

## **Keynote statement: The World Space Forum 2019**

### **21 November 2019**

Simonetta Di Pippo

Director, United Nations Office for Outer Space Affairs (UNOOSA)

Excellencies, distinguishes guests, colleagues, ladies and gentlemen,

I see plenty of familiar faces but also many new ones – a great sign that the awareness and importance of space is growing. We, at the United Nations Office for Outer Space Affairs, have timely identified the need to facilitate discussions among the increasing number of space stakeholders.

This is why we started the series of the High-Level Forums in 2016. Building on the success of the three HLFs, we have decided to take another step in exchanging views on the role that space plays for a better world. This first inaugural World Space Forum has been a great success so far, and we are honoured to see an even more diversified audience.

It is especially the last decade that have boosted the space sector to new levels. We experienced many significant changes and many milestones for human spaceflight and robotic exploration. For the first time we orbited Mercury and an asteroid, we managed to land on a comet, fly close to Pluto and the Kuiper belt object Ultima Thule, cross the heliopause, discover thousands of exoplanets, or uncover the evidence of water on Mars and several moons in our cosmic neighbourhood. We collectively, the space community, processed the first image of a black hole, confirmed the first interstellar object in the solar system, and landed rovers on Mars and on the far-side of the Moon.

And the 2010s is equally a decade of great success for the commercial space sector. The International Space Station was for the first time re-supplied in a fully commercial mission, reusable rocket boosters are now a reality, we have moved closer to space tourism, companies have a growing business in the launching industry, private entities from both traditional and emerging spacefaring nations launched more satellites than ever.

And the very value of commercial sector is breaking records, currently representing around 80 percent of the whole industry. Private investments in the past three years reached highs both in size and number, dwarfing those done before 2015. Overall, space industry is worth more \$400 billion and several analysts expect further growth, seeing space becoming another trillion-dollar industry by 2050.

And what is perhaps the most notable change is the growth in the number objects launched to outer space. In total, more than 8,800 found their way to the Earth's orbit and beyond since 1957 with almost 25 percent launched only since 2013. With the upcoming megaconstellations, thousands more satellites might orbit the Earth in not so distant future.

These developments are certainly a positive sign for the success of the space sector. Yet, we cannot forget that many space objects stay in orbit for years, and in some cases decades. At the UN level, stakeholders have warned about the issue of space debris since the 1970s and its growing population is making case for a new approach. One thing is obvious, space is a limited resource – unregulated space activities might sooner or later lead into problems.

Spacecrafts in some cases represent billions of dollars in investments. And we cannot forget human crews – be it on the ISS, other planned stations or the future crewed missions for space exploration. The potential risks for conjunctions of functional spacecrafts with other objects is growing and the damage to one object could have strong implications for a wider community. In the worst-case scenario, collisions may render orbits unusable for decades.

Growing number of satellites also represents a challenge to the registration practices. The obligation to register satellites stems from the international space law, and in particular the Registration convention, and it represents the means of identifying which States' bear international responsibility and liability for space objects. In the quick-paced environment that space has become in recent years, registration practices require improvements.

In similar fashion, novel activities such as space tourism or extraction and utilization of space resources exert additional pressure to the already challenging regulatory environment. To maintain space safe, secure and sustainable, there is an increasing urgency on part of the policy-makers to develop and agree upon appropriate measures.

While there are no simple answers when it comes to regulating and governing such a complex environment, the need for stronger integrity and responsible behaviour is apparent, not only for space exploration but for the future of millions of species on Earth, including our own.

Why is it so important? Space has become an indispensable tool for our very way of life, and we cannot risk losing the benefits it offers, not even for a short-period of time. We are closing in on 2020, a decade that will decide the future of this planet. Addressing global challenges that we are collectively facing requires utilization of all available assets and space is one of the key tools we have available.

To adopt the right policies, and to implement tailored and effective legislation we must be able to harness the power of new technologies so that the decision-making processes can be as well-informed as possible. In this regard, the transformative nature of space makes it truly a game-changer.

Satellites are key for addressing climate change as they improve our knowledge of the natural phenomena. This is very well illustrated by the fact that more than half of the Essential Climate Variables (ECVs), which provide the empirical evidence and more accurate predictions of the evolution of climate, are dependent on space.

The management of natural and technological disasters in all their phases also benefits considerably from space assets. Remote sensing data enable modelling and weather forecasting, helping to predict disasters and provide early warnings. Satellites offer reliable tools for communication, and space imagery and positioning tools become vital for relief and recovery, assessing damages, facilitate first-aid delivery, or locate those in need.

