested, and the concrete threat of the weaponization of outer space is a reality. The existing treaties are no longer sufficient to keep outer space safe and secure by reducing vulnerabilities to perceived threats and actual risks. Recent discussions relating

to the prevention of an arms race in outer space have collected considerable reasoning on some critical issues such as the scope and limits of the existing legal regime in outer space, the components of general principles in relation to an arms race in outer space, elements related to monitoring, verification, transparency and confidence-building measures, and issues with respect to international cooperation.

The 2018 report of subsidiary body 3 of the Conference on Disarmament sets out a framework for future discussions that was agreed by consensus in the Conference on Disarmament. Likewise, the non-approved text that was thoroughly negotiated in the Group of Governmental Experts on Further Practical Measures for the Prevention of an Arms Race in Outer Space down to the removal of the last pair of brackets constitutes an important tool that all of the 25 experts have at their disposal in their respective capitals in order to improve positions and seek greater convergence when the future debate on the prevention of an arms race in outer space is resumed — and we hope it will resume soon.

These processes have taken the discussions to a new, higher level with respect to the prevention of an arms race in outer space, but we still have to deal with such challenging issues as verification, dual-use technologies and many more. Transparency and confidence-building measures cannot be substitutes for legally binding, treaty-based obligations. They do, however, have an important role to play and, under certain circumstances, can emulate and complement other initiatives, including legally binding instruments. Furthermore, we highlight the role of non-first-placement initiatives at the national and multilateral level in easing tensions.

Taking into account the consensus established in the Office for Outer Space Affairs in relation to the management of good practices aimed at the sustainability of the outer space environment, my delegation would like to emphasize our support for the following initiatives and proposals: joint studies on technological solutions for the monitoring of space debris; the standardization of launch rules, while bearing in mind the economically viable solutions for each country; the establishment of a communication channel at the technical level among satellite control centres; and the establishment of legal standards compelling spacefaring nations to mitigate space debris.



Finally, we would like to underline that discussions on the peaceful use of outer space could benefit from increased interaction among the Conference on Disarmament, the Committee on the Peaceful Uses of Outer Space, the Disarmament Commission and the General Assembly. With a view to increasing awareness of the activities carried out in other forums, ways of reciprocal reporting should be explored, particularly between COPUOS and the CD, through, for example, the presentation of a report from COPUOS to the CD, and vice versa. It would be of special significance that each body report on its progress, challenges and the points that could be simultaneously dealt with in Geneva and Vienna, always in accordance with the specific mandate of each forum. Such an initiative would be particularly important for developing countries because they cannot always follow discussions that happen simultaneously in all these different forums.

We are now at the threshold of a new space age, one that can once again inspire generations to come to explore new possibilities. We will achieve that only if we are able to ensure that the collective management of challenges in space is implemented through true cooperation.

**Co-Chair Bahr Aluloom:** I now give the floor to the observer of the European Union.

**Ms. Claeys** (European Union): I have the honour to speak on behalf of the European Union (EU) and its member States. The candidate countries Albania, Turkey, the Republic of North Macedonia and Montenegro, the country of the Stabilization and Association Process and potential candidate Bosnia and Herzegovina, as well as Ukraine, the Republic of Moldova and Georgia, align themselves with this statement.

The EU and its member States, together with the European space agencies, have developed strong and unique space capabilities and industries in Europe. The EU currently has a large budget for space, most of which is dedicated to the European Global Navigation Satellite System, Galileo, and the European Earth Observation Programme, Copernicus. For the next budget period, from 2021 to 2027, the European Commission has proposed a robust €16 billion space programme to boost European space capability in the fields of navigation, Earth observation, space situational awareness and governmental satellite communication. The new EU space programme will also address such global challenges as climate change,

the transition to a low-carbon economy, smart mobility and the digital economy. It will support a European “New Space” approach, with innovative start-ups and increased European technological autonomy.

The EU and its member States continue to promote the preservation of a safe, secure and sustainable space environment as well as the peaceful use of outer space on an equitable and mutually acceptable basis. We regard outer space as a global common good, to be used for the benefit of all. We continue to stress the importance of transparency and confidence-building measures and the need to advocate responsible behaviour in outer space, notably within the framework of the United Nations. As an example, in the new EU Space Programme, measures for space-debris disposal and spacecraft disposal are to be implemented as way of taking charge of our own actions with respect to these global challenges.

