Viewpoint

UK Space Policy

RAF Review

Reviewed by Dr Mark Hilborne

The recent selection of Major Timothy Peake as an astronaut by the European Space Agency has created a flurry of interest in British involvement in space. Equally however, the event has highlighted how marginal that involvement has been historically.

Timothy Peake is one of six individuals who will become Europe's new astronauts. The new astronauts were presented at a press conference held at ESA Headquarters in Paris, France, on 20 May 2009.

Major Peake will in fact be the first Briton to fly in space under the British flag. But as space becomes increasingly important, even vital, for many aspects of terrestrial life, the UK will have to take an increasing interest in space in order to stake its claim to the related commercial and technological benefits. Closely related to this is the question of security – security of the information derived from and routed through space, security of the assets involved, and possibly security of the nation from threats emanating from space.

More than the scientific or commercial aspects of space, it is this aspect of security that has perhaps received the least consideration from policy makers within the UK. At the same time, this aspect of security is also the most complicated, presenting new challenges while underlining some traditional security dilemmas. Recent events may alter the way nations approach this issue.

The challenge in determining how the UK can achieve security is in defining what is meant by that term. What is it that we seek to secure, what are the threats, and what is it we hope to achieve in space?

European Space Agency's Ariane 5.

The whole notion of security in space, let alone its definition, is subject to competing visions. However, perhaps the most comprehensive and highly regarded analysis of

the subject - the annual Space Security Index – is a useful place to start. Its' definition is 'the secure and sustainable access to and use of space, and freedom from space-based threats.'[1] Given this definition, security in space can be adversely affected by environmental factors, such as space debris, increased congestion through competition for valuable orbital slots, and from hostile military action. In order to maintain its access to space, Britain will have to decide whether it follows a path of securing this via multilateral and co-operative uses of space, or through trying to attain a level of dominance over other space actors. Interestingly, these two approaches are represented by the two main geopolitical spheres between which Britain traditionally finds itself torn – Europe and the United States. The selection of Maj Peake by the ESA may signal increased co-operation and integration with Europe, not to mention the beginning of British involvement in manned spaceflight. But this is in stark contrast to the almost total reliance that Britain has upon the US for all its military capabilities derived from space.

The reliance could bring with it some very difficult questions. US policy has been solidly resistant to engaging in any multilateral negotiations to limiting military uses of space, and has been quite forthright about allowing space to move from being militarized to becoming weaponized. US policy has clearly identified a number of roles for which space weapons would be applicable. The US 2006 National Space Policy calls for the Department of Defense to implement four main tasks in order to achieve its goals: space support, force enhancement, space control and force application missions. The latter two potentially involve space weapons - active space defences in the first, and the use of force from space against terrestrial targets in the latter.

While there might seem some specific military justification of such uses of space, from a broader security policy perspective, they create some significant problems. First and most simply, they would create the very real danger of an arms race. Other space actors are unlikely to sit idly by as one places weapons systems in this new realm. It must be questioned then whether such a move could be seen as enhancing security. Secondly, weaponisation could have an effect on existing treaties, and thus on the wider multilateral process. The Outer Space Treaty (OST), of which the UK is a signatory, requires space to be maintained for peaceful purposes. While it only mentions weapons of mass destruction, clearly there are no weapons systems that can be defined as peaceful. If the UK or the US transgresses this treaty, it would lead to questions over their commitment to other multilateral agreements, at a time when a number of those accords are currently facing substantial pressure, not least of which is the

Non-proliferation Treaty. This in turn could affect the level of legitimacy with which the nation is seen to act, so important when trying to shape and influence the international agenda, or gain backing for certain initiatives. The UK is committed to addressing security threats multilaterally through the multitude of organisations upon which it sits : the UN Security Council, NATO, the EU, and OSCE to

United Nations Security Council.

name the most important. As such it derives a great deal of influence from the current system, and to undermine that would not be in the nation's interest. The UK's policy in space needs to reflect these core tenets of the national strategy.

While UK policy and doctrine have followed the US closely, it may well be that they are in danger of falling out of step with current US thinking,

Barrack Obama speaking at Camp Lejeune, February 2009.

as President Obama has stated that the US will consider multilateral negotiations to ban weapons in space. While there are significant hurdles to overcome, both domestically and internationally, before this becomes a reality, the current Administration's early statements mark a significant change in attitude. Until this point, the US has been fundamentally opposed to negotiating any sort of treaty governing weapons in space.