And space infrastructure contributes to diplomacy and international relations – helping maintain international peace and security, monitoring compliance with treaties and agreements, and representing an arena in which states have historically succeeded in overcoming disputes and work together for the common good.

Overall, space has transformed many industries and become instrumental for precision agriculture and food security, water management, trade and financial services, transportation and travel, tele-health and education, and sustainable development at large. More than 40 percent of the 169 targets that are underpinning the 17 Sustainable Development Goals are benefitting, in one way or another, from the utilization of space.

The very importance of space for humanity has compelled the international community to act. The discussions on the changes and challenges in this frontier field have been on-going for decades and are ramping up as of late, with space being increasingly perceived as a global commons and as a limited resource which needs to be safeguarded now and in the future.

The United Nations, in this regard, has taken advantage of its convening power to bring together the Member States to discuss the peaceful uses of outer space since the 1950s. Through the General Assembly, the Committee on the Peaceful Uses of Outer Space (COPUOS), the Office for Outer Space Affairs (UNOOSA) and other relevant entities, we are together ensuring inclusiveness in the debates that influence the global community.

The Committee has been instrumental in developing the rules of the game in the form of five UN treaties and five principles, together with various measures of different nature, including the recent Guidelines on the Long-term sustainability of outer space activities, and the Space Debris Mitigation Guidelines.

And Member States are increasingly seeing the importance of taking part in COPUOS, driving its from 76 five years ago to 95 by the end of 2019, bringing COPUOS to be the fastest growing committee in the United Nations. Likewise, the number of permanent observer organization has risen to 41. Still, we need to be more open and inclusive

Here, UNOOSA steps in and through its unique position in the UN and in the space environment serves as the broker of international cooperation. In 2016, to facilitate constructive dialogue and connect space stakeholders, UNOOSA launched the series of High-Level Forums held twice in Dubai, UAE and last year, we welcomed the global space community in Bonn, Germany.

The HLFs provided a unique opportunity to address the impact of integrating economic, environmental, social, policy and regulatory dimensions of space towards global sustainable development. The discussions in these three years have intended to shape and position space activities as drivers for innovation, development and diplomacy for a sustainable future.

2018 alone was a very exciting and significant year as we celebrated the 50th anniversary of the United Nations Conference on the Exploration and Peaceful Uses of Outer Space with UNISPACE+50, bringing to Vienna more than 800 participants from around the world.

UNISPACE+50 provided a great opportunity for the international community to consider the future course of global space cooperation for the benefit of humankind. It is therefore important to build on the outcomes of it and take advantage of the momentum it generated to ensure that the current exchanges fully capture the political, legal and capacity building elements of international cooperation in space exploration.

The World Space Forum, as the next-generation holistic platform, builds on the recommendations collected over the years. The goal is to leverage space technologies to their full potential to achieve sustainable economic and social development globally.

Ladies and gentlemen,

The next 10 years will be deciding for the future of humanity. Two thirds of the world population will soon face water shortages, over 820 million people are undernourished, our oceans are warming, and the CO2 concentrations are at levels not seen for three million years. This is not the world that we wish to leave for our children and grandchildren to inherit.

To change the course of history, key tools must be made available and utilized in order to succeed in preserving the Earth, its beauty, its resources, the atmosphere, the oceans, and the biodiversity. Space indeed falls into this realm. Expanding access to space benefits to UN Member States is one of the key mandates of UNOOSA and we are making a real difference through our dedicated capacity-building activities, including the flagship Access to Space for All initiative.

However, the UN must also promote responsible behaviour in space. Established actors and new actors alike must abide to the existing rules of the game and the international community must remain committed to developing policies and agreements which are in the best interest of everyone.

To ensure that all nations conduct space activities in a manner consistent with responsible use of space for peaceful purposes, UNOOSA has launched a dedicated project “Space law for new space actors”, thanks to the great support from the Government on Luxembourg. Through the project, we will support new stakeholders to comply with the existing instruments falling under the scope of space law.

The future in space is indeed promising and the list of things we can achieve through space is ever-growing. To enjoy these benefits, a safe, secure and sustainable space environment is a must. Only if we provide appropriate venues for the voice of all relevant stakeholders, both in and out of the space sector, to be heard, then we can truly make most of what space is able to offer. Space will help us define the future for generations to come, and it is us, who is responsible for ensuring that they inherit a sector in which all stakeholders play by the book.

I do hope that you enjoyed the discussions in the first two days, and I wish you a successful and productive time in this second part of the first World Space Forum. And remember the words of the famous author Bertrand Russell “The only thing that will redeem humankind is co-operation”

Thank you.