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Draft report

Addendum

J. Space exploration and innovation

1. The Committee considered the agenda item entitled “Space exploration and innovation”, in accordance with General Assembly resolution [76/76](#).
2. The representatives of Azerbaijan, China, France, India, Indonesia, Italy, Japan, Luxembourg, Mexico, the Republic of Korea, Romania, the Russian Federation, Switzerland, Thailand and the United States made statements under the item. The observers for the Moon Village Association, the Open Lunar Foundation and the Secure World Foundation also made statements. During the general exchange of views, other statements relating to the agenda item were also made by other member States.
3. The Committee had before it the following:
 - (a) Conference room paper entitled “Report of the Moon Village Association on the Global Expert Group on Sustainable Lunar Activities – status/plan” (A/AC.105/2022/CRP.12);
 - (b) Conference room paper entitled “Report of the Moon Village Association of the International Moon Day – support implementation status” (A/AC.105/2022/CRP.13);
 - (c) Conference room paper by Mexico and Romania entitled “Proposal for inclusion of a yearly agenda sub-item ‘Coordination for sustainable lunar activities’ under the agenda item ‘Space exploration and innovation’, at the sixty-sixth session of the Committee on the Peaceful Uses of Outer Space, in 2023” (A/AC.105/2022/CRP.14).
4. The Committee heard the following presentations under the item:
 - (a) “Lunar Oasis: architectural visions for an integrated lunar habitat”, by the representative of Austria;
 - (b) “Progress of China’s deep space exploration”, by the representative of China;
 - (c) “Italian scientific research activity in the Minerva mission”, by the representative of Italy;



(d) “Korea Pathfinder Lunar Orbiter (KPLO): the first lunar mission of the Republic of Korea”, by the representative of the Republic of Korea;

(e) “New X-ray map of the universe with the Spectrum-Roentgen-Gamma (SRG) Observatory”, by the representative of the Russian Federation;

(f) “The E.T.PACK project: a technological solution for the space debris proliferation problem”, by the representative of Spain;

(g) “Estrange: the most versatile space centre in the world – new services to enable a sustainable future”, by the representative of Sweden;

(h) “The first International Moon Day”, by the observer for the Moon Village Association;

(i) “Current status of the Scientific Committee on Solar-Terrestrial Physics PRESTO programme for predictability of the variable solar-terrestrial coupling”, by the observer for the Scientific Committee on Solar-Terrestrial Physics;

(j) “The Space Exploration Project Group’s plan to ensure a diverse, sustainable and exciting path for the future of space exploration”, by the observer for the Space Generation Advisory Council.

5. The Committee recalled the origin of the present agenda item and the work of the Action Team on Exploration and Innovation, which had produced the first-ever United Nations report emphasizing the importance of human space exploration beyond low Earth orbit (see A/AC.105/1168).

6. The Committee noted with appreciation that delegations had, at the present session, shared information and updates on space exploration and innovation endeavours, including details on national activities and programmes, as well as examples of bilateral, regional and multilateral international cooperation.

7. The Committee noted that, in the course of the discussions, information had been provided on, inter alia, research and development activities; space object launches; human space flight programmes; robotic exploration activities; activities and cooperation opportunities related to the International Space Station and the China Space Station; numerous missions to the Moon, Mars, the moons of Mars, the Sun and asteroids; satellite-, lander-, rover- and helicopter-based experiments to explore the solar system and to research scientific topics; samples returned to the Earth; the planned international lunar research station; the planned Gateway lunar outpost; a next-generation telescope that would soon reveal images of stars and galaxies that formed more than 13 billion years ago; CubeSats that demonstrated small spacecraft technology; a pressurized crewed rover to be used as a means of transportation; space tracking and management capabilities; developments in rocket technology; innovative uses of additive manufacturing and artificial intelligence; developments in in situ resource utilization technology; novel uses of remote sensing data and applications; a space exploration innovation hub centre; an innovation centre for space resources; the development of national space white papers, strategies, consortiums, plans, road maps, strategies and laws; commitments made among Governments on common frameworks to guide cooperation in space exploration; space summits; a ministerial conference; exhibitions on space exploration and innovation themes; a space resources week; an aerospace and technology festival; a yearly model satellite competition; and increasing human and financial resources being committed to space exploration and innovation.