We underline the need to foster increased international cooperation and establish principles of responsible behaviour while maintaining the sustainability of space activities. Furthermore, we stress the need to strengthen commitments to avoiding potentially harmful interference with the peaceful exploration and use of outer space and to facilitating equitable access to outer space.

The EU and its member States remain strongly committed to the prevention of an arms race in outer space, which is essential for strengthening international security and stability and for safeguarding the long-term use of the space environment for peaceful purposes. We are concerned about the continued development of all anti-satellite weapons and capabilities, including ground-based ones, and underline the importance of addressing such developments promptly and as part of international efforts aimed at preventing an arms race in outer space. We call on all States to refrain from the destruction of space objects that would generate long-lasting debris.

The EU underlines that the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, and other applicable international space law as developed within the framework of the United Nations constitute the cornerstone of the global governance of outer space. As a responsible space actor, the EU is exploring the possibility of acceding to the Outer Space Treaty.

We express our satisfaction that the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) adopted the 21 guidelines for the long-term sustainability of outer space activities (A/74/20, annex II). The adoption of the guidelines is a major achievement and the culmination of several years of work by the Committee, proving that multilateral space diplomacy and international cooperation can work and produce results. We are equally satisfied that agreement on establishing a working group on the long-term sustainability of outer space activities was reached, and we look forward to discussing how to implement these guidelines, as well as to considering other topics on which further guidelines could potentially be developed.

We believe that the most realistic near-term prospect lies in agreeing on a voluntary instrument or voluntary norms. Such a voluntary instrument could establish standards of responsible behaviour across the full range of space activities and related challenges. Topics could include the mitigation and remediation of space debris, which is partially caused by intentional anti-satellite-weapon testing, and collision avoidance, in order to promote security and safety in outer space in an integrated fashion.

Discussions, in particular within the United Nations framework, on a voluntary instrument or voluntary norms to govern increasing human activities in space should complement the COPUOS long-term sustainability guidelines. Compliance with existing international law and with transparency and confidence-building measures as developed in the United Nations framework would have to be ensured.

**Mr. Buenneke** (United States of America): My delegation first wishes to express our appreciation to the United Nations Offices for Outer Space Affairs and for Disarmament Affairs for having organized today's panel discussion. We are pleased that the composition of the panel reflects prior consultations with Member States. We also welcome the thoughtful contributions of other delegations to this interactive discussion.

As today's panel members have highlighted, the increasing utilization of space, including a significant increase in the volume and diversity of commercial activity, means that all actors need to take responsibility for maintaining outer space as a stable, safe and sustainable environment. As Vice-President Michael Pence noted last week in Washington at the

seventieth International Astronautical Congress, the United States will use all available legal and diplomatic means to create a stable and orderly space environment that drives opportunity, creates prosperity and ensures our security on Earth and in the vast expanse of space.

In this regard, the United States is pleased that the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) adopted the 21 guidelines for the long-term sustainability of outer space activities (A/74/20, annex II) and the preamble thereto, which represent the best practices for safe and responsible use of outer space. The 21 long-term sustainability guidelines mark an important milestone in ensuring that all nations can continue to benefit from the use of space over the long term.

The United States remains committed to existing international law and highlights in particular the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, which still serves as the essential framework of principles that can help ensure that all nations continue to benefit from the tremendous potential space offers. All nations should persist in working on the practical implementation of these principles to avoid risking the stability and security of the outer space environment. My delegation firmly believes that implementation and associated international cooperation can be accomplished without stifling the innovation that continues to make space and its benefits available to all. As the consensus report of the Group of Governmental Experts (GGE) on outer space transparency and confidence-building measures (TCBMs) noted in 2013 (see A/68/189), some of the long-term sustainability guidelines can themselves be considered as potential TCBMs. Others long-term sustainability guidelines can provide a technical basis for the implementation of additional TCBMs.

As the United States has noted repeatedly in the First Committee and other forums, there are increasing risks from the congested and contested nature of outer space, and these risks affect both space sustainability and space security. As our colleagues from the United Kingdom have already noted, efficient communication with regard to potential hazards to space-flight safety is critical. We must establish and maintain timely and effective forms of communication, especially between satellite operators, to facilitate exchanges of information on these hazards and reduce operational risks.

