

[News story: New Shetland radar to better protect UK Northern airspace](#)

Chief of the Air Staff, Air Chief Marshal Sir Stephen Hillier, visited the site of the new £10m Remote Radar Head facility, at Saxa Vord, Unst, Shetland, to inspect its progress.

The radar will improve RAF and NATO understanding of the airspace north of Britain and further out across the Norwegian Sea, improving the UK's sovereign capability at a time of heightened Russian military activity. It will see the island return to the role it performed during the 1960s and 70s, when the site was used as an early warning radar on NATO's northern flank.

Defence Secretary Gavin Williamson said:

We will always protect our skies from Russian aggression. This radar is a vital part of the UK's defences as we react to intensifying global threats and reinforce our ability to tackle them. Russia's actions are not limited to Europe's eastern borders - the threat to British livelihoods is severe and real.

Air Chief Marshal Sir Stephen Hillier, Chief of the Air Staff, said:

The radar system at Saxa Vord is an important part of ensuring that the RAF can fully protect both the UK's airspace and that of our NATO allies, in the face of increasing pressure from Russia.

Right at the tip of Shetland, Saxa Vord is a very remote site, so I'm extremely grateful to the team who have been working hard through the cold of winter, with snow and 120 mph gales, to ensure that the construction has remained on schedule.

The Saxa Vord Radar head will provide key information on aircraft movements to the north of the UK and feed the nationwide Quick Reaction Alert (QRA) operation which is responsible for policing international and UK airspace from RAF Lossiemouth in Moray and RAF Coningsby in Lincolnshire, as well as supporting civil air traffic control.

During the last five years, the RAF has carried out 69 QRA launches. Just last week (15 Jan), two Typhoon aircraft from RAF Lossiemouth were scrambled to intercept two approaching Russian military aircraft which did not respond to the air traffic control authorities.

The RAF monitored the jets as they passed through international airspace, before escorting the Russian Blackjacks out of the UK's area of interest. At no time did the Russian bombers enter UK sovereign airspace.

Defence, Equipment and Support, the MOD's procurement organisation, managed the redevelopment of the site and delivered the new infrastructure and capability for the RAF, commissioning the works through the Foreign and Commonwealth Office (FCO) Services. The Saxa Vord remote radar head will be operated remotely by RAF personnel and contractors will only attend the site for maintenance.

Simon Dakin, Director Intelligence Surveillance Target Acquisition and Reconnaissance, for Defence Equipment and Support, said:

The Air Defence and Electronic Warfare Delivery Team has shown outstanding innovation and teamwork to deliver this vital capability ahead of time and within budget.

During his two day visit to Shetland, Sir Stephen Hillier also toured the adjacent Saxa Vord RAF and Exhibition Centre and met representatives from Shetland Islands Council, Highlands and Islands Enterprise, Sullom Voe and Shetland Space Centre Ltd, as well as delivery personnel from FCO Services & ADEWS, Brody-Forbes, 90 SU, Serco, Mobile Met Unit and McDonald Scaffolding.

Scotland is home to more than 10,000 regular and 4,000 reserve armed forces personnel, whilst Scottish industry benefits from defence spending £1.5bn with it each year. This investment supports 9,750 private sector and highly skilled jobs in Scotland.

[News story: New navy warship accepted by Defence Minister](#)

The 90-metre warship, which successfully completed her maiden sea trials in December, will soon be sailed to Her Majesty's Naval Base Portsmouth, where she will be commissioned into the Royal Navy and prepare for counter-terrorism, anti-piracy, anti-smuggling and other maritime Defence operations.

During his visit the Minister also announced key milestones in the UK's Type 26 Frigate programme – the start of production of the next section of hull for HMS Glasgow – and BAE Systems' signing of a new £5.6 million contract to establish a Type 26 electrical testing facility in Leicestershire.

Defence Minister Guto Bebb said:

Thanks to the hard work of the Clyde shipyards, HMS Forth is now ready to join the Royal Navy surface fleet and begin the vital task of defending the UK and her interests around the world.

Developing the Type 26 capability is also making great strides forward, reflecting the UK's commitment to this cutting-edge new warship, which will sustain 4,000 jobs in Scotland and right across the UK.