8. The Committee also noted the importance of collaboration between all stakeholders in space exploration and innovation activities, including Governments and government agencies, non-governmental entities, academic institutions, scientific and technical research centres, industry and the private sector, to advance the peaceful exploration and use of outer space and the safe and sustainable development of outer space activities for the benefit of all humankind.

9. The Committee further noted the desirability of integrating developing countries into space exploration efforts to ensure that space exploration activities became open and inclusive on a global scale.
10. The Committee noted efforts to promote the space industry, in particular among young people, and to foster the development of human capital in the areas of space exploration and innovation.
11. The Committee also noted efforts to promote diversity and inclusion in space exploration and innovation activities.
12. The Committee further noted that space exploration and innovation often inspired and encouraged young people to pursue studies and careers in the fields of science, technology, engineering and mathematics (STEM subjects), as well as in the legal, policy and communications fields.
13. The view was expressed that the space sector played a key role in economic diversification, offering high added value. The delegation expressing that view was also of the view that the space economy was no longer developing solely through technological innovation but also through commercial innovation, and that there were substantial opportunities in that regard for businesses, institutions and citizens.
14. The view was expressed that, as space projects were complex and expensive, it was necessary to promote international cooperation and trade, to exchange knowledge and to open markets for products and services. The delegation expressing that view was also of the view that instead of all countries attempting to cover all areas, it was highly recommended that countries focus on specific technological niches and develop them so as to position themselves as world leaders in particular fields.
15. The view was expressed that the main requirement for a country to commence space exploration and innovation was the firm determination of the country's leaders to consider space as a strategic area, and that included the leaders' commitment to developing space exploration and innovation through a long-term plan, the creation of supporting institutions, and adequate and sustained investment.
16. The view was expressed that, as emerging space nations would play an important role in future global space exploration, cooperation among emerging space countries, as well as cooperation between leading and emerging countries, should be more actively discussed.
17. The view was expressed that the various research associations that had emerged as centres of competence for the development and creation of rocket and space technology – from design to ready-to-use products – served to incubate ideas, created spin-off benefits, optimized space infrastructure and increased economic efficiency under the control of State bodies, and concentrated highly qualified personnel within the framework of a single organizational structure.
18. The view was expressed that the interaction among relevant State structures, small and medium-sized businesses, university innovation teams and a system of non-State venture financing had already proved its effectiveness, in particular in relation to business accelerators, through which there was a focused selection of start-up companies to meet the needs of industry.
19. The view was expressed that outer space contained virtually unlimited energy sources and vast amounts of useful materials and had untapped potential to provide an abundance of resources to humanity in the future, and that related innovations and developments could strengthen the resilience of societies for meeting future challenges.
20. The view was expressed that the main goals of space exploration and innovation should be sustainability, cradle-to-cradle design and viability, using green technology to reduce the negative impacts that humans have on the planet. The delegation expressing that view was also of the view that new ideologies, methods and products should be used to identify and replace existing wasteful or harmful habits developed

over time, improve the quality of the Earth's environment and bring about a course correction towards a resource-rich future.

21. The view was expressed that it was the destiny of the human spirit to explore, and that exploration campaigns responding to the challenge of going deeper into space were in line with that spirit and with the spirit of the Committee.

22. The Committee considered the proposal contained in conference room paper A/AC.105/2022/CRP.14.

K. "Space2030" Agenda

23. The Committee considered the agenda item entitled "'Space2030' Agenda", in accordance with General Assembly resolution [76/76](#).

24. The representatives of Argentina, Austria, China, Germany, Indonesia, Japan, Kenya, Norway, the Republic of Korea, Switzerland and the United Kingdom made statements under the item. A statement was also made by the observer for the Square Kilometre Array Observatory. During the general exchange of views, statements relating to the item were also made by representatives of other member States.

25. The Committee heard the following presentations:

(a) "The National Commission on Space Activities (CONAE) education programme", by the representative of Argentina;

(b) "Lunar Polar Mission LUNA-25", by the representative of the Russian Federation.