The United States also believes that the United Nations Disarmament Commission should encourage all spacefaring nations to present the defence aspects of their national space policies. Such exchanges of information may provide important context for the full range of national security activities in outer space and could facilitate further mutual understanding of intent so that miscommunication does not lead to greater risk of miscalculation.

Given the common interest in space and in reducing the risk to our respective outer space activities, the United States believes that all spacefaring nations should engage actively with COPUOS as well as in relevant discussions on space security in Geneva and New York. COPUOS and its subcommittees should continue to serve as the leading United Nations forum for discussions on international cooperation in the peaceful use of outer space.

At the same time, States should be prepared to work constructively to advance applicable TCBMs in other United Nations forums. In this regard, the United States is pleased to co-sponsor a draft resolution now before the First Committee on “Advancing transparency and confidence-building measures for outer space activities” (A/C.1/74/L.55). This draft resolution requests inputs from Member States on the TCBMs they have implemented in accordance with the recommendations contained in the 2013 GGE report. It also asks the Secretariat to submit a report on the coordination of these TCBMs in the United Nations system along with Member States’ views on TCBMs.

The United States believes that both the national inputs and the Secretariat’s report will allow discussions on space TCBMs at future sessions of the General Assembly to advance to the next stage: an examination of aspects of practical implementation of TCBMs and associated international cooperation. These inputs may also help frame new ideas to maintain the conditions for a safe, stable and operationally sustainable space environment for the benefit of all nations.

**Ms. Zuo Rui** (China) (*spoke in Chinese*): With the development of outer space technology and the expansion in space application activities, outer space security and sustainability are increasingly intertwined, and the challenges for both are growing simultaneously. On the one hand, the deterioration of the space environment and increase of space debris have negatively affected the security of outer space in ways

that cannot be ignored. On the other hand, the trend towards an arms race in and the weaponization of outer space is accelerating. These are the greatest challenges facing outer space security and sustainability.

Existing international legal instruments for outer space are clearly flawed, failing to prohibit the placement in outer space of weapons other than those of mass destruction. The international community generally recognizes the need to negotiate and conclude new legal instruments addressing outer space arms control to make up for the prevailing deficiencies. That is why China and Russia proposed before the Conference on Disarmament a draft treaty on the prevention of the placement of weapons in outer space and suggested that the General Assembly establish a group of governmental experts (GGE) on the prevention of an arms race in outer space to conduct in-depth discussions on the components of such legal documents. The GGE has put forward many valuable suggestions, even if, regrettably, it failed to adopt a final report. Nevertheless, it has laid a strong foundation for work in future on arms control in outer space. It is hoped that all parties will fully demonstrate political will and support the prompt commencement of substantive work in the Conference on Disarmament on the prevention of an arms race in outer space.

China believes that appropriate and feasible transparency and confidence-building measures (TCBMs) are conducive to greater mutual trust and reduced miscalculation. They can complement, but not replace, legal instruments. In recent years, China has taken a series of positive steps in the area of TCBMs in outer space. China has published four white papers on its space activities, elaborating on its space policy and planned activities. In strict accordance with the requirements of the Convention on Registration of Objects Launched into Outer Space, China registers information on objects launched into outer space. For many of its major space launches, China has made announcements through the media or communicated and coordinated directly with relevant countries or international organizations.

China actively participates in space-debris mitigation activities under multilateral mechanisms, including the United Nations, and has promulgated its own domestic space-debris-mitigation management measures. According to world statistics on the newly catalogable space debris added in recent years, the total

amount of space debris from China has shown a growth rate of nearly zero.

China has also actively organized visits to space-launch sites and invited representatives of various countries to China on many occasions to observe space launches. China is also committed to international cooperation in space, having signed over 130 space cooperation agreements or memorandums of understanding with more than 40 countries and international organizations. We provide satellite launch services to more than 10 countries.

In recent years, the Conference on Disarmament, the United Nations Disarmament Commission and the Committee on the Peaceful Uses of Outer Space have carried out a great deal of fruitful work on the security of outer space in accordance with their respective mandates. Each platform has its own division of responsibilities and focus, and the trend of interdisciplinary integration is increasingly clear. Preventing an arms race in and the weaponization of outer space goes hand in hand with the peaceful use of outer space, the promotion of space exchanges, and cooperation among countries.