HMS Forth, one of five new OPVs being delivered for the Royal Navy, will enter service this year. Her sister ships – HMS Medway, HMS Trent, HMS Tamar and HMS Spey – are all expected to enter service by 2020.

The latest unit for HMS Glasgow, which will extend over two deck levels and house the ship's two large electric drive motors and associated shaft line, is now under construction and will weigh 132 tonnes once complete.

It will be added to the rest of the structure of the ship as it takes shape across the Clyde in Govan.

The newly-signed Electrical Integration and Test Facility sub-contract with General Electric, enabled through a £3.7 billion MOD contract for the first batch of Type 26 ships, will establish a centre in Whetstone, Leicestershire. This facility will allow critical power and propulsion integration and de-risking tests for Type 26, ensuring the Frigates have safe and effective propulsion systems.

The agreement, which follows a previous Design Development contract signed in 2016, brings the total committed investment in the facility to around £13 million.

Director Ship Acquisition for Defence Equipment and Support (DE&S), the MOD's procurement organisation, Henry Parker, said:

Formal acceptance is a hugely important step in the delivery of any new ship and the teams at DE&S could not be prouder to see HMS Forth emerge from trials ready for delivery to the Royal Navy.

We look forward to continuing to work closely with BAE Systems to ensure successful delivery of the new OPV and Type 26 fleets.

Like her sister ships, HMS Forth will be equipped with a 30mm cannon and a flight deck capable of receiving a Merlin helicopter.

Displacing around 2,000 tonnes, they will have a maximum speed of 24 knots and will be able to sail 5,500 nautical miles before having to resupply.

News story: Defence Minister appreciates Scots UK defence role

The Minister first met with the Secretary of State for Scotland, David Mundell, and the heads of the Royal Navy, Army and RAF in Scotland in Glasgow, having been appointed to his new Ministry of Defence role on 9 January 2018.

Defence Minister Guto Bebb said:

Scotland plays as vital role at the heart of UK Defence and national security. Right now, Scots-based sailors, soldiers and air personnel are delivering Continuous at Sea Deterrence, building the capabilities of the Iraqi Security Forces, working on behalf of the United Nations and countering Daesh across the Middle East.

Secretary of State for Scotland David Mundell said:

These are exciting and important times for the Armed Forces in Scotland. All three services in Scotland are growing their numbers, including building a single home for the UK submarine fleet on the Clyde, growth to 2 SCOTS and 3 SCOTS infantry battalions, increasing the RAF's Typhoon force, and the build-up to the arrival of nine new maritime patrol aircraft, at RAF Lossiemouth.

Scotland is home to more than 10,000 regular and 4,000 reserve armed forces personnel, supported by almost 4,000 MOD civilians.

Scottish industry benefits from Defence spending £1.5bn with it each year. This investment supports 9,750 private sector and highly skilled jobs in Scotland.

The MOD previously announced an unprecedented 20 years of work for the Clyde shipyards in 2017, safeguarding over 4,000 Scottish jobs, with the £3.7bn contract for the first three of eight submarine hunting Type 26 frigates to be built there. Through the UK National Shipbuilding Strategy, Scottish yards on the Clyde and at Rosyth are also able to compete for the five lighter Type 31e frigates which will come into service from 2023.

A further £1.7 billion is being invested to upgrade Scottish military bases over the next decade.

Scotland and its unique landscape provide crucial UK and Allied military training areas for infantry and armoured vehicles, air and sea defence, gunnery and missile firings.

The Minister will go on to visit BAE Systems Govan/Scotstoun shipyard to see how the yard's 800 highly skilled engineers and fitters are benefiting from a full order book until 2035, as they complete five new Offshore Patrol Vessels, and eight Type 26 anti-submarine frigates, for the Royal Navy – the first of which will be called HMS Glasgow.

[Press release: UK fighter pilots fly F-35 for the first time following training](#)

Flight Lieutenant Liam and Lieutenant Chris became the first Royal Air Force and Royal Navy pilots respectively to proceed straight from flying training in a Hawk to fly the multi-role combat aircraft.