26. The Committee welcomed the adoption by the General Assembly, in its resolution [76/3](#), of the "Space2030" Agenda and its implementation plan as a high-level political document that showcased how space activities could contribute to the achievement of sustainable development goals, the broad societal benefits of such activities and the essential role of space technologies and applications and space-derived data in furthering economic growth and prosperity for the international community. The Committee also commended the work of the Bureau of the Working Group on the "Space2030" Agenda and the secretariat in facilitating the finalization and adoption of that milestone document.

27. The Committee noted the emphasis of the "Space2030" Agenda on strengthened partnerships and cooperation among Member States, United Nations entities, intergovernmental and non-governmental organizations, industry and private sector entities in order to ensure that, through joint efforts and by taking advantage of the practical experience and contributions of different stakeholders, the benefits of space were brought to everyone, everywhere. In that regard, the Committee also noted the importance of partnerships and concerted efforts to bridge the gap in the use of space-derived data for planning and decision-making in developing countries.

28. The Committee noted that, in implementing the "Space2030" Agenda, States contributed to and benefited from a number of space-related international and regional mechanisms, programmes, projects and platforms, as well as from tools and initiatives that had been developed or were being developed by the Office for Outer Space Affairs (see General Assembly resolution [76/3](#), paras. 24 and 25).

29. The Committee noted that the actions listed under the four overarching objectives of the "Space2030" Agenda, which were structured around the four pillars of space economy, space society, space accessibility and space diplomacy, had been taken by several States as part of their national space programmes and plans with a view to increasing the economic benefits derived from space, strengthening the role of the space sector as an important engine of sustainable national development, increasing the participation of various sectors of society, industry, academia, researchers and end users, and facilitating the integration of the space sector with other sectors.

30. The Committee also noted that the “Space2030” Agenda contained a strategic vision that addressed key areas and objectives of the future work of the Committee, its subcommittees and the Office for Outer Space Affairs, as unique forums for international cooperation in the exploration and use of outer space for peaceful purposes, for fostering dialogue among spacefaring and emerging space nations and for promoting the increased involvement of all countries in space activities, including through capacity-building initiatives.

31. The Committee welcomed the intention of Paraguay, in its capacity as Chair of the Scientific and Technical Subcommittee, to seek the inclusion of a reference to the “Space2030” Agenda in the ministerial declaration of the high-level political forum on sustainable development to be held in July 2022, as follows: “The ‘Space2030’ Agenda and its implementation plan, adopted by the General Assembly in its resolution 76/3, represent a forward-looking strategy for reaffirming and strengthening the contribution of space activities of States members of the Committee on the Peaceful Uses of Outer Space in the use of space tools for the achievement of the Sustainable Development Goals”.

32. The view was expressed that the “Space2030” Agenda was important for several countries, as it also aimed to promote and strengthen the use of outer space for a sustainable ocean economy.

33. The view was expressed that Member States and other donors should consider providing sufficient means to the Office for Outer Space Affairs so that it could fully and effectively implement its mandate and support Member States in the implementation of the “Space2030” Agenda.

34. The Committee noted that, as part of the Space for Women project of the Office for Outer Space Affairs, the Space for Women expert meeting would be held in Daejeon, Republic of Korea, from 16 to 19 August 2022, and that, building on the results of the previous year’s expert meeting, organized by Brazil and the United Arab Emirates in cooperation with the Office, a survey would be conducted to take stock of the current levels of female representation in space agencies and institutions around the world.

35. The Committee further noted that the fourth World Space Forum, aimed at strengthening partnerships and dialogue among the global community to support the implementation of the “Space2030” Agenda, would be held in Vienna from 12 to 15 December 2022 and be organized by Austria and the Office for Outer Space Affairs.

36. The Committee noted that the Office for Outer Space Affairs intended to make the “Space2030” Agenda and implementation plan available as a publication in order to increase its visibility and outreach to a broader international community.

37. The Committee noted that States were encouraged to continue to report on the implementation of the “Space2030” Agenda, also taking into account that the Committee would carry out a midterm review of progress made in implementing the Agenda in 2025, and a final review in 2030, and report to the General Assembly on the results.

38. The Committee recalled its decision to retain the present item on its agenda for each session through 2030 in order to allow for an exchange among States members of the Committee and its permanent observers on their experiences in implementing the “Space2030” Agenda and implementation plan.