This change in attitude has been mirrored by the breakthrough in the UN's Conference on Disarmament on 29 May. After 12 years of deadlock the 65-member disarmament body agreed to begin negotiations on banning the production of fissile material for nuclear weapons, with the ultimate goal of establishing a Fissile Material Cut-Off Treaty (FMCT).[2] While this is remarkable in its own right, not least because it came hot on the heels of North Korea's nuclear test that threatened the body's consensus, it has distinct relevance on the issue of space weapons. Within the Conference, a treaty on Preventing an Arms Race in Outer Space (PAROS) and the FMCT have long been held political hostage to each other, with their respective champions – China and the USA – refusing to negotiate one treaty if the other party did not negotiate the second. Thus movement on one treaty is a potential movement on both. Importantly, buried within the statement on 29 May is the news that a programme of work will include creating a working group on the prevention of an arms race in outer space. A paper tabled by Canada looking to find common ground on this issue created the momentum[4], and a last minute compromise on wording between China and the US led to the programme being adopted by consensus. While still a first step, this is a major event in terms of efforts to curb both nuclear proliferation

and an arms race in outer space. As the UK drafts its space policy, these are changes of which it has to be conscious.

While the US has rediscovered its appetite for leadership in multilateral negotiations, it has also been engaged on another, though inter-related, issue, and one that has previously received insufficient attention: that of Cyberspace. On the same day as the UN breakthrough, President Obama announced the creation of a White House office to coordinate security in cyberspace, in response to what he called "one of the most serious economic and national security challenges we face as a nation." Given the importance of space to informational infrastructures, this is clearly a subject that must be carefully considered in a future UK space policy.

Clearly then, space policy cannot be framed in isolation, and it must sit within and support wider policy considerations, both nationally and internationally, as well as those other security areas with which it is intertwined. International legal agreements as well as international legitimacy and good standing are all fundamental pillars upon which Britain's foreign policy operate.

Though it is early days, the change in the attitude in Washington may mean that the approaches to space of Britain's main strategic partners, Europe and America, may be moving closer, and this might mean that Britain is faced with policy alternatives that are less stark. It is possible that Britain will have the opportunity to play an intermediary role, a role with which it is already familiar.

European space policy emphasizes peaceful uses of space in pursuit of

Liftoff of the Ariane 5 ECA of flight V189 from Europe's Spaceport in French Guiana.

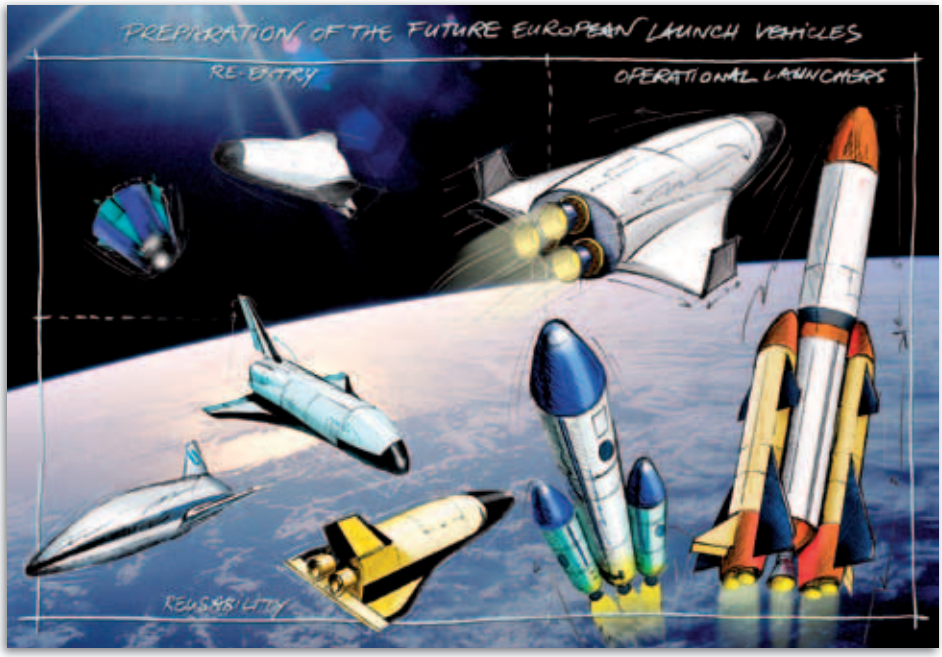
policy objectives, and co-operation in contrast to the notion of dominance that was central to US notions during the previous Administration. Also, the European organisational structure managing space has a greater emphasis on civilian activity, with access by the military where necessary. Given the overwhelming overlap of commercial and military assets, this is a realistic and cost-effective approach, utilising dual-use technology where possible. Thus the European programme as a whole may be more closely aligned with the UK's National Security Strategy and, given the potential that the UK can have a role in shaping its future, it would also benefit the nation's interests.