China is firmly committed to multilateralism, encourages the United Nations to continue to play its role as the leading platform on outer space, and supports United Nations agencies in strengthening cooperation and coordination. The First and Fourth Committees of the General Assembly have created strong platforms for those purposes, as they seek to jointly contribute to the attainment of the goals of peace, security and long-term sustainability in outer space. China will continue to participate in international efforts relevant to the achievement of those goals.

**Mr. Belousov** (Russian Federation) (*spoke in Russian*): The Russian Federation attaches particular importance to the consideration of issues relating to the impact of space activity on international security and stability.

We are all aware of that the well-being of individual States and of humankind as a whole increasingly depend on the use of space and space technologies. Until recently, the space activity of States was based on clear and comprehensible norms and principles of international space law. Since 1967, the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, has been the cornerstone of

such law, encompassing all the key norms and principles governing space activities. However, recently, we have increasingly heard it observed that the 1967 Outer Space Treaty is outdated — an anachronism from a bygone era — and that its norms and principles no longer reflect the situation in outer space, especially with regard to the increase in outer space actors, the emergence of new risks to and dangers for national space programmes, and the gradual transformation of outer space as an area for human activity.

Based on those shifts, a number of conclusions are being drawn that are dangerous for international security. Western countries are actively promoting the concept of competition among States in outer space, making it an increasingly contested domain. We are very carefully being led to accept the idea that competition will inevitably lead to crisis situations that can be resolved only by force. The idea of deploying offensive weapons systems in outer space is becoming ever more popular in the West.

A curious picture is therefore emerging. It is precisely the countries of the West that are more actively developing space activities, with State and non-State participants in various space programmes increasingly populating the space surrounding the Earth. As a result, outer space is becoming a contested domain. However, for some reason, Western countries prefer to speak not about State control over these players based on existing space legislation, but rather to protect these players' activity from any sort of external threat. This perspective goes against not only the provisions of the aforementioned 1967 Outer Space Treaty but the existing international practice of regulating all forms of human activity.

We are now witnessing the imposition of the concept of some sort of so-called responsible behaviour in space. Every time this notion is repeated, it spurs us to wonder what is wrong, with respect to such responsible behaviour, with the terms of the 1967 Outer Space Treaty. To what specifically in that agreement do its opponents object? Based on the most recent events, it seems that the activists promoting this new concept do not like the founding principle enshrined in the 1967 multilateral instrument, namely, that any outer space activity should contribute to promoting international cooperation, maintaining peace and strengthening international security.



Taking into account recent events, especially the declarations on plans to deploy offensive weapons in outer space, another question arises: does deploying weapons to outer space, thereby creating a threat to international security, qualify as so-called responsible behaviour by space actors? Our Western colleagues, it seems, would respond unequivocally in the affirmative, which is precisely why the 1967 Outer Space Treaty is no longer to their liking.

I would like to touch upon another very relevant topic. Certain States increasingly refer to the idea that space vehicles can be used as weapons, for example, to neutralize satellites of other States or attack ground-based targets. Of course, from a technological point of view, such conduct cannot be excluded. However, from the point of view of modern space law, such intentional activities would contravene the provisions of the 1967 Outer Space Treaty, whose parties must refrain from any space activity that would create obstacles or difficulties for other States to conduct their own space activities.

Were we to accept the notion that any satellite or space vehicle in orbit can be regarded as a weapon, then any satellite in orbit, including those launched by commercial organizations and even university research centres, should be considered to be a threat to international or national security. We are against such thinking. We have always considered all satellites in orbit around the Earth as legitimately falling within concept of the peaceful uses of outer space. If other States have a different interpretation, then we as the international community are in real danger.

In conclusion, I want to note that preventing the weaponization of space and keeping it free of any kind of weapons is one of the elements of collective efforts to maintain international peace and strengthen global security. Another crucial aspect is to eliminate risks and threats to space activities and create favourable conditions for sustainable, transparent and predictable space activity. Both these elements are equally important. Such an understanding of security matters underpins the sharing of authority between the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) and the United Nations disarmament machinery.

There is undoubtedly a close link between the work of the COPUOS, on the one hand, and that of the Conference on Disarmament, the First Committee and the Disarmament Commission, on the other, in

furtherance of the ultimate aim of the work of all these structures, namely, to ensure international security in all its aspects. However, given the distinct roles of these entities — each with their own tasks — conflating their agendas or blurring the lines between their mandates is counterproductive and undesirable. In this regard, we are against attempts to use the disarmament platform to introduce and discuss issues that have been effectively and comprehensively examined by COPUOS.

