Perspective for establishment of COPUOS 18thSDG expert working group.
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Abstract

To date the 18thSD holistic rationale provides a conceptual basis which is subject to determination through the process of State sponsorship for establishment of a COPUOS expert working group. This organism might be considered as the succeeding entity of the 2030SpaceAgenda. It may in fact extend the 2030 commitments to include not only terrestrial "downstream technologies" data and information for 17SDG applications, but also "upstream technologies", space industrialization at large, debris mitigation and removal techniques, living in space and the lunar settlement programs. The descriptive parameters of the 18thSDG inquiry may be fairly extensive or they may be more limited in scope. The 18thSDG can be offered as an optional non-regulatory framework, under the durable auspice of the Outer Space Treaty. It would be enabled through the participation and subscription of many parties, governments, agencies and providers. An 18thSDG mandate would not implicate the discretionary powers of States for space operations. Neither would it seek to adopt particular or additional legal and regulatory eventualities which remain within the purview of the PAROS and OST compilations. In reality the open ended functionality of the 18thSDG would trend towards collaborative international venture, the progressions of a space economy and the themes of an excellent space diplomacy. Because both COPOUS recommendations and UN treaty based structures are established through consensus, and because an ensuing consensus might represent agreement for the placement of an 18thSDG framework to address space based issues at large, rather than a revisionary basis or the more tangible delivery of subscription/partnership prospects in early phases, it is essential that an equitable policy making initiative be considered as part of the 18thSDG formulation at onset. However, even given the open ended and non-invasive aspect of the invitation, the 18thSDG may become highly influential within prospects for the consolidation of international space usage. The design oriented basis of the 18thSDG perspective will offer comprehensive availability for space based alignment towards extensive international purviews. A short path perhaps but a necessary one, as the rapidly expanding fields of space development and space industrialization continue to act for a transformative global paradigm, and the newer pathways towards "Peace in Space" are actively sought out and carefully demonstrated.

Paper

The UN fora on Outer Space are considered by all nations as the primary venue for consolidation of the upcoming space development issues. In particular the open framework of the COPUOS engagement allows all States to clarify their concerns, their official policy and to make clear and effective statements on behalf of national interests. The participation of NGO's also allows a measure of civil society engagement and the presentation of innovative concepts that may fall outside the scope of prior and traditional orientations.

The 18thSDG represents one such concept, it is an initiative that emerges from civil society, non - political in nature, which may address growing structural and organizational complexities around space usage going forwards. Simple values have immediate impact, yet space issues are multifarious representing not only highly sensitive technologies but also the investment of nations into future engagements and economic potentials. Much has already been achieved by COPUOS in clearing the way for a cohesive and holistic global space governance potential, and most obviously

much more will be achieved. Notable expert working groups have covered significant issues such as the effective decolonization process within the early stages of UN development. More recently several expert working groups have been established for the evaluation of key areas such as a regulatory framework for the extraction of lunar resource, a global framework for space situational awareness and traffic management, and the wholesale usage of AI technologies. This newer generation of UN working groups is operating within a much shorter time frame, in part because of the rapid speed of technological progression. While early evaluations have taken up to ten years to mature, recent AI findings and subsequent reports were achieved in less than three years. Once established an 18th SDG expert working group could reach a valid conclusion within a similar duration.

The membership of an expert working group is formulated through an invitation to all states to equally participate, therefore it represents the basis for international consensus. Space Renaissance International is requesting that a dedicated expert working group be established to analyze the 18thSDG potentials, what benefits it could offer and what are the drawbacks. Although as an observing NGO, SRI cannot itself implement the establishment of a working group, a program of this type can be brought forwards by a State sponsor. Therefore, SRI is actively seeking such endorsement as the preliminary step. The viability of the 18thSDG is not yet known. Although the 18thSDG "Space for All" is a feasible and logical proposition, the clear rationale underlying such a request needs to be demonstrated and brought forwards. To this ends SRI is continuing to provide capable presentations on the topic and to generate papers that will inform COPUOS delegates of the immediate value of the 18thSDG framework. Several themes become apparent.