Speaking after his flight, Flt Lt Liam said:

It was a sensational experience and, as the culmination of many years training, was certainly the highlight of my time in the RAF so far. I was astonished at the jet's performance and at how well the simulator had prepared me for taking the Lightning flying.

Much of the first flight is about exploring the aircraft's performance envelope and breaking the sound barrier was a particular highlight. It is easy to see why every pilot here loves flying the aircraft and I am eager to press on and get stuck in to operating the Lightning and exploring it's potential.

Fellow pilot Lt Chris added:

To fly a Lightning for the first time is almost indescribable. After over seven years of training in the Royal Navy, to finally get into the real aircraft and take it airborne was one of the proudest and most exciting experiences of my life so far.

The computer systems, helmet display, and sensors are at the cutting edge of what is currently possible and I'm extremely excited to work on exploiting this potential as well as being part of its integration with HMS Queen Elizabeth and HMS Prince of Wales over the coming years.

With no two seat variant of the F-35 the first flight for any pilot in a Lightning is always solo.

Commenting on the flights Air Commodore Linc Taylor, Senior Responsible Owner for the UK's Lightning Programme, said:

I am delighted that our first two ab initio pilots have flown Lightning and joined the rapidly expanding cadre of UK Lightning pilots. For any military pilot the first time you fly a front line aircraft is something you never forget, but to be the first to progress straight from training to fly F-35 is something to be especially proud of.

I wish both pilots every success in their future careers and look forward seeing them both in the UK this summer when 617 Squadron returns to RAF Marham.

The training of UK Lightning pilots is currently undertaken as part of a much larger UK Detachment at Marine Corps Air Station Beaufort, South Carolina. This 'pooling' arrangement with the United States Marine Corps (USMC) facilitates the high training rate necessary for build the essential numbers of personnel qualified and experienced to form the first operational UK squadron, No. 617 Squadron (the 'Dambusters') in 2018.

To date the cadre of UK Lightning pilots have all transitioned from other aircraft and both new Lightning pilots were accompanied on their first flights by an instructor in a second aircraft.

The F-35 Lightning is an advanced, next generation aircraft procured to operate alongside the RAF's Typhoon. It will be jointly manned by the RAF and Royal Navy, and will form an integral part of Carrier Strike operating from the Queen Elizabeth Class aircraft carriers.

Speech: Dynamic security threats and the British Army: Chief of the General Staff General Sir Nicholas Carter KCB CBE DSO ADC Gen

Malcolm, thank you for those kind words of introduction and good evening everybody, it's good to be with you and it's particularly good to see so many friendly faces in the audience.

In Parliament last week the Defence Secretary explained that the analysis of threats in the 2015 Strategic Defence and Security Review remained sound, but

he did observe that these threats have diversified and become more serious, and at a faster pace than we expected.

Hence the Government initiated the National Security Capability Review last July – which for Defence, remains ongoing, and contrary to speculation, no decisions have yet been made.

I am very grateful, therefore, to be given the chance this evening to elaborate on the threats and what I believe we should be doing about it, and hopefully to create some debate. And a particular thanks to RUSI for hosting us this evening.

Now in terms of threats, I shall start with international terrorism. It seems to me that significant progress has been made against Daesh in Iraq and Syria, and the prospects of a Caliphate on the ground have been defeated. The threat from international terrorism though has diversified and is more dispersed, and we see the phenomenon that Daesh represents emerging in other parts of the world. And of course we've learned, sadly, over the last few years, that anyone can become a terrorist these days simply by renting a vehicle or wielding a machete.

Terrorism is clearly a very significant threat to our country. In the short term it is vital that we protect our population, while recognising that the long-term solution is to fix the causes of it – which are invariably a lack of education, a lack of opportunity and a growing feeling of exclusion and isolation often, I suspect, coupled with a lack of opportunity and therefore a sense of impotence. This is a worry in many European countries, but in the Middle East and North Africa, when local politics, regional dynamics and the geopolitical situation are overlaid, it becomes a wicked problem.

Resulting, I suspect, in a complicated tapestry of factors with extremist groups exploiting the chaos to seize territory and carve out an even larger foothold for themselves whence to launch attacks, including recruiting and inspiring our own citizens to acts of terror.