Accordingly, we are concerned about attempts of the disarmament machinery to consider such issues as combating space debris, dangerous proximity between objects, uncontrolled de-orbiting and space traffic deregulation in the context of the question of preventing an arms race in outer space. We are against such conflation of issues, which we view as a deliberate attempt to distract the international community from the uniquely pressing matter of the placement of weapons in near space.

We call on all States to join forces to focus on the priority issue of preventing an arms race in outer space. To that end, we stand ready to cooperate with all countries, without exception, to find and develop practical measures to safeguard our shared achievements and the use of outer space for peaceful purposes for the benefit of all humankind.

**Ms. Mac Loughlin** (Argentina) (*spoke in Spanish*): At the outset, I wish to thank the panellists for their valuable presentations.

The current state of technological progress combined with the increasingly important role played by new private actors in outer space are determining factors in the fast-paced development of outer space exploration and applications for peaceful purposes. While growing number of countries are accessing outer space, it is private stakeholders that are increasingly driving developments in this sector. Even countries that do not have their own space programme benefit from the peaceful uses of outer space through their many applications, such as, inter alia, communications, satellite navigation and Earth observation. These developments, together with the dual nature of space technology, make it necessary to address new aspects that have not yet been creatively and comprehensively considered in a way that encourages exchange among the different forums and contexts where outer space is discussed. We believe that any progress in this area should make a clear distinction between safety risks

relating to the continuous increase in the peaceful uses of space, such as overcrowding in the most useful orbits and the risks posed by space debris, and security risks relating to the possibility of armed conflict in outer space.

The main aim must be to ensure that space remains a safe environment where all stakeholders can continue operating with minimum restrictions. With regard to the sustainability of outer space, we welcomed the adoption by the United Nations Committee on the Peaceful Uses of Outer Space, after eight years of work, of the 21 guidelines on long-term sustainability of outer space activities. We believe that international cooperation will be crucial in the implementation of these guidelines. Likewise, Argentina supports the negotiation under the auspices of the Conference on Disarmament of a legally binding treaty on the prevention of an arms race in our space. Until that can be achieved, the adoption of international transparency and confidence-building measures in outer space activities is, without a doubt, appropriate and necessary. In this regard, we hope that discussions in the Disarmament Commission can continue on the implementation of the recommendations for preventing an arms race in outer space of the Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities.

**Ms. Archinard** (Switzerland): At the outset, I should like to thank the three panellists for their insightful presentations.

In addition to the statement delivered by the representative of the United Kingdom and supported by Switzerland, we would like to share our thoughts on a specific example in response to questions 1 and 2: “Which issues concern both space security and sustainability?” and “How can international work be taken forward?”, respectively. The issue we have identified as an example is the collection of space activities referred to as “rendezvous and proximity operations”, including on-orbit servicing and active debris removal.

On the one hand, it is clear that such activities can contribute to enhancing the sustainability of space activities—for instance, by extending the operational life of satellites, hence making them more durable, or by lowering the risks of operating satellites in the space-debris environment. Rendezvous and proximity operations will need to be conducted with high safety

standards, notably in order to minimize the risk of generating debris in case of an accident. On the other hand, such activities could potentially be used in hostile ways, so, naturally, there are security aspects associated with them.

In reply to question 2, on the way forward, we believe that the Committee on the Peaceful Uses of Outer Space and its new working group on the long-term sustainability of outer space activities would be the right setting to address the safety and sustainability aspects of rendezvous and proximity operations, whose security aspects would need to be addressed in a disarmament forum.

Before closing, let me express our appreciation for these joint meetings of the First and Fourth Committees, as we see them as a good opportunity to exchange views in a cross-sectoral and multidisciplinary manner.

**Co-Chair Bahr Aluloom:** I now give the floor to the panellists to respond to the comments and questions raised by the members of the First and Fourth Committees during today’s joint discussion.

**Ms. Rajagopalan** (Observer Research Foundation): One of the questions was whether the gaps in the existing measures should be filled from a peace perspective or within the security domain or through political dialogue. As was said in the initial presentations, all tracks need to be addressed simultaneously. It cannot be one or the other. Transparency and confidence-building measures (TCBMs), for instance, do not operate in a vacuum. We need to pursue TCBMs in order to build greater trust and confidence among the players with a view to achieving something more legally binding or even to adopting verifiable measures. As was also said at the beginning, those terms are not mutually exclusive, but I also believe that political issues are getting in the way. It is not that Governments and States do not understand the challenges or even the way forward, but non-space political issues have clearly gotten in the way. Therefore, all tracks need to be pursued in parallel, simultaneously, so that greater trust in each other is established.

