

Photo courtesy of Boeing.

A new 'Star Wars'?

Where is the world's battleground of the future? Iraq? The Middle East? Korea? While each one of these answers might have some logic to it, they are all fundamentally wrong: the battleground of the future is space. But, before the reader goes off and starts imagining a sci-fi scenario with spaceships engaged in laser-based mortal duels, it is necessary to qualify this statement: space will soon become the environment through which military powers are able to achieve supremacy on the ground, over the sea and in the air. There are increasingly strong signs, in fact, that military powers from around the globe are looking at space as a strategic resource for their security – though some headline-grabbing events have also taken place of late.

In an overlooked document titled 'US National Space Policy', published by the Office of Science and Technology Policy and signed by President George Bush, it is stated that the US national security is critically dependent upon space capabilities, and that this dependence will grow in the future. This is far from a being a mere expression of wish. In the same ten-page paper, in fact, it is also stated that: "The US will preserve its rights, capabilities, and freedom of action in space... and deny, if necessary, adversaries the use of space capabilities hostile to US national interests."

Interestingly, the document rejects any proposals to ban space weapons, although the White House has been quick to point out that there is a substantial difference between implementing defence strategies from space and the weaponisation of space. However, while the White House has said that the policy does not call for the development or deployment of weapons in space, some critics have warned that by refusing to enter into negotiations on space weaponry, the US is likely to fuel international suspicions that it will develop such

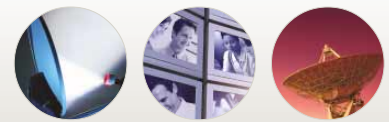
China's destruction of an old weather satellite is a powerful response to the 'US National Space Policy' published on 6 October 2006. Giovanni Verlini, Editor of Satellite Evolution EMEA, looks at the increasing risks of militarisation of space.

weapons.

But while headline-grabbing, the issue of the weaponisation of space somehow misses the point. The US clearly considers space resources, including spy and other communication satellites, as essential elements in the achievement of a national security objective. It is worthwhile reiterating this point: even communications satellite resources are seen as strategic assets that could one day be denied to hostile forces.

First revision for ten years

This document, which is the first revision in US space policy for ten years, is the most important statement of space policy from anywhere in the world since Ronald Reagan's Strategic Defence Initiative, or 'Star Wars' programme as it came to be known, which proposed a defence shield using laser or particle beam technology to



'intercept and destroy' incoming nuclear missiles. It might not appear to be as grand and ambitious as the Strategic Defence Initiative programme, but in many ways the ramifications of Bush's 'US National Space Policy' go much further than Reagan's 'Star Wars'.

While the publication of the 'US National Space Policy' on 6 October 2006 has gone largely under-reported in the Western media, the 'foreign powers' mentioned in the document have certainly not overlooked the new course in the US space policy. And they are responding to it.

Just a few days before going to press, the news that China had destroyed an old weather satellite in Low Earth Orbit (LEO) was front-page news on all media. According to industry bible American Aviation Week and Space Technology, on 11 January the Chinese Feng Yun 1C weather satellite, launched in 1999, was destroyed by a KT1 medium-range rocket launched from or near China's Xichang Space Centre.

The news was soon confirmed by the US National Security Council through their spokesman Gordon Johndroe. For days the Chinese authorities kept silent on the issue, while international criticism over the weapon deployment grew.

Then, China finally admitted the event, arguing that it was intended to force the US into talks aimed at abolishing weapons in

space. A Foreign Ministry spokesman said: "As the Chinese Government, our principle stand is to promote the peaceful use of space. We oppose the militarisation of space. In the past, in the present and in the future, we are opposed to any arms race in space. Of this everyone can be confident."

The first such launch for 20 years, clearly, this strike will have several important consequences: debris, the threat of a space arms race, and a potentially profound effect on existing military satellite policy and technology.

Space debris

One of the criticisms moved at China by countries from all over the globe has been that the destruction of the Feng Yun 1C satellite will have created debris in an environment already crowded with space junk.

This was the first such test since the 1980s, when both the US and the then Soviet Union destroyed satellites in space. However, these tests were halted when it became clear that the debris they produced could harm civilian and military satellites.

But while still serious, the practical implications of such a test pale into insignificance with the prospect of a space arms race on a global scale.

A NEW US SPACE POLICY

The President authorised a new national space policy on 31 August 2006 that establishes overarching national policy that governs the conduct of US space activities. This policy supersedes Presidential Decision Directive/NSC-49/NSTC-8, National Space Policy, dated 14 September 1996.

Background

For five decades, the US has led the world in space exploration and use and has developed a solid civil, commercial, and national security space foundation. Space activities have improved life in the US and around the world, enhancing security, protecting lives and the environment, speeding information flow, serving as an engine for economic growth, and revolutionizing the way people view their place in the world and the cosmos. Space has become a place that is increasingly used by a host of nations, consortia, businesses, and entrepreneurs.

In this new century, those who effectively utilize space will enjoy added prosperity and security and will hold a substantial advantage over those who do not. Freedom of action in space is as important to the US as air power and sea power. In order to increase knowledge, discovery, economic prosperity, and to enhance the national security, the US must have robust, effective, and efficient space capabilities.