The next threat I would touch on, I think, are the longer-term implications of population movement and how that might affect the stability and the cohesion of our society.

Looking specifically at Africa; according to the United Nations, Africa is expected to account for more than half the world's population growth between 2015 and 2050. Nearly all of this growth will be among the 49 countries of sub-Saharan Africa – some 2 billion people by 2045. By then more than half of Africans will be living in cities – and this group will be mostly young people connected through mobile devices. Without economic growth matching population growth it is inevitable that we will see more movement.

But, I think it is the rising threat from states and the consequences that stem from this for the military that is of most immediate concern. And particularly to me as the head of the Army.

We now live in a much more competitive, multi-polar world and the complex

nature of the global system has created the conditions in which states are able to compete in new ways short of what we would have defined as 'war' in the past. It is what US Defense Secretary Mattis described last week as 'great power competition.' I quote:

"We will continue to prosecute the campaign against terrorists that we're engaged in today, but great-power competition – not terrorism – is now the primary focus of US national security"

And I think, viewed from this perspective: with increasing competition in the South China Sea; the potential grave consequences of North Korea's nuclear programme; the arms race and proxy wars that you see playing out in Yemen and Syria, that perhaps stem from Iran's regional aspirations. With Russia the most complex and capable security challenge we have faced since the Cold War superimposed on much of this, it would be difficult I think, on that basis, not to agree with Jim Mattis's assessment.

Worrying though, all of these states have become masters at exploiting the seams between peace and war. What constitutes a weapon in this grey area no longer has to go 'bang'. Energy, cash – as bribes – corrupt business practices, cyber-attacks, assassination, fake news, propaganda and indeed military intimidation are all examples of the weapons used to gain advantage in this era of 'constant competition,' And the rules-based international architecture that has assured our stability and prosperity since 1945 is, I suggest therefore, threatened.

Now this is not a crisis, or series of crises, which we face. Rather it is a strategic challenge. And I think it requires a strategic response.

The deduction we should draw from this is that there is no longer two clear and distinct states of 'peace' and 'war'; we now have several forms. Indeed the character of war and peace is different for each of the contexts in which these 'weapon systems' are applied. And the risk we run in not defining this clearly, and acting accordingly, is that rather like a chronic contagious disease, it will creep up on us, and our ability to act will be markedly constrained; and we'll be the losers of this competition.

The arch exponent of this is Russia, as described by the Prime Minister in her Mansion House speech last autumn. I said earlier I believe it represents the most complex and capable state-based threat to our country since the end of the Cold War. And my fellow Chiefs of Staff from the United States, France and Germany shared this view at last year's RUSI Land Warfare Conference.

In the military we analyse threats on the basis of capability and intent. So let us just examine Russian capability at the moment and how they are applying it. Of course we must not interpret what we see as a revival of Russian Cold War practice, nor look at the Crimean operation alone.

They have no single model for conflict with NATO, they use a multi-model approach utilising conventional, unconventional and nuclear domains. A hybrid version that might involve little green men, big green tanks and huge green missiles. Their thinking is very flexible. Their General Staff is able to change, evolve, and learn lessons with agility. For example: they know that

demography is not on their side, so they are developing capability that needs fewer men – for example missiles, drones and two man tanks.

They have developed coherent concepts for equipment and training that are focused on our vulnerabilities, for example: our dependency on communications and IT; our lack of massed fires; and, perhaps, our lack of investment in air defence. They apply a ruthless focus on defeating their opponents – not seizing ground for the sake of it – but making sure that our vital ground is denied to us. I shall return to missile capability in a moment.

Since 2016 we have seen a marked shift to cyber, to subversion and to coercion as well as sophisticated use of smear campaigns and fake news. Whether you believe in interference in the US democratic process, or the attempted coup in Montenegro, they are very easily examples of this.

Chris Donnelly at the Institute for Statecraft suggests that they are creating new strategic conditions. Their current influence and disinformation campaign is a form of 'system' warfare that seeks to de-legitimise the political and social system on which our military strength is based. And this undermines our centre of gravity which they rightly assess as our political cohesion; and Russian overtures to Turkey are a clear indication of this.