As I mentioned earlier, that can be done through multiple dialogue processes within the Committee on the Peaceful Uses of Outer Space, which has the mandate to cover peaceful activities in outer space, as well as in such other forums as the Disarmament Commission and other platforms. These tracks need to be pursued in parallel. That is how I would look at it.

Verification and dual-use technology are issues that complicate matters. The dual-use nature of outer space, in particular, has made the debates a lot more challenging. Anything that goes up into outer space can be used in multiple ways. While a piece of technology can have a completely peaceful civilian use, it can also be used in other, nefarious ways. The dual-use aspect may therefore exacerbate the difficulty of the debates, but I believe that this is where countries need to step up and transcend the rhetoric in order to start making progress on TCBMs and to work towards adopting legally binding measures.

I believe there was a discussion last summer about legally binding TCBMs. One of the criticisms of TCBMs has been the lack of clarity on how to hold countries accountable when they violate their commitments undertaken in political agreements. Legally binding TCBMs, the discussion suggested, might have a somewhat greater impact on States abiding by their commitments. That is extremely important. Again, those are aspects that can be explored further.

There has been a lot of useful input in the comments, and I agree with them. For instance, the colleague from China mentioned the draft treaty on the prevention of the placement of weapons in outer space and of the threat or use of force against outer space objects, the Group of Governmental Experts on Further Practical Measures for the Prevention of an Arms Race in Outer Space, and TCBMs. TCBMs are generally seen as useful additional measures to legal measures. I agree with that, but we also need to look at the international political climate, which has not really been conducive as yet to building the sustained effort needed to develop legally binding measures. But given the kind of challenges that we face, it is important that we make every effort, with TCBMs as a possible starting point for establishing norms of responsible behaviour. They could be not only a good intermediate step between the idea of recognizing the need for a binding instrument and the actual realization of that instrument but also a useful way to build greater political trust among States, which is something that has to be addressed in a much more efficient manner.

A colleague referred to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies of 1967 and the ambiguities that surround it. I would still say that the Outer Space Treaty of 1967 remains the foundational agreement

when it comes to outer space activities. However, it did arise at a very different time, when the placement of weapons of mass destruction (WMDs) was a greater concern. The Treaty did prohibit the placement of WMDs in outer space, but it did not really foresee the kind of threats that we are seeing today, which is where we need certain additional measures. Even as we frame those additional measures, the Treaty's importance in terms of outer space governance will continue to be absolutely critical. New legally binding measures will not in any way replace the Outer Space Treaty of 1967.

**Ms. Howard** (United States Department of Commerce): I would like to say that I speak as a representative of the United States Department of Commerce and very much appreciate many of the comments that I heard.

Some of the concerns that I heard voiced were about the interaction between the First and Fourth Committees. I will bring to members' attention that, in the United States Government, we rely a great deal on inter-agency efforts. Through the dialogue or discourse among the Department of State, the Department of Defence, the Department of Commerce, NASA and even independent agencies such as the Federal Communications Commission, we are able not only to communicate our interests but also to hear one another's interests and, in that way, go forward preserving our interests and equities in a way that is constructive for the Government writ large. I think that we need to appreciate the fact that the space domain and our uses and reliance on it are evolving. We see that within the United States Government, as we move the provision of space situational awareness data from the Department of Defence, through space-track.org, to my Office in the Department of Commerce.

I would also like to bring to the Committees' attention the fact that similar inter-agency efforts with regard to space are under way within the United Nations system. I believe that there is a space group in the Organization that can be and is utilized. This initiative today, the joint meeting of the First and Fourth Committees, is also a very good example of the fact that we do not lose our identities, interests or equities when we communicate with and listen to one another.

**Ms. Collins Arsenault** (Secure World Foundation): I thank everyone for their statements, comments and questions.

I thought that the statement made by the representative of the United Kingdom on behalf of numerous other States did a very good job of raising some of the key issues that we are facing. It asked what some of the ways were to reduce the risk arising from these issues and mentioned several such ways, including cooperation, effective communication, the guidelines and the norms of behaviour.

