

# LEARN ABOUT NUCLEAR WEAPONS

## **Militarization and weaponization**

There is a big difference between militarization and weaponization of outer space. Space has been militarized since the first communication satellite was launched, and today armed forces all over the world rely on satellites for surveillance, warning systems, and navigation.

While space is heavily militarized, so far it is not weaponized. Space weaponization is generally understood as the placement into orbit of space-based devices with destructive capacity. The weaponization of space will destroy strategic balance and stability, undermine international and national security, and disrupt existing arms control instruments, in particular those related to nuclear weapons and missiles. These effects will inevitably lead to a new arms race.

Space weaponization would seriously disrupt the arms control and disarmament process. US ground- and sea- based missile defenses have already increased tensions with Russia. The deployment of US space-based missile defenses will likely cause Russia as well as the United States (in response to Russia), to make smaller and smaller reductions of their nuclear arsenals. China would likely build more warheads to maintain its nuclear deterrent, which could in turn encourage India and then Pakistan to follow suit (1). The disarmament efforts had problems during the Bush jr. administration, including missile defence programs in Europe and the Georgia battle, and many expected a revitalization with the Obama administration. But still the programs seem to survive (2).

Besides creating a new arms race, the weaponization of space means proliferation of space debris. Such debris, resulting from 50 years of space activity, already poses a considerable hazard to spacecraft. This crowding problem would worsen if a large number of space weapons were deployed in Low Earth Orbit (LEO). The launching and testing of weapons would also increase space debris. Moreover, deploying space-based weapons in the increasingly crowded realm of LEO would leave less room for civilian systems. Those problems would also occur during periods of peace. If a number of satellites were to be destroyed during the course of a war, some scientists warn they would create so much debris that it would prevent future satellites from being stationed in space and generally limit space access.

The UN Committee on the Peaceful Uses of Outer Space (UN-COPUOS) was set up

by the General Assembly in 1959 to review the scope of international cooperation in peaceful uses of outer space, to devise programmes in this field to be undertaken under United Nations auspices, to encourage continued research and the dissemination of information on outer space matters, and to study legal problems arising from the exploration of outer space(3). As of today (2010), the committee has 69 member states.

No country has yet deployed space weapons. In the 1980s, the US and the Soviet Union tested several different anti-satellite (ASAT) weapons, but, recognizing the grave threat that such testing posed to outer space assets, both superpowers ceased such tests well before the end of the Cold War. China broke this moratorium when it tested its first ASAT weapon on January 11, 2007 (4). China's use of an ASAT weapon to destroy a satellite raises a number of questions about Beijing's intentions in space. Beijing has appeared in the past to take the moral high ground with regard to space arms control. Chinese diplomats have called for controls on the weaponization of space for more than a decade, despite a lack of reciprocity from the United States. Sceptics have argued that Beijing is cynically using arms control as a ruse to hide its own military space program, while others argue that it is the billions of dollars the United States has spent on research and development in the military use of space that ultimately triggered China to move forward with ASAT development. A big danger with one state test launching ASAT weapons is the risk that others are tempted to follow suit. Thus, the Chinese demonstration has to be seen as a wake up call for common international effort in preventing an arms race in outer space.

### **Outer space use**

Ensuring that outer space is used only for peaceful purposes is a long held goal of the international community. Although the term "peaceful purposes" has never been clearly defined, it seems to be commonly understood that commercial, scientific, and development uses are included, as well as some military uses that do not entail deployment of weapons or other offensive technologies.

#### **Military use of space -**

Space has been militarized since the earliest communication satellites were launched. Today, militaries all over the world rely heavily on satellites for command and control, communication, monitoring, early warning, and navigation with the Global Positioning System (GPS). While the term "peaceful purposes" hardly applies to such activities, military applications such as using satellites to direct bombing raids or to orchestrate a "prompt global strike" capability are gradually encroaching on the outer space environment and have raised serious concerns.

**Commercial use of space** - Commercial expansion into space is a rapidly growing area of development and financial investment. Use of commercial satellites for communication, remote sensing, navigation, and television is growing faster than any other space sector, and its growth is forecasted to continue as demand increases for faster internet access, direct television, and wireless services. Deploying weapons in space threatens the security of satellites and of access to outer space for commercial and civilian use, but the commercial sector has remained pretty quiet in the debate about

weaponization of outer space. This might be explained by overlapping corporate military and commercial interests. Those companies that don't have any link to the military should be prepared to put pressure on governments and make it more difficult to neglect the danger of weaponization in outer space.

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*Scientific use of space* - At the core of all commercial and military space development is a legacy of scientific experimentation. Russia, Japan, Europe, and the United States have strong space programs, all emphasizing scientific discovery. The benefits nations derive from space science and an improved understanding of the earth and the universe lend weight to the need to prevent space weaponization.

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*Space and Development* - The Millennium Declaration, adopted in September 2000 by all member states of the United Nations, defines a key framework for global cooperation in the 21st century. Space-based technologies and space in a broader sense offer significant and unique solutions to many of the target goals set by the Millennium Declaration. Sustainable development requires an up-to-date and comprehensive information base to support planning and decision-making. Spatial data, acquired by either space- or ground-based means, is an increasingly important part of this information base. The Internet and satellite communication services allow for dynamic information sharing and exchange between partners in sustainable development, thus enhancing the benefits of complementary activities. For example, satellite images provide information about land cover, land use, difficult areas like forests, deserts and swamps, areas undergoing rapid environmental change, effects of natural disasters, impacts of pollution and war-torn regions. But in order for developing countries to be able to incorporate the use of space technology-based solutions, there is a need to increase awareness, build national capacity, and develop solutions that are customized and appropriate to the needs of the developing world.