A non-regulatory basis

The non-regulatory basis of the 18th SDG framework is a fairly unique concept. It is the case that expert analysis for technological usage is typically directed towards the verification of legal and structural parameters. On the other hand, humanistic criteria are often evaluated through more general types of undertaking, including the placement of mutual agreements rather than specific and binding regulations.

The 18th SDG intersects the rationales which underly both types of methodology. Many states may be reticent to enter into legal obligations in respect to outer space free usage. A clear case can be made within the short term for those issues that will directly involve the viability of the orbital arena, such as debris mitigation and removal, and civilian broadcast band allocations. Even so is apparent that further phases of space industrialization which involve sensitive issues such as satellite maneuverability and servicing, solar energy assets and quantum and communications development are considered influential themes that will involve national objectives within a competitive arena. Longer term outlooks for the latent potentials of emerging space technologies are considered to be indeterminate and highly variable depending on the speed of development of innovative assets and the interrelated political and economic climates. Because of the incremental nature of further space industrial configurations, future outlooks will fall mostly to generalized international policy orientations. It can be said that wholesale potentials cannot be determined by immediate and constraining sets of legal specifics, although reliance on policy making themes will allow legal principles to be effectively demonstrated. Therefore, we consider that a non-regulatory framework, would offer an adaptive dimension that can accommodate many facets of the space development progressions going forwards. An outline of the issues addressed by the 18thSDG would naturally include not only the ethical objectives for peaceful and compatible international

usage dimensions, but also mechanisms for participation, interchange and partnerships thereby fulfilling the criteria for a well-structured, balanced and properly oriented international space policy dynamic.

Subscription and participation

An expert working group on the 18thSDG can be established within the near term. Depending on accepted State sponsorship of the initial proposal, this organism would then be formally described by UNOOSA through an outlined compilation and an invitation to all state parties to contribute expert participants for the terms of the study and the preparation of the necessary reports. An official agenda and schedule will include the various topics under consideration, which may be subsumed into several key categories. ie: The attributes of an 18thSDG in terms of facilitating the COPUOS fora for the terms ahead. The potential for UNOOSA and US departmental participation within 18th SDG parameters. Additional potential for States and international organizational participation. The construction of an 18thSDG, design and orientation. Commercial providers as a supporting partner.

It may be considered that the 18thSDG represents a highly expedient outlook within expansive space usage parameters globally. The burden of an expected growth in demand for essential services such as launch registration, situational awareness and orbital notifications must be met through the internationally mandated UNOOSA mechanisms. Additionally, the ongoing formulation of the upcoming lunar program and the progress of cis- lunar industrialization will create many further levels of inquiry and essential interchange. All levels of a forthcoming space usage including unique broadcast allocations, both space to space and space to earth, will continue to create pressure for specific UNOOSA uptake, while constrained UN budgets continue to limit the availability of analysis and implementations. In bringing forwards an underlying holistic and universal policy orientation within the 18thSDG operational basis, a suitable way out of the fragmented nature of space development paradigm can be assumed.

A mutable policy orientation is key to understanding the 18thSDG potentials. This can be described as comprising several layers of interrelated dialog. Firstly, the necessity for space usage to address the terrestrial 17SDG objectives. Such a formative technological process is already well addressed by states across the world and is considered to be a leading orientation for global space development. Secondly the themes of international space exploration and settlement, acting as an inspirational and humanistic narrative with particular relevance for the lunar settlement programs. And thirdly, the dimension of cis-lunar industrialization bringing enormous import for the research and development of highly advanced technologies, with particular relevance for economic progressions and the themes of global security aspects.

The methodology of an 18thSDG

While recent events within the fields of artificial intelligence have posed the rapid reform of global technological purviews, AI usage remains controversial and it is generally agreed that although such tools offer immense value for capable organizational structures, they cannot be assumed in any sense as replacing essential humanistic assessments and ethical objectives. We generally agree with such insights which are also the subject of a critical UN analysis going forwards. However, given that AI collations can rapidly inform a large database, it seems reasonable to assume that the adaptation of AI process would be considered within extensive 18thSDG structural progressions.