I think another way of reducing the risk is to broaden the conversation. The decisions that are made in these bodies have an impact on many people, so to bring additional information to the table makes for wiser decisions, as we found with the women who recommended a bottom-up approach, working with all the stakeholders concerned. As a result, industry, civil society, even amateur astronomers are getting involved. People have an opinion about this matter and can offer new insights and ideas on ways to reduce some of these risks.

With regard to whether the question will be settled in the Fourth Committee or in the First Committee, I agree with Ms. Rajagopalan and others at this meeting that it has to be both. The observer of the European Union and others referred to the many benefits derived from our assets in space. As the number of these assets grows, our need for these assets becomes increasingly interdependent, and that increased interdependence will bring greater security in and of itself. By having the knowledge about Earth, about weather in space and on Earth and about our land and resources, as we work together and build those assets and communications, we will also be increasing our security. The representative of Brazil pointed out that there are many dual-use objects, so it is very hard to separate them into separate categories.

With regard to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies of 1967, when I first began looking at the issue of its continued validity and read the Treaty, I thought and continue to think that it is an inspirational document — a real testament to the our ability to produce something of deep value. I must also say, however, that the world in 1967 was very different from the world we have today. Who would have thought that we would be using our cell phones and all the various other ways we have to communicate with each other? As we can, therefore, we should use the various forums

available to take a look at what is missing and how we can move forward on the pertinent issues.

**Co-Chair Bahr Aluloom:** Are there any further comments or questions for the panellists?

**Mr. Ahmed (Pakistan):** I would like to congratulate the co-Chairs on convening this very useful and timely meeting and thank all the panellists for participating in the joint panel discussion of the First and Fourth Committees.

We believe that space is the common heritage of humankind and that all nations must desist from actions that can lead to its militarization. While our dependence on outer space applications is on the rise, the risk of the weaponization of outer space is also growing. The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies of 1967 was a landmark instrument. Article 1 of the Treaty notes that

“[t]he exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interest of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind”.

This seemingly benign provision introduced a novel and significant concept, namely, that the use of outer space should be for the benefit and in the interest of all countries.

Despite the landmark nature of the agreement, gaps were recognized soon after its adoption, which is why we have seen discussions on several proposals to fill those gaps, starting in the 1970s. Unfortunately, very little progress has been made. We believe that there is a need to address gaps in international space law, with a view to ensuring that no one threatens peaceful activities or the application of space technologies for socioeconomic development.

We have heard from all the panellists today that the current legal framework and norms are clearly not sufficient to guarantee safety and security in outer space or to prevent an arms race there. There is certainly value in pursuing transparency and confidence-building measures (TCBMs), as we have heard today, and we have been supporting the major existing TCBMs. However, they cannot replace legally binding instruments. Progress can be made on both counts simultaneously. We agree that they are not



mutually exclusive; the pursuit of TCBMs should not become an excuse for not making any progress on the legal framework.

As a party to all five core United Nations space treaties and a supporter of all major initiatives to prevent an arms race in outer space, Pakistan is strongly committed to the principle of the peaceful uses of outer space and the preservation of the fragile space environment for the collective benefit of all humankind. Pakistan supports all international efforts aimed at strengthening existing ways and means of maintaining outer space for peaceful purposes and seeking out new ones.

We acknowledge the initiatives and mechanisms undertaken by the Committee on the Peaceful Uses of Outer Space (COPUOS) to develop transparency and confidence-building measures among the Member States to ensure sustainability and maintain global peace and security under the ambit of international space law. Furthermore, Pakistan appreciates the role of COPUOS in developing the global legal regime for outer space and the framework for space governance.

We are of the view that a legally binding, consensus-based international framework is required, for which all relevant forums, including COPUOS and the Conference on Disarmament, will have to play the roles duly assigned to them within their mandates while ensuring complementarity. To that end, Pakistan continues to engage in the most constructive manner possible to make progress on consensus.

**Ms. Quintero Correa** (Colombia) (*spoke in Spanish*): Colombia promotes the peaceful use of outer space, especially through the various means of international cooperation, and advocates continuing to work towards that goal in the framework of the Committee on the Peaceful Uses of Outer Space (COPUOS). In this regard, Colombia reiterates the need to adopt measures to ensure the long-term sustainability of outer space activities and its concern about the threat posed by growing amounts of space debris, the uncertainty of the exploitation of space resources, asteroids, the displacement or use of weapons in outer space and the possibility of an arms race. It also reiterates its commitment to the use and exploitation of outer space exclusively for peaceful purposes. Similarly, Colombia considers that, owing to its activities in the scientific, technical and legal fields and in promoting international dialogue and the

exchange of information, COPUOS plays an essential role in increasing transparency, building confidence among States and ensuring that outer space is reserved for peaceful purposes.

