

**First Consultative Meeting of the EU Non-Proliferation Consortium  
("Kick-off-Meeting")**

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**3. Session: Space and Missiles**

9:00 – 10:15

**Space: Options for Arms Control?**

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Apart from a number of experiments, militarisation of space has not yet taken place in the sense of weapons deployment and their use in space and from space. The existing international legal instruments concerning outer space do, to some extent, prohibit and restrict the deployment of weapons, the use of force as well as military activities in outer space and celestial bodies. However, this framework seems to be inadequate for preventing an arms race in outer space. This is why the discussion on which could be the options for arms control in outer space is evoked.

The main challenge is the growing spectrum of threats against space objects. Space capabilities are a critical component to economy and to national security, which largely depends on space; this dependence on space assets creates vulnerability to threats to space systems, services and operations. Space access is more widely available to non-space-faring nations, while small satellite technologies add more protection challenges.

Hence, the importance of the space situational awareness (SSA): space objects tracking, identification and cataloguing become more and more important. Where are the man-made objects in orbit? What are they and who owns them? What are their functions and their current operational status? SSA can be realized through optical systems or radar systems. While optical systems are widely available and used around the world, still they are limited by weather and lighting conditions. Radar systems, which provide all-weather and day/night capability, are available, but not widely used because they can be very expensive.

Space objects and technologies that can be used for aggressive purposes are not necessarily arms. Space objects can be used as armaments or weapons: it is a matter of *intent*. Thus, the easiest method for disabling a satellite is jamming with very simple devices. Furthermore, every SATCOM transmitter is potentially a jammer. Then, we have *lasers*, which can temporarily dazzle sensors or permanently blind them or create structural damages, or *direct ascent ASAT* (Anti-satellite technologies). For direct ascent ASAT, space is equivalent to a surface-to-air missile that can intercept an aircraft. Advances in small satellite technology provide greater opportunities for orbital ASATs.

Another feature of contemporary issues concerning arms control in outer space is the growing dual use of space objects, both civil/commercial and military. Commercial SATCOM are heavily integrated into military communications infrastructure and used for beyond-visual-range control of unmanned aerial vehicles. Denial of commercial SATCOM could have serious consequences for military, governmental and civilian sectors.

Considering these threats and the need to sustain and protect critical public and private space infrastructures, the *options* to be chosen should be appropriate and consistent.

The first option is the binding norms option, which might take different forms: the revision of the existing legal setting or the conclusion of a new treaty. Let me consider briefly the revision of the five UN existing treaties on outer space, which have ensured until now the peaceful exploration and use of outer space, but which are aged treaties (1967-1979). They have no institutional framework and they rely only in the UNGA and COPUOS. Furthermore, they are far from being universally accepted.

The 1967 Treaty on Principles Governing the Activities of States in Outer Space Treaty (OST) ranks outer space, including the Moon and other celestial bodies, among the *res communis omnium*, subject to the principle of non appropriation. The leading rules are freedom of access, freedom of exploration and (diligent) use, the principle of the exploration and use of outer space as the province of all humankind. The Moon Treaty of 1979 goes beyond, qualifying the Moon and its natural resources as the *common heritage of mankind*, to be submitted to an international mechanism of supervision in case of exploitation. This difference

apparently explains why the OST has been ratified by 101 States, while the Moon Agreement only gathers 13 Parties.

The OST mentions in the preamble that outer space will only be used for peaceful purposes. The notion of “use for peaceful purposes” has been interpreted, according to a uniform and not contested practice of the space faring nations, as including scientific, civil and/or commercial, as well as some military uses.

The key provision is Art. IV of the OST, which commits States not to place *nuclear weapons or other weapons of mass destruction* in orbit or on celestial bodies or station them in outer space in any other manner. For the Moon and other celestial bodies, Art. IV deserves a stricter regime: the establishment of military bases, installations and fortifications, the testing of weapons and the conduct of military manoeuvres on celestial bodies is forbidden.

Still one issue is unclear: whether the prohibition of Art. IV of the OST includes or not space objects which only transit through outer space for sub-orbital flights, such as ballistic missiles with nuclear warheads. Furthermore, it is asked whether such provision prohibits the deployment of conventional weapons in orbit, such as anti-satellite weapons. Some argue that the prohibition of Art. IV is to be interpreted as referred to the placement in orbit of space based devices that have a destructive capacity and that increase the capability to conduct aggressive warfare in, from, or through space.

In this regard, we should consider that the legal regime set out by the OST is *not self contained*. Art. III provides that the States parties shall carry out activities in the exploration and use of outer space in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international cooperation and understanding. This means that States behaviors amounting to any threat to the peace, breach of the peace, or act of aggression are prohibited, and that the use of force is admitted only in self-defense according to Art. 51 of the UN Charter, or in case of an authorization by the Security Council acting under Chapter VII.

Other relevant provisions of the OST are: Art. IX, which provides for consultations in case of potentially harmful interference with activities of other States in the peaceful exploration and use of outer space; Articles X, XI XII, which set out that States should consider on the basis of equality "any request for permission to observe the flight of space objects they launch into space", that space installations in the Moon and other celestial bodies be visited "following an honouring request and on the basis of reciprocity" and appropriate information about space activities be provided to the Secretary general of the United Nations.