Of course effective policy is unlikely

to flow from ineffective organisation, and at the moment the bodies controlling UK space activities are several. Civil space activities are governed by the British National Space Council (BNSC), while military space is controlled by the Ministry of Defence as well as the Foreign and Commonwealth Office. Thus there is no single lead organisation to ensure a co-ordinated policy. In contrast, both the US and EU have a much more harmonized structure. In 2004 the US established the National Security Space Office to integrate the various requirements derived from defence, intelligence, commercial, scientific and civil sectors.

The European Union co-ordinated its structure the same year, and created the Space Council, consisting of the 27 EU member states and/or the European Space Agency states. The Council provides the opportunity for the numerous stakeholders to jointly discuss the development of a coherent overall European space programme. The UK needs to make similar moves to ensure that its own space requirements are logically integrated and clearly articulated.

A significant hurdle still exists, however, if Europe is to become a credible counterweight to the US as a strategic partner in space. Despite its steps to co-ordinate its structure, the programme's funding is complex, and its decision-making cumbersome. Furthermore, notwithstanding its competence in space, and its significant share of the market that it enjoys (50 percent for launchers and 20-30 percent for satellites), Europe is still not self-sufficient, and relies on outside expertise in some key areas. Long-term, these gaps should be overcome, for instance with the completion of Galileo global satellite



ESA's Future Launcher Preparatory Programme (FLPP) is focusing on the preparation of a Next Generation Launcher (NGL)to be operational around 2020.

navigation system. If the aspiration of space-based observation, early warning and intelligence systems are achieved, Europe may potentially attain a wide spectrum of self-sustained space activities.

Clearly there are a number of changes occurring to notions about how to best utilize and secure space, at a time when British involvement in space is at a critical juncture, and these will affect policy choices. Major Peake's selection to the ESA programme marks beginning of British involvement in manned spaceflight and should garner increased attention on British space efforts. This coincides with what appears to be the seeds of change in US attitudes on how it exploits space, and increased momentum on the subject of space security within the UN. While it is too early to place too much stock in these events, both point towards a wider consensus that co-operation in space is vital if mankind is to maintain access to it, and is to derive the maximum potential from it.

Britain will be unable to gain all its requirements from space unilaterally, thus co-operation is vital. With new players entering the domain, such as Japan, India, China and Brazil, Britain's interests will continue to be best served by orienting its policy with that of its main strategic allies. The prospects of change mentioned above mean that the conceptual differences between Britain's main strategic allies could become less, and that both will reflect wider international notions of how space should be utilized. This should simplify the framing of a space policy.

An effective policy will depend on a clear understanding of what Britain hopes to achieve in space, of how this fits into wider policy objectives. This will be facilitated by effectively harmonising its structure to co-ordinate its objectives. It is only then that its voice will be heard by the strategic partners with whom it chooses to work. But more fundamental is the integration with wider security policy. Space has often been seen as a unique, distinct activity, exclusive from other aspects of human endeavour. While a number of its characteristics certainly are unique, it is increasingly integrated with other key developments in our societies. Policy must see it as such. The assumption that space is best utilized by securing access to it, and that this is achieved by co-operation rather than confrontation, upholds many central tenets of the UK's National Security Strategy. These notions should be at the heart of the UK's future plans for space.

Notes

[1]See *Space Security Index 2008*, Waterloo, Canada, 2008, p.5 available at spacesecurity.org

[2]United Kingdom, Cabinet Office, *The National Security Strategy of the United Kingdom: Security in an Interdependent World*, London, Cabinet Office, 2006, paragraphs 4.64 and 4.71.

[3]**http://unog.ch/80256EDD006B9C2E/(httpNewsByYear_en)/92A05D4392609C48C12575C5004D6FDC?OpenDocument**

[4]Government of Canada "The Merits of Certain Draft Transparency and Confidence Building Measures and Treaty Proposals for Space Security" at **http://www.reachingcriticalwill.org/political/cd/papers09/1session/Canada-PAROS.pdf**