## **Outer Space Treaty 1967**

The Outer Space Treaty of 1967 prohibits the placement of nuclear weapons and other weapons of mass destruction in orbit in outer space (5). Nuclear weapons testing in outer space is prohibited, and celestial bodies such as the moon and the planets may only be used for peaceful purposes. Even if the existing legally binding agreements limit deployment of weapons, use of force and military activities in certain parts of outer space to some extent, these are seen by some states as too limited to prevent weaponisation of outer space.

Scientific development and technological progress calls for strengthening existing instruments or negotiating new treaties. There is strong international support for establishing a firm set of norms on nuclear weapons in outer space. The UN General Assembly, throughout the years, has adopted a number of resolutions calling for negotiations on PAROS in the CD.

The Weapons of Mass Destruction Commission (the Blix commission) recommended a Review Conference of the Outer Space Treaty, to strengthen it and extend its scope (6).

Some states argue for a new treaty on the Prevention of an Arms Race in Outer Space (PAROS).

In 1974, negotiations on a Treaty on the Moon were completed, and the treaty entered into force in 1984. In practice, it is a failed treaty since it was not ratified by any nation which engages in self-launched manned space exploration or has plans to do so and thus have a negligible effect on actual spaceflight.

### **Prevention of an Arms Race in Outer Space, PAROS**

Through resolutions and discussions within the UN, a general agreement has developed that an arms race in outer space should be prevented. However, due to the structure of the international legal regime and the objections of a (very) few states, a treaty has not yet been negotiated to comprehensively prevent the deployment of weapons in space or to prevent an arms race in outer space. The United States systematically argues that an arms race in outer space does not yet exist, and it is therefore unnecessary to take action. The rest of the international community contends that now is the time to prevent weaponization of space, precisely because there is not yet an arms race in space (7).

### **Prevention of the Placement of Weapons in Outer Space, PPW**

Some experts have argued that PAROS is not the most appropriate treaty to pursue. Discussion in the Conference on Disarmament has recently focused instead on a treaty to prevent the placement of weapons in outer space. Changing the language in this way circumvents the US argument against PAROS, though it doesn't resolve issues such as where outer space begins, what type of weapons should be prohibited, or whether the treaty would be verifiable.

On 12 February 2008, Russia's Foreign Minister, Sergey Lavrov, addressed the Conference and presented a joint Russia-China draft Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects (PPWT) (8). It is the first draft treaty on this issue formally introduced to the CD, though it is based on elements proposed in a working paper submitted to the CD in June 2002 by Russia, China, Viet Nam, Indonesia, Belarus, Zimbabwe, and Syria. Minister Lavrov explained the draft treaty is designed "to eliminate existing lacunas in international space law, create conditions for further exploration and use of space, preserve costly space property, and strengthen general security and arms control."

### **Star Wars**

As of March 2008, 25 years had passed since then-US President Ronald Reagan gave his world famous speech about a defense shield that would protect the US from nuclear missiles like a roof protects from rain. Reagan announced in his 1983 speech his plan of developing a missile defense that would protect the US from Soviet nuclear weapons, thereby making enemy nuclear weapons totally superfluous. The strategic defense initiative was popularly called Star Wars after George Lucas's

famous movie. The defense shield would consist of ground- and space-based defense systems to shoot down incoming Soviet missiles.

Reagan's plan flew in the face of all that the United States had come to understand about missile defenses over the previous decades. The Pentagon had been working on defenses against ballistic missiles since the 1950s—almost as long as it had been working on ballistic missiles. By 1972, both the United States and the Soviet Union had concluded that offense had significant inherent advantages over defense, and that an effective defensive system was not feasible. They also believed that building defenses could lead to an arms race by inducing each country to build more missiles to overwhelm the other's defense. Thus, under the Anti-Ballistic Missile (ABM) Treaty, both nations gave up the possibility of defending against each other's nuclear-armed missiles. Twenty-five years later, anti-missile technology has come a long way. The US has continuously developed the possibilities for a missile defense and, in 2002, pulled out of the ABM treaty to take its missile defense plans one step further without violating the treaty.

- 1 Reaching Critical Will <http://www.reachingcriticalwill.org/legal/paros/parosindex.html>
- 2 The Militarization of Outer Space: The Pentagon's Space Warriors. [http://www.spacedaily.com/reports/The\\_Militarization\\_of\\_Outer\\_Space\\_The\\_Pentagon\\_Space\\_Warriors\\_999.html](http://www.spacedaily.com/reports/The_Militarization_of_Outer_Space_The_Pentagon_Space_Warriors_999.html)
- 3 UN Office for Outer Space Affairs <http://www.unoosa.org/oosa/COPUOS/copuos.html>
- 4 Global Security Institute [http://www.gsainstitute.org/gsi/pubs/05\\_07\\_space\\_brief.pdf](http://www.gsainstitute.org/gsi/pubs/05_07_space_brief.pdf)
- 5 UN Office for Outer Space Affairs <http://www.unoosa.org/oosa/SpaceLaw/outerspt.html>
- 6 *Weapons of Terror, Freeing the World from Nuclear, Biological and Chemical Weapons*. Weapons of Mass Destruction Commission, Final report 2006.
- 7 Reaching Critical Will <http://www.reachingcriticalwill.org/political/cd/speeches07/topics.html#paros>
- 8 [http://www.ln.mid.ru/brp\\_4.nsf/sps/0D6E0C64D34F8CFAC32573EE002D082A](http://www.ln.mid.ru/brp_4.nsf/sps/0D6E0C64D34F8CFAC32573EE002D082A)