

UNISPACE+50: High Level Forum “Space as a Driver for Socio-Economic Sustainable Development

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Discussion Session 1: Space Economy

**Introductory Remarks
by
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When the General Assembly adopted the 2030 Agenda in late September the document made no reference to outer space, but it is probably clear to all of us here that the 17 ambitious sustainable development goals will not be met without help from space technology.

Even space technology will be inadequate without careful attention to how we will coordinate our decision-making about sustaining space activity and ensuring the broadest possible access to its fruit.

Many of the 17 SDG’s stand out as natural candidates for employing space assets and space-facilitated services. Agriculture, fisheries, environmental management on land and sea, tracking of vector-borne diseases, energy development and conservation, infrastructure resilience, climate research, community planning, and disaster mitigation are all elements of SDGs that are already being advanced by space enabled technologies.

But to stay within the ten minutes allotted and to remain true to the space community’s tradition of addressing the hardest of problems, today I will focus on SDG-1: “End poverty in all its forms everywhere.”

To make any progress against poverty we will not only have to broaden access to life’s essentials, but in the face of rising populations we will need to create value as well.

There are several ways in which space-enabled technologies and services can address poverty directly.

Going forward in the 21st Century, access to powerful communications capabilities and modern computing power will have much to say about the way in which wealth and economic opportunity are distributed. With the classic infrastructure required by these capabilities, the barriers to access were formidable. Increasingly space assets are capable of providing such access without requiring nearly the same level of terrestrial investment.

The spread of cellular telephone technology in less developed countries has benefitted from the use of satellite timing signals to synchronize cell towers and has avoided a huge cost in

the installation of landlines. At the same time projects such as O3B and OneWeb hold the promise not only of connecting the poorest 40% of the human population to broadband internet access but also, through that access, to remote, terminal based, cloud computing.

The capacity of space assets to facilitate access to communications and computing will play an important role in any effort to ensure equitable access to these important means of production in the future.

As important as this improved access to communications and high powered computing will be, they may only complement the potential existing in the much more basic computing power in which many developing countries have already made substantial investments.

This may be particularly true in addressing the “too much data to handle problem.” With current satellites, ground based observatories and spacecraft generating enormous amounts of data, many developing countries may find that their quickest route to providing value added, job-creating services in the space sector will pass through the use of personal computers and development of innovative algorithms to turn that data into useful information.

International interest in space activity and its potential benefits is now widely distributed. Until recently space activity was often viewed as the province of a few wealthy states.

COPUOS was founded with just 18 member states, today it numbers over 80. An even larger number (100) are members of the Group on Earth Observations.

An impressive 68 countries and institutions have registered space objects with the UN Secretary General as required under the Registration Convention. Without a doubt the distribution of space activity has broadened considerably since the space race of the 1960's.

Nonetheless, equitable distribution of access to the powerful economic engine space has the ability to be will not be sufficient to weaken poverty's grip if the predicted expansion of human population toward the 10 Billion mark by 2100 proves accurate.

To be useful in this case, space technologies will need to be able to create value not just distribute it. They will need to underwrite job growth while simultaneously avoiding additional stress to an environment already taxed by growing human activity. Here there is both encouragement and cause for concern.

Several industries and millions of jobs dependent on the space sector exist today that were completely unknown just a few decades ago.

Satellite broadcasting and communications satellites have enhanced economies and created job opportunities around the world. With economic activity conservatively measured at around \$200 Billion US, these services have multiplied their value creation in related activities ranging from content providers to mobile phone entrepreneurs in remote villages.

Open access to navigation and timing signals has nourished new industries from personal navigation devices to precision transaction recording in the financial services industry.

Earth observation data sharing has spawned new markets for data analysis, planning services, and resource management while also helping to protect infrastructure and human lives by preparing for and responding to disaster. It has also facilitated precision farming and construction.

Challenges also exist, however, that will need to be addressed as we seek to determine the kind of structured cooperation that we will need to prevail in the use of space and the opportunities it presents to overcome poverty in the decades to come.

Perhaps the biggest of these will be the challenge of achieving agreement on how to resolve conflicting claims on mineral resources in space.

While much attention will focus on arguments over marketing rights and revenue sharing, the impact of potentially huge imports of extraterrestrial raw material on earthbound terms of trade may be an even bigger issue in the effort to end poverty.

Many countries have earned the foreign exchange necessary to complete major infrastructure investments by marketing the production of their mines and quarries. If prices of these products were ever to fall dramatically, it could have disastrous economic consequences for countries dependent on them for their livelihood.

Although few business plans seem to call for large scale importation of space-sourced primary material in the near future, the rapidly growing interest in space mining may accelerate its development unpredictably.

Another challenge is looming in the allocation of geosynchronous slots. These Clarke orbit positions are valuable resources limited in quantity by the laws of physics. As current allocations expire, we can expect competition between those who have held them for many years and those whose capacity in space technology is just now arriving at a point where independent exploitation of them is becoming possible.

Arguments advocating the global value of operational experience will jostle with those opposing the principle of “first come first served,” and they will need to be reconciled recognizing that both equitable distribution of access and unbroken availability of value-creating services will need to be preserved if SDG1 is to know any success at all.

Lastly we will need to pay close attention to the availability of radio frequency spectrum equal to the challenge of gathering and distributing critical data through space assets. Terrestrial competition for that spectrum is growing and it is well funded.

As we turn our attention to input from our panel, let’s keep in mind that even though our efforts may have gone unmentioned in the 2030 Agenda, our success in preparing for UNISPACE +50 may well supply the cornerstone for the Agenda’s success.

Remember as well that as much as calling space “congested, contested and competitive” is accurate, we can also think of it as “congested, contested and INVESTED.”

Not only have countries and commercial entities invested financial, human and intellectual resources in space assets, they have also invested hopes, expectations and aspirations for the better world we all hope to build.