

Comd UKStratCom

It's a great pleasure to be standing – virtually – in front of you all and alongside my fellow Chief and principal partner in Defence's space enterprise. Mike has set the scene nicely, though there can be few of you at this conference who are not persuaded of the necessity of exploiting the competitive advantages associated with the reach and potential of the space domain, nor of the requirement to protect and defend our capabilities in and from space against those who would wish us harm, now or at some point in the future. And that is surely the point – unless we take a long term strategic approach and invest accordingly we will find ourselves at a fundamental and unrecoverable disadvantage.

Mike and I, alongside our fellow Chiefs and senior colleagues in the MOD and more widely across Whitehall have been engaged for much of this year in the Government's Integrated Review. Putting aside the inevitable frustration we share that we have not been able to align the ambitious ends and ways which the MOD's proposition set out in that review to the means in the form of a multi-year spending plan – and of course we understand why – the exercise has nevertheless been important and worthwhile. It has also been uniquely aligned, reflecting our corporate ambition rather than the more parochial approach that has sometimes prevailed – though debates have been fierce as we tested each others ideas, and were tested in turn by Ministers.

There are some important reasons for this. First of all because our analysis was based on a clear eyed, hard headed and commonly agreed assessment of the threats we face, an approach spearheaded and led personally by the SofS. Secondly because we were all working to a common blueprint for the force of the future (near and far) that we would need to handle those threats and how we would operate and fight. This blueprint was set out in the admittedly not very snappily titled Integrated Operating Concept. But title aside this is the most important document that has emerged from Defence's concepts and doctrine centre for a generation. Rommel is quoted as saying that the British produce the best doctrine in the world – thank goodness they don't read it. Well we're reading this one and we're designing our force structure around it, and refining it through experimentation.

There are some key ideas in it that are relevant to our discussion today. First that our adversaries have broadened the concept of warfare beyond our own narrow definition and in which we can bring our strengths to bear. This includes extending warfare into the novel domains of space and cyber despite our best efforts to establish norms of peaceful behaviour in what should be global commons. Secondly that constant competition and confrontation to accrue advantage insidiously but inevitably has become the new reality we face. In space this means holding our key national capabilities at risk, or worse. Thirdly that

information and data are the decisive weapons and the oil of the digital age, and in this respect we are critically dependent on space to remain competitive. And fourth that the key imperative in the face of these challenges is to pursue Integration: across government – hence why Space is a critical national enterprise: government, commercial and Defence all combined. Integration with allies and partners – hence why this is an allied enterprise, with the US, French and others. And thirdly Integrated across all the domains: land, sea, air, space and cyberspace.

Which is where I come in and why I'm standing here. Strategic Command was established last year to do three things:

To hold the strategic capabilities that enable Defence to compete more assertively sub-threshold: Intelligence, ISR, Offensive cyber in partnership with GCHQ and Special Operations.

Secondly to deliver the digital transformation of Defence, from a connected Industrial Age Joint Force, to a Digitised Information Age Integrated Force

And thirdly to be Defence's Integrator, integrating capabilities and effects across all the domains.

Space plays a major part in each of those roles and hence why Mike and I partner.

So why are there two Commands?:

Air Command and Strategic Command have been aligned from the start of this journey - our roles are **symbiotic**. Air comprises all the real SQEP and so provides the operators, who have a wealth of experience, and Strategic Command sets the requirement and then supports them, providing enabling capabilities to empower their space-faring operations. The two compliment each other and are absolutely integral to each others' success.

Whilst Air Command essentially holds the capabilities to **secure, protect and defend** Defences assets and our freedom of manoeuvre within space, Strategic Command exists to ensure the **integration of these assets**, their modernisation and the sharing of the data they generate/gather. It is absolutely necessary for us both to work hand in glove in order to provide a truly joined up response.

But just as integration can enable our quickened reaction across domains, so to can it allow an adversary's attack or sub-threshold activity triggered in one domain to be felt in another.

Space is above all an integrating domain – accommodating the systems which we use for communication, intelligence, surveillance and reconnaissance and enabling Defence to integrate and cooperate into the future.

[The Space Directorate add a valuable DIRECT function, shaping future direction and acting as our advocates for Space x-Govt and with Industry. We rely on Space Directorate for strategic direction and leadership.]

Why is MDI important?:

Defence must no longer operate in silos – we must pursue greater integration and be ‘integrated by design’ irrespective of the shape and size of our future force. As I have said, Strategic Command is **Defence’s integrator**

The foundation of this future integrated force will be dependent on Defence’s **Digital Backbone**. Our networks must form the resilient 'train tracks' - the bearer for data flowing from sensors to effectors. We must become data-centric and exploit the data that we collect, not treat it as effluent as we sometimes have done in the past. The Digital Backbone is vital to delivering **Multi-Domain Integration** but it is also fundamental to our broader modernisation agenda. And Space plays an integral part in enabling the Digital Backbone.