Principles

The conduct of US space programs and activities shall be a top priority, guided by the following principles:

- The US is committed to the exploration and use of outer space by all nations for peaceful purposes, and for the benefit of all humanity. Consistent with this principle, "peaceful purposes" allow US defense and intelligence-related activities in pursuit of national interests;
- The US rejects any claims to sovereignty by any nation over outer space or celestial bodies, or any portion thereof, and rejects any limitations on the fundamental right of the US to operate in and acquire data from space;
- The US will seek to cooperate with other nations in the peaceful use of outer space to extend the benefits of space, enhance space exploration, and to protect and promote freedom around the world;
- The US considers space systems to have the rights of passage through and operations in space without interference. Consistent with this principle, the US will view purposeful interference with its space systems as an infringement on its rights;
- The US considers space capabilities - including the ground and space segments and supporting links - vital to its national interests. Consistent with this policy, the US will: preserve its rights, capabilities, and freedom of action in space; dissuade or deter others from either impeding those rights or developing capabilities intended to do so; take those actions necessary to protect its space capabilities; respond to interference; and deny, if necessary, adversaries the use of space capabilities hostile to US national interests;
- The US will oppose the development of new legal regimes or other restrictions that seek to prohibit or limit US access to or use of space. Proposed arms control agreements or restrictions must not impair the rights of the US to conduct research, development, testing, and operations or other activities in space for US national interests; and
- The US is committed to encouraging and facilitating a growing and entrepreneurial US commercial space sector. Toward that end, the US Government will use US commercial space capabilities to the maximum practical extent, consistent with national security.



The beginning of a space arms race

Several countries from the Asia-Pacific region, as well as the rest of the world, have strongly criticised China for carrying out the test. Australia, South Korea, Japan, as well as Britain, the US and Canada, have all voiced their concern for risk of militarization of space. In particular Alexander Downer, the Australian Foreign Minister, said that China's new-found capacity to shoot down satellites was 'not consistent with ... the traditional Chinese position of opposition to the militarisation of outer space'.

China, as we have seen earlier, has tried to reassure the world community that it has no aggressive intentions. However this test should be seen as part of a wider problem: there are already growing international concerns about China's rising military power. While Beijing keeps its defence spending a closely guarded secret, analysts suggest that it has grown rapidly in recent years.

However, the prospects of a true militarisation of space with the deployment of weapon systems in the outer atmosphere should be taken into perspective. Whilst this should not be excluded in principle, of course, it remains a marginal problem at this stage, mainly for economic and technical reasons. Rather, the consequences will be far more serious for existing communications and Earth Observation military systems. The message is clear: if China can shoot down its own satellite it could also attack satellites operated by other nations.

The end of spy satellites?

What the 11 January test has demonstrated, is that the technical capabilities of the Chinese Armed Forces have improved dramatically over the past few years. This is, of course, the result of a massive investment in defence made possible by the growing national economy. It is estimated that Beijing has increased defence spending by ten percent every year since 1990. Last year, official figures

THE KT1 ROCKET

The solid-fuel KT1 rocket, known as Pioneer, measures 13.6 metres and weighs over 19 tonnes. The KT1, which is based on the Chinese DF31 intercontinental ballistic missile, was launched from the exclusively military site at Xichang, in the southern province of Sichuan.

showed that spending rose nearly 15 percent to a whopping \$35.5 billion. However, defence experts and analysts believe that the true figure is far higher, and all this investment is finally bearing fruits.

The most immediate consequence of the test is that the US might be forced to review its entire strategy in military space. Suddenly, in fact, spy satellites have become vulnerable, even though they are partly protected by stealth technology. At this stage, the consequences of this new scenario are unclear. Some pundits have put forward the hypothesis that the US will have to develop many micro EO satellites instead of the relatively few large platforms it deploys at the moment. This way, the risk would be spread and it would become uneconomical for adversary forces to shoot down satellite platforms.

While the consequences of this missile test remain unclear and the prospect of a true space arms race remote, it is evident that shooting down of the Feng Yun 1C satellite has changed the fundamentals of the military satellite sector.

Like in so many other fields and areas, in space China is now a world force to be reckoned with.

Marketing takes on a whole new meaning

The Satellite Evolution Group is pleased to announce the introduction of SatTV. Designed to take advantage of the latest developments in high-speed broadband services, SatTV delivers a new and exciting information experience.

New connection to the industry

SatTV has been developed to produce quality programming covering the satellite industry. Interviews, technology, webinars, exhibitions, conferences, education and training each have their own dedicated channel. Using the latest streaming technology and digital equipment, SatTV is a new connection to the industry.

As a marketing vehicle SatTV will offer clients the opportunity to reach the industry through video and audio interviews, advertisements and promotional films. SatTV together with the Satellite Evolution magazines, newsletter and portal gives clients a powerful all-in-one multimedia solution to ensure their marketing campaigns get the message across.

According to Richard Hooper, Publishing Director, "SatTV will revolutionize the way we deliver information to our subscriber base. In addition to print and online newsletters, we can now offer a new and exciting multimedia-rich information delivery system."

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The screenshot shows the SatTV website interface. At the top, there is a navigation bar with 'SATTELITE EVOLUTION TV' and 'SAT TV' logos, and links for Home, Archive, Audio Q&As, Conferences, Training, Exhibitions, Technology, Video Q&As, and Webinars. Below the navigation bar is a 'Channel Selection & Guide' section with a large 'SAT TV' logo and a video player showing a play button and progress bar. To the right of the video player is a 'Today on Satellite TV' section listing various channels and their content, such as 'Channel 1 - Video Q&As', 'Channel 2 - Audio Q&As', etc. Below this is a 'SatTV Exclusive' section. At the bottom, there is a 'This week's featured Q&As' section with four video thumbnails and their respective details, including names like Jean-Yves Le Gall, Deepak Chhabra, Pat Brant, and Igor Zabolotny, and dates like June 2006.