Now this 'system warfare' has to be defeated. One has to recognise the importance of messaging one's intent; and the importance of deterrence. Their doctrine for war utilises all of the instruments of national power – not just the military. They believe that any shooting war must be finished quickly if it is to be successful. Their instinct will be to escalate and to speed up the tempo of operations.

To avoid being surprised, they believe in pre-emption without long mobilization, and they will do something that their opponent least expects. They have used Syria to develop an expeditionary capability, to give very large numbers of their officers the high-end war-fighting experience they had not been able to get in Ukraine; and to combat-test their long range strike missiles and over 150 different new weapons and items of equipment.

Their conventional military posture gives them a calculable military advantage. They operate on interior lines with a very capable rail and transportation network. We saw that during last year's ZAPAD exercise and how effective it is. They believe in connecting their strategic zones – the West, the Arctic, the Black Sea and the Far East – and rapidly switching forces between them.

In the last five years the number of air, maritime and land based platforms for long range missiles has increased by a factor of twelve. That's in the last five years. And Gerasimov spoke last November about how they had increased the number of missiles with a range of up to 4,000 km by a factor of thirty.

This gives them the capability to create mobile 'missile domes' – shields in which they can assure their freedom to manoeuvre and deny us the ability to act. This is what we call Anti Access Area Denial and we have seen this in

Syria with their capacity to seal airspace over significant distances. They use electronic warfare at scale to cue precise targeting by large numbers of drones that enable very accurate and instantaneous fires – including thermobaric warheads – to destroy an opponent's forces; and we have seen this in Ukraine. During last year's ZAPAD exercises they used the opportunity to suppress and, more worryingly, to distort, the GPS signal across much of Scandinavia.

Now, a vivid indication of the scale of their modernization is clear from the three minute video clip I am now going to show you. This was run on Russian TV a couple of years ago. You don't need to understand the Russian, just simply listen to the tone of the commentary. But the key point is that what you will see is all new stuff, and the 2017 State Armaments Plan shows that even more has followed since this.

Now of course we have to accept that this is information warfare at its best, but I think you would agree it's an eye-watering quantity of capability. Now, the other part of the threat is how one assesses intent. Now I am not in any way going to suggest that Russia wants to go to war in the traditional definition of the term, but there are factors that bear on the question of intent and one needs to understand Russian psyche, their culture and their philosophy of pre-emption.

Russia, I think, could initiate hostilities sooner than we expect, and a lot earlier than we would in similar circumstances. Most likely they will use nefarious sub-NATO Article 5 Treaty actions to erode the capability of NATO and threaten the very structure that provides our own defence and security. This is the divide and rule which the international order is designed to prevent.

I don't think it will start with little green men. It will start with something we don't expect. We should not take what we've seen so far as a template for the future. And there will be some who might ask if Russia sees itself in decline, and more able now to go to war than in the future, does this encourage them to think of war?

Perhaps compare the situation today to 1912 when the Russian Imperial Cabinet assessed that it would be better to fight now, because by 1925 Russia would be too weak in comparison to a modernised Germany; and Japan, of course, drew similar conclusions in 1941. And Russia worries, I think, that the West will achieve a technological offset in the next decade.

I suspect, though, the greatest risk is the risk of miscalculation. The recent false alert in Hawaii that warned of an incoming missile is an indication of how easy it would be to miscalculate; particularly when the level of militarization is significant. And we saw this only too vividly with the downing of Flight MH17 over Ukraine in 2014.

Speaking recently, William Perry, Secretary of Defense under Bill Clinton, who is all too familiar with false alerts, having been awakened by a call from a night watch officer in 1979 and thought he was "about to experience the holocaust". And, of course, he also presided over the dismantlement of

nuclear weapons in the 1990s. He warned that the threat is back. I quote:

“Because the US and Russia today are confronting each other with a hostility that’s recreating the geopolitical dangers of the Cold War ... and because the US and Russia are rebuilding their nuclear arsenals that’s recreating the military dangers of the Cold War.”