We therefore believe that the United Nations should continue to play a decisive role in outer space affairs and the peaceful use of outer space, and that existing space law should be examined within that framework in a spirit of international cooperation. Furthermore, Colombia believes that the Committee should keep abreast of the most important developments in other forums, such as the Conference on Disarmament, and should continue negotiations on the prevention of an arms race in outer space. It is also important to continue efforts to adopt voluntary measures, such as guidelines on best practices, transparency and confidence-building measures and rules of safe and responsible behaviour in outer space, which, in addition to being aimed at preserving the space environment for future generations, offer an excellent opportunity to prevent aggressive and potentially provocative acts in outer space.

Finally, Colombia believes that although developing countries do not have a highly developed space industry, the possibility that they may do so in future should not be denied or limited. Accordingly, the policies and procedures established to minimize the risks of accidents in space must be prevented from generating long-term problems for future launches by countries that are beginning to make incursions into this area.

**Co-Chair Bahr Aluloom:** I would now like to give the panellists an opportunity to make additional comments, if they so wish.

**Ms. Rajagopalan** (Observer Research Foundation): Two excellent points were made. First, the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies of 1967, continues to be the landmark instrument or foundational agreement on outer space. The reminders that space is our common heritage and that the peaceful uses of outer space must be promoted are extremely valid points. But it is also important to remember that today's environment is slightly different from that of 1967, with the emergence of new technologies and the necessity of giving greater consideration to how they affect space security and sustainability issues.

Given the challenges we face today, we also need to reiterate the point that space is truly a global commons. One State's actions can affect a large number of States. While some States might not even have an active space programme, every single State will be affected by another State's actions, which is important to note, given the kind of diffidence that we see from some States today. We all have both a collective responsibility and an individual responsibility, and every spacefaring Power needs to take this seriously.

Secondly, debris is an important issue to address. It is usually debated in the Committee on the Peaceful Uses of Outer Space and other platforms, but we also need to consider the intentional creation of debris. At the end of the day, because there is no material difference between space debris and space objects, space debris is a real problem. We need to articulate the issues arising from space debris and consider activities that do not contribute to the generation of debris. Again, these discussions need to take place on multiple platforms.

Space is a limited commodity. Measures have to be taken to strengthen the sustainable nature of outer space. An inclusive process involving all of the various stakeholders at multiple levels and on the various platforms is required. Initiatives need to be undertaken to ensure the sustainable nature of outer space for the long term. It needs to be addressed by all States on a priority basis.

**Ms. Howard** (United States Department of Commerce): I have no further comments.

**Ms. Collins Arsenault** (Secure World Foundation): I have two more comments to make. The first relates to the new technologies that are coming, as

Ms. Rajagopalan mentioned. These technologies can either be a win-win or a lose-lose for us all. It is up to the First and Fourth Committees and others to help decide how that goes.

In the women's poll I mentioned earlier, the women talked about redefining security and including economic security as a key part of a new definition. One of the things space offers us is new economic opportunities; it is growing into a new business and creating new jobs here on Earth. Another key aspect of security relates to gathering knowledge, whether it be knowledge about the Earth, how our planet works and what we can do to keep it sustainable, on the one hand, or the verification of what is occurring as we work out numerous treaties, on the other hand.

Secondly, as the representative of the Philippines mentioned, I would like to re-emphasize the importance of gender balance in all of these matters.

**Co-Chair Bahr Aluloom:** As mentioned previously, the co-Chairs will prepare and issue a summary of the panel discussion and interactive dialogue that took place at today's joint meeting of the First and Fourth Committees of the General Assembly.

Before concluding our work today, I would like to thank the panellists and all delegations for their insightful presentations and statements on the subject and indicative themes of our discussion today as well as for the cooperation and support extended to me and my colleague Ambassador Sacha Sergio Llorentty Solíz of the Plurinational State of Bolivia as we fulfilled our tasks as co-Chairs.

*The meeting rose at 12.10 p.m.*