The usage of outer space for terrestrial development, such as industrial, agricultural and economic progressions may be approached in several ways, through commercial indications, such as mass communications and through governmental and intergovernmental features. These potentials will naturally orient around the capable collation, analysis and distribution of data -based informational assets, thus eventually formulating as a technological noosphere reaching all parts of a global society. Other uses of AI in space based formulations are apparent, for example as an effective resource for crisis containment and mitigation, and within evolving national and global security structures and the immediate interchange mechanisms. In reality formative concepts that are emerging, such as AI informed space based data servers may presently become everyday realities carrying all the contingent responsibilities. Nearer and perhaps more pertinent considerations are apparent. Cyberspace, the global medium of international interchange, is to some extent already compromised, although it is an essential operational component of the global security structure.

In order to create better focus for such far ranging issues, it would be appropriate to evaluate several sides of the political and economic equations, as they pose serious societal implications. Artificial Intelligence, a theme for global development, being taken as a pervasive background, the other part of such an evolutionary issue is related to the security aspects. These two dimensions are not only interrelated, but they are also in some sense oppositional. While it is appreciated that a national developmental objective may hold priorities over an internationalized expectation, dramatic potential for the highly advanced space technologies that lie ahead are necessarily being construed within a fraught political environment and a competitive economic basis. In particular several key scientific fields have already been indicated through wholesale proposals such as US Golden Dome. Namely the development of advanced ultra-fast space based communications through laser beaming, and the parallel development of quantum based instrumentation. These attributes together with the objectives for space solar energy comprise a basket of interrelated inquiries that may have profound influence within political ventures impacting civil societies. The ramifications of the developmental/ security oppositional dynamic will extend into many arenas including the bespoke application of physical and applied sciences, yet these attributes are clearly subject to international evaluation at many levels.

It cannot be expected that a multitude of issues will be resolved with the near terms, however the placement of a generalized and holistic space policy and rationale through the 18thSDG configuration will yield the worthwhile basis for future purpose. Most keenly the role of international diplomacy will be foremost in negotiating upcoming determinations. The Outer Space Treaty provides a durable basis for the phases ahead. Rather than any attempt to rework the extant OST in order to mesh together newer outer space frameworks, an 18th SDG could serve such original purpose, providing opportunity for dialog and participation and the unfolding narratives for global space governance. The design based orientation of the 18th SDG offers many pathways towards international collaboration and consolidation. In particular the balance between downstream technologies space to earth and upstream technologies earth to space can be thoughtfully employed. An internationalized lunar settlement program will rapidly open up international interchange and political orientations. The exposure of cis-lunar industrial development will likewise offer a tangible vehicle for progressive space development and equitable educational and economic outlooks. Within this orientational framework we might see not only the active role of governments and space agencies, but also the normative engagement of global space commerce and civil society advocates around the world. Such open ended and comprehensive dimensions could not have been envisioned before the turn of the millennium in

2000, but the past few decades have brought home the substance of exponential utilitarian purpose. This being the technological ability for a design based framework for space usage, a theme which was perhaps presaged by the CERN inquiry as the largest web based analytical tool. Even so such a design basis should not necessarily be construed as larger or smaller, effective modern tools can operate at many levels, allowing inquiry for individuated specifics as well as more general oversights and analysis. The secured technological ability of the 18thSDG is considered as a secondary or incidental function, while its primary functions remain within the hands of the COPUOS delegates, UOOSA and the UN. The 18thSDG design basis can be negotiated through the findings of the 18th SDG expert working group and the placement of mutual consensus, as with all other parameters.

We might envision the 18thSDG as a suitable node for space utilization information, something which is both useful and inventive. A source that verifies the safety and durability of the orbital reaches, and the means to access such resources. Its true value perhaps lies in the several manifestations of an ensuing productivity, the inspiration of the historic lunar settlement program which reaches all mankind, the effective interchange of governments around the world for collaboration in space and the gradual development of a capable and non-invasive global space security paradigm.