Now you can argue about the extent to which the Kremlin’s disinformation efforts have influenced various western countries. But the main impact has been to convince ordinary Russians that the West is a threat. We have been made to appear as the enemy, whether we like it or not, and whatever the real situation.

Moreover, we, on our side, don’t have the same level of understanding that we had of each other in the Cold War, and the tried and tested systems and diplomatic instruments are not what they once were – confidence building measures, arms reduction negotiations, public monitoring and inspection of each other’s military activity etc. So when the ante was upped following the Russian intervention in Ukraine, conversation became difficult. Now of course it does not have to be like that.

We now have to worry, not about a symmetric playing field as one saw in the Cold War, but an asymmetric one in which there are far more players. So we should not assume that events in the Pacific wouldn’t draw more US attention than those in Europe, and we, I think, should be careful of complacency. The parallels with 1914 are stark. Our generation has become used to wars of choice since the end of the Cold War – but we may not have a choice about conflict with Russia – and we should remember Trotsky’s dictum, that: “you may not be interested in war but war is interested in you.”

So, what should we be doing differently? First of all, I think we should recognize that Russia respects strength and people who stand up to them. The original plan for Ukraine had been to acquire significantly more terrain. However, Russia was surprised by Ukrainian resistance and had to settle for less.

We should identify Russian weaknesses and then manoeuvre asymmetrically against them. First and foremost, perhaps we should be in the business of building real institutional capacity in neighbouring states so that they have the strength and confidence to stand up to Russia and the internal resilience to withstand pressures designed to bring them down from within.

We should be making more progress on reducing energy dependency on Russia. We should be telling the Russian population what’s really going on. We should be protecting our critical capabilities; hence the importance of cyber. And we should be looking to identify our own vulnerabilities to Russian malign influence and disinformation, and act to reduce them.

Next, I think, we need to demonstrate our preparedness to commit. ‘Boots on ground’ is not a positive term at the moment, but our allies on NATO’s eastern flank absolutely appreciate that a platoon of infantry is worth a squadron of F-16s when it comes to commitment.

The importance we attach to alliance cohesion – that is vital to us – that is our centre of gravity. And hence, I think, the words that were in SDSR 15 about ‘international by design’ are absolutely right. And everything the British Army is doing at the moment is to work out how it can implement ‘international by design’. We recognise that our communication systems have to be extrovert so that our allies can plug in to them; hence the vital importance of interoperability.

And by interoperability our priorities are to be able to communicate securely, but at a NATO Mission Secret level, not at UK [Eyes] only level. It’s important to have shared situational awareness and to be able to control fires digitally in support of each other. For me, therefore, the ability to bring into service a new form of Land Environment tactical communications is vital. And our relationship with the UK IT sector to deliver this is also vital.

But it’s also vital that our human relationships are maximised. And, for example, the combined engineering regiment that we share with the Bundeswehr, based in Minden in Germany, is a very good example of how you can burden share and deliver more capability through a pairing and a partnership like that. As indeed we do with our French allies through the CJEF

Next, I think, we’ve got to continue to work at improving NATO. We have to recognise that readiness is about speed of recognition, speed of decision making and speed of assembly. I’ll say that again: it’s about speed of recognition, it’s about speed of decision making and it’s about speed of assembly. Now, our contributions to the Very High Readiness Joint Task Force (Land) in NATO and the enhanced Forward Presence deployed, in our case partly in Poland but more in Estonia, are starting points. And they are good ways, also, of multinational development in terms of our French and Danish involvement.

Now, they are a starting point because I would suggest that we need the ability to reinforce them rapidly and, to be able to outmanoeuvre the potential Anti Access Area Denial ‘missile dome’ that will be put in place as we seek to reinforce them. We therefore need, I would suggest, to be able to deploy overland by road and by rail. And our Strike concept seeks to project land capability over distances of up to some 2,000 km. It brings with it good questions about logistic sustainability and communications, as well as combat and combat service support.

However, we are testing it at the moment through a programme of experimentation and we are learning very good lessons. For example, we are copying what the Germans did very well in 1940 when all of their prime movers, in terms of their tanks and armoured vehicles, had trailers; and by doing that, it reduces your logistic tail. Those sorts of old-fashioned lessons, brought forward, are definitely improving our ability to deploy. And we will test this concept by driving to the NATO Exercise Trident Juncture which is taking place in Norway this autumn.