What requirements do we need from Space if we are to EXPLOIT and INTEGRATE (and GENERATE?)?:

Fundamentally, our space capabilities enable the Digital Backbone through data. Data underpins all aspects of not just Defence, but daily life. Access to and governance of the right data is integral to our ambition to achieving a highly technological and innovative future, particularly as software, rather than hardware-defined capabilities gain in strategic importance. To achieve multi-domain integration and effective command and control across Defence we must be able to access data rapidly and translate it into actionable information. Competitive advantage over our adversaries will increasingly be gained from high-quality, well-curated and interoperable data, seamlessly integrated both within Defence and externally. We must develop digital technologies and infrastructure, supporting collection, assurance storage and processing to strengthen the Digital Backbone. A plethora of capabilities transmit Data in, from and through Space, from SATCOM, to ISR, to PNT. This data is the lifeblood of the Digital Backbone and a fundamental enabler to Multi-Domain Integration, as we sync our systems, enhance interoperability and connect the digital mesh which is the future battlespace.

Why is each of the requirements important? why do we need each capability?:

We have a fundamental reliance on space, and our capabilities which operate in, from and through it. We work collaboratively with the RAF to gain Advantage in space, by providing those vital enabling capabilities, but we are reliant on our Air colleagues to protect and defend these capabilities in Space. Our space assets are vital enablers to our work and form key constituents of Multi-Domain Integration, enabling and empowering the modern warfighter. UKStratCom, as Cap Sponsor for C4ISR, is driving several Space activities:

Our people need to be able to communicate, from our Commanders down to the soldier, sailor or airman in the fight. **SATCOM** allows them to do this without relying on local networks. SATCOM connects us all and gives us significant advantage. Not least because it provides vital Welfare communications, supporting our people when they are going through the challenges of operations by maintaining their contact with the homeland. To meet our SATCOM requirement, UKStratCom is sponsoring the next generation SKYNET 6 SATCOM programme. We recently signed a contract with Airbus for the delivery of Skynet 6a to be manufactured and built in the UK. A key requirement was that this was a sovereign build, in direct support of the Prosperity Agenda. Access to global, assured, resilient, secure SATCOM is fundamental to our ability to project our power and meet our national security objectives, whilst acting as a force enabler and a force multiplier, empowering our people, platforms and systems beyond sight of the UK. SATCOM connects us and is a fundamental part of the 'Digital Backbone', providing vital connections 'from Sensor to Shooter'.

UKStratCom is also responsible for the generation of positioning, navigation and timing capabilities: A critical enabler, to not just Defence, but to our economy. The Blakett Report identified that the economy would be projected to lose £1Bn every day we did not have access to these crucial timing signals. **PNT** enables the transactions online and in person, it helps us find our friends in town or on the road, it provides our financial sector with a timing backbone, enabling trillions of pounds of business everyday. Every single person with access to technology is now fundamentally and critically reliant on PNT derived from Space. Imagine a world without this access - what would we do? How would we cope? - it would be incredibly challenging as we have lost many of the skills in our society which enabled these actions & behaviours. On the military side, access to PNT is crucial in the modern battlespace. Accurate timing signals, precise positioning and effective navigation aids allow our people, platforms and systems to find, fix and kill their target. Without PNT we are lost. We seek to generate capabilities which will support our people, platforms and systems through a robust, resilient architecture which will provide both space-based and terrestrial-based PNT capability to support our objectives as stated above.

UK Defence can see our enemies, movements, amassed forces, basing, supply lines through the Advantage offered up by **Intelligence, Surveillance and Reconnaissance**. We can get a fully rounded picture of our adversary utilising our ISR assets, ensuring that when we go to fight we are fully prepared (forewarned is forearmed). We need to know what our adversary is doing so we know how to counter it, we need to know their plans and laydown just as much as we did when we tried to crack ENIGMA. This becomes even more challenging in the information age where the new weapons are disinformation and crippling cyber technologies. ISR across the spectrum and the use of bleeding-edge technology allows us to get one step ahead of the game and shape the future battle by positioning, in the same way that Wellington positioned his men at Waterloo or Henry V positioned his longbowmen at Agincourt. ISR from Space provides the ultimate high-ground, allows us to not just 'see over the hill' (a view which could be masked by high rise buildings for example) but get a 'satellite-eye view' of our targets and areas of interest - a live insight into the urban canyon whilst maintaining a protective distance from the fight. The platforms that provide this will glide hundreds of km's above our heads, out of view and out of mind to most, giving an unrivalled perspective. It is now almost impossible to think of warfare without ISR. Future novel, niche capability will complement our allies and act as a vital tool for collaboration with our allies, strengthening our international bonds, especially with our primary partner, the US.

Joint Enabling capabilities fundamental to our ability to operate. We support the Front Line Commands through Development and Delivery of this vital technology, through Innovation, Integration and Information Advantage.

Summary

So, in summary: the space Domain is indeed an **exciting arena** – advancements here are moving at pace which provides a great opportunity for the UK and Defence to make **leading edge** contributions.

UKStratCom absolutely has a **role to play** in this – we set the requirements to exploit in space and we put critical Joint Enabling Capabilities into the hands of the Operational Warfighter to support the fight now and in the future.