Among treaties concerning disarmament, we can also mention the 1963 Limited Test Ban Treaty, which prohibits nuclear tests and any other nuclear explosion in the atmosphere or outer space. The 1972 now-defunct ABM Treaty was the most restrictive treaty, limiting the U.S. and Russia each to a single ground-based ABM site. As long as it remained in force, the ABM Treaty greatly complicated any attempt to place weapons in orbit. In June 2002, the Anti-Ballistic Missile Treaty was abrogated by the US, arguing that Treaty would restrict testing for their proposed missile defence system.

A conference for the revision of the 1967 Outer Space Treaty to fill the existing gaps could be envisaged in abstract, but seems practically unfeasible. The issues at stake would be: extending the prohibition of nuclear weapons and arms of mass destruction to section-orbital transits (ballistic missiles); and, broadening the prohibition contained in Art. IV to all arms or weapons, whether nuclear or conventional, including ground-based ASAT weapons.

The treaty option might also take the form of a completely new instrument, such as the draft treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force Against Outer Space Objects (PPWT) tabled by Russia and China on February 12, 2008. However, some elements render this initiative premature. Firstly, it contains a "territorial" delimitation of outer space at 100 km above ocean level of the Earth, a solution that most of the space faring nations are not inclined to accept; secondly, it does not prohibits explicitly the development of ground-based ASAT weapons (art. II) and, thirdly, it contains controversial definitions, such those of "space arm" and "space object". Thus, there is no prospect that a treaty will make quick progress

either at the Commission of disarmament in Geneva or at other fora, such as the United Nations General Assembly.

Between 2006 and 2009 the US opposed multilateral arms control initiatives on space. The National Space Policy of the U.S., delivered on June 28, 2010, says that "The US will pursue bilateral and multilateral transparency and confidence building measures to encourage responsible actions in, and peaceful use of space. The US will consider proposals and concepts for arms control measures if they are equitable, effectively verifiable, and enhance the national security of the US and its allies".

The option of the TCBMs and the adoption of a non-binding international set of rules seem indeed more fruitful and are gaining adherents. Since 2007, the European Union (E) champions a Code of Conduct for Space Activities, as its contribution to the resolutions of the UN General Assembly requesting for proposals concerning transparency and confidence building measures (TCBMs) in outer space. The reasons for avoiding a treaty are many: a general need for mutual confidence-building; the need to stimulate developments still in progress; the existence of an instrument that could help clarify malpractices and facilitate remedial action; the creation of a preliminary flexible regime providing for its development in stages.

What are the key elements included in the EU draft for an international Code of Conduct for Space Activities? It is built around the concept of no harmful interference with space objects and does not try to define what constitutes a space object and/or a space arm. The draft Code is aimed at bringing States to refrain from any action intended to damage space objects.

Furthermore, the draft Code embodies three key elements. The first aspect is the all encompassing scope of the Code. While other existing instruments deal with specific aspects, a systematic approach has been adopted to cover all dimensions of space operations, which are mostly dual use activities. The Code applies to military as well as civil operations in outer space. It provides for the establishment and implementation of procedures to minimize the possibility of accidents in space, collisions between space objects, space debris or any form of harmful interference with other States' rights. The all-encompassing scope is paralleled by the

wide spectrum of actors to which the Code is addressed, including States as well as public or (through States) private entities concerned with space activities.

The second aspect is the Code's focus on the preventive approach, based on a new understanding of the complex nature of the space activities and the uncertainties inherent in their management. Activities in outer space are per se ultra-hazardous activities. For this reason, they should be carried out with a high standard of care and due diligence, transparency and with the aim of building confidence. The third aspect is the dynamic nature of the Code, considering that the progress in implementing the Code will be monitored through the meetings of the Parties and that the Code will be revised and updated as necessary in light of the forthcoming developments. All Parties will collaborate in the fulfilment and implementation of the objectives and principles contained in the Code. If technical guidelines were necessary, this task should be fulfilled by the Diplomatic Conference to be held for the adoption of the Code and by the meetings of the Subscribing States.

However, the text does not include any provisions concerning the placement of weapons in outer space. The purpose of the draft Code is not to compete with or substitute initiatives dealing with this specific issue. On the contrary, the project complements and contributes to those initiatives, inter alia, by insisting on the importance to take all measures in order to prevent outer space from becoming an area of conflict and calling on nations to resolve any conflict in outer space by peaceful means.

The EU proposal is not in competition and does not aim at substituting to the Russia-China proposal for a legally-binding treaty. The EU suggests a Code of Conduct establishing a set of transparency and confidence-building measures and would not oppose to the negotiation of a legally-binding instrument in the CD.

Progress in 2011, namely the finalisation of the bilateral consultations, the holding of one or more multilateral meetings at the expert level, are the further steps that could finally lead to a diplomatic conference for the adoption of the Code of Conduct.