It’s also important, I think, to stress the needs for a forward mounting base and, therefore, we are actively examining the retention of: our

infrastructure in Germany where we store our vehicles in Ayrshire Barracks in Rheindahlen; and our training facilities in Sennelager. As well as our Heavy Equipment Transporters that are based there and our stock-piling and ammunition storage.

Next, I think, it's important – go back to my point on speed of recognition and speed of decision making – that we give policy makers the opportunity to exercise with military leaders, as we did during the Cold War. This goes to the heart of speed of recognition. It goes back to the point about it won't be 'little green men' next time. And when you think about how difficult it is, in this era of constant competition, where there is this grey area between peace and war, the first hostile act is going to be very difficult to recognise. And when as a young officer, I sat in my trench on the West German plain, it was very clear to me what that first hostile act would have looked like and I always imagined a soldier from the Soviet Union with wire cutters, cutting the fence before his tank drove through it. It's not going to be like that next time, so how we educate and train our policy makers in making the decision that they might need to make is vital.

And I think, to do all of this, we need to return to an annual or biennial NATO exercise rhythm in which all levels play from the grand strategic level to the tactical level. This would allow for our resources to be properly targeted and for front line countries to practice mobilization and, indeed, allow us to exercise and train on private land, and understand some of the constraints associated with choke points and bridges and railway traffic and all that goes with it.

Next, I think, we need to prepare ourselves to fight the war we might have to fight. I think it's an important point. Because in being prepared to fight the war we might have to fight, there's a sporting chance that we will prevent it from happening. And I think the hundredth anniversary of World War One gives us a great chance to actually think about what that war might look like.

Therefore in the Army, at the moment, we have a project underway styled as 'Project Henry Wilson'. For the historians amongst you, you will know that Henry Wilson was the Major General who was the Director of Military Operations in 1914, who was able to pull a mobilization plan off the shelf and send the British Expeditionary Force to Flanders. Now, being able to do that again, I think, is important.

It's important so that we understand what our equipment can do and it's important to understand where we maximize the potential of all of our manpower. And that's why we have invested significant effort in the Reserve component, but increasingly, also, in a Regular Reserve component. Now I hasten to add that our Reserve component is not a substitute for the Regular component, but it's the means to augment it with, particularly specialists, and there is much that we're doing in drawing that talent from the medical area, from cyber, and from information warfare. But it's also, of course, about augmenting with mass; and that recognises that the Regular component has never been as small as this, probably since Napoleonic times. And what it also does for us, is to provide the basis for regeneration and

reconstitution.

I've been very impressed with the talent that's come forward to join the Army Reserve, particularly on what we call 'Group B' terms of service. In our 77 Brigade, which I shall come back to, we have got some remarkable talent when it comes to social media, production design, and indeed Arabic poetry. Those sorts of skills we can't afford to retain in the Regular component but they are the means of us delivering capability in a much more imaginative way than we might have been able to do in the past.

We now have over 30,000 on the books in terms of the Reserve and they are available to deploy with the Regular Component, if they have got the time and if their employers can release them, whenever they want to. Now turning to the Regular Reserve; potentially, we have some 25,000 to 30,000 who would make up the Regular Reserve. This recognises that 50% of the Army leaves before age of 30; hence, much of them are young and well qualified with, of course, a statutory liability to be available for mobilization. The trick is in retaining contact with this force and we are working, at the moment, through the Data Protection issues, to make sure that we reinforce that. The goal, I think, will be to build on a pilot that we ran last year and to conduct a full-blown mobilization exercise, for all of the Reserve, and the Regular Reserve, just like we used to do in the Cold War, sometime in the middle of next year.

Now, as part of this, we will clearly place a priority in the Regular Reserve on scarce capabilities like, for example, attack helicopter pilots. But it is definitely a means of maximising the potential of all of the manpower that we have and it would, potentially, deliver a total armed force of nearer 140,000 post-mobilization. Now quite clearly if we're going to do this we need to have support from the policy level, through employers, to the general public as a whole. But I think people can understand that, perhaps for a day a year, it is logical to be able to retain this capability.

The next observation I'd make is that we need to be able to fight differently against the sorts of threats I've set out there. First of all, we need reversionary skills to counter the threat against our software and our communication systems; and, potentially, having the GPS system taken down. Good old night navigation and map reading that I was brought up doing should clearly be a feature of what we are talking about here.

Next, we've got to be able to fight more dispersed with the ability to concentrate rapidly to achieve the mass you need. Next, we've got to invest in junior leadership; hence I talk much about maximising talent. I talk about our command philosophy that enables initiative and tactical adaptation at the lowest levels and, absent further orders, enables people to seize the initiative. It's why we are investing in a brains-based General Staff to challenge, to think flexibly, and to place a premium on adaptability. Recognising, of course, that when we go to war, we definitely won't get it right on day one and it is that sense of adaptability and agility which will give us the chance to prevail.

And finally in terms of fighting differently, we need to recognise that how

and where we train, and who we train with, should be a surrogate for warfare as well, given the nature of messaging that comes in this era of constant competition that I described.

And then last, in terms of how we do things differently, we need to acknowledge that we have some capability issues that have to be addressed. I think first that we have to recognise that deterrence needs a set of graduated responses to enable escalation. And that means that for me as the CGS it's important that I recapitalise much of the Army's equipment. You have to go back to 1985 and the era of General Bagnall for the last time that we had a major recapitalisation programme. And the capabilities that we see now: the Challenger tank, the Warrior armoured fighting vehicle, the attack helicopter, multi-launch rocket systems, the AS90 self-propelled artillery system were all systems that came in under him and under his thinking, with his concepts at the front end of it.

And of course what has happened over the last fifteen years is we've been focused on counter-insurgency and stabilisation. And by the end of the Afghan campaign of combat operations we were a very well equipped army for that particular task. Our challenge now is to leap forward to what we need, given the threats that I have described.

Now I sense that involves upgrading our armoured infantry capability. We are looking at active protection, more lethality, and greater range for our Challenger tank. We are looking at upgrading our Warrior armoured fighting vehicle. We are looking at maximizing the potential of the Ajax vehicle – it looks like a medium tank that's entering service at the moment; and, in due course, bringing into service a mechanised infantry vehicle to complement it. This will be transformational for the British Army and will get us to manoeuvre in a very different way and to project power over land in a different way.

We need to improve our ISTAR capability – Intelligence, Surveillance, Target Acquisition and Reconnaissance – to be able to target deep fires. Because we have got to revert to an era where we are able to focus on the enemy's uncommitted forces; the so-called 'deep battle', that we soldiers talk about. But whilst we are doing that, to protect ourselves from the air and from inbound missiles. And I touched on connectivity. We must invest in our ability to communicate and to share information through a new Land Environment Tactical CIS system.

We also, though, need to continue to improve our ability to fight on this new battlefield, and I think it's important that we build on the excellent foundation we've created for Information Warfare through our 77 Brigade which is now giving us the capability to compete in the war of narratives at the tactical level. And as David Patrikarakos put it in his recently published book 'War in 140 Characters', in which he observes on the war in Ukraine:

"... I was caught up in two wars: one fought on the ground with tanks and artillery, and an information war fought largely, though not exclusively, through social media. And counter intuitively, it mattered more who won the war of words and narratives than who had the most potent weaponry."

He also observed that: "social media is throwing up digital supermen: hyper-connected and hyper-empowered online individuals" and I'd like a few of those in 77 Brigade, please.

So, in sum, I have inevitably looked at this through a Land prism, but you should recognise that what I am describing is part of a Joint Force. So to conclude, I believe that our ability to pre-empt or respond to these threats will be eroded if we don't match up to them now. They represent a clear and present danger. They are not thousands of miles away, they are now on Europe's doorstep. And the character of warfare is making it much harder for us to recognise true intentions and thus distinguish between what is peace and what is war.

Of course, it doesn't have to be like this, but we cannot afford to sit back. We need to recognise that credible deterrence must be underpinned by genuine capability and genuine commitment that earns the respect of potential opponents.

Thank you very much.