Chief of Defence Staff IISS speech

Thank you for the opportunity to speak today at the beginning of your Defence Innovation Talks. It promises to be an interesting series and – given the extraordinary pace of change these days – there is no doubt that innovation and adaptation I think are essential.

It's reasonable I think to quote Charles Darwin, when one talks about adaptation. As he put it:

"It is not the most intellectual of the species that survives; it is not the strongest that survives; but the species that survives is the one that is able to best adapt and adjust to the changing environment in which it finds itself."

We live in a period of unprecedented change. I'm going to make the assume that those of you who have tuned into today are familiar with our integrated operating concept, which we launched in September, which informed defence's view of the Integrated Review, which our Prime Minister launched a couple of weeks ago, and of course the Defence Command paper, the supporting chapter on that, which was launched last week.

And I think collectively, these documents have delivered a most unusual opportunity. Indeed, I can't remember a time when the ends, the ways, and the means were more in balance. The ends being defined by the integrated review. The ways been determined, to some great extent, by our integrated operating concept, and indeed the means being the generous settlement that we received from the Government in its spending review in November last year.

Oddly, I also can't remember a time when the Chiefs of Staff Committee was more united, and I think that's been very obvious in the build up to the announcement of the three documents that I referred to.

Now, notwithstanding what I've just said about the ends, ways and means being more imbalanced, of course we have to recognise that there is inherent instability at the political level, and whilst I think it is tremendous that we've got a multi-year settlement, which gives us confidence to plan and programme out to 2030. There's always the risk of something, undermining it. But in principle, we have got the opportunity now to look to 2030, sure in the knowledge that we have a reasonably stable programme.

That means that we can accept some risk in our current force structure in order to create headroom to invest in our future force structure, and indeed to utilise the significant uplift we've had in research and development funding to look properly to the future.

Usually when you emerge from these sorts of reviews, you either have a tsunami of efficiency rolling towards you, or a black hole from year five onwards, or for that matter, a clutch of unfunded aspirations that someone has parked on a thing called a whiteboard.

The reality is that we don't have any of those things this time round, and that therefore I think gives us an opportunity to be able to write a defence strategy, not something that we've had that I can remember in my recent time.

And I'm just going to quote from Anthony Cordesman who wrote of the DoD budget recently, that it "doesn't tie spending to strategy in meaningful ways, nor does it show how a given strategy can be tied to a given region, real plans budgets, schedules, costs, and measures of effectiveness." He says it is an "archaic line item budget, which is organised largely by major categories spending, such as personnel or procurement for individual services, defence agencies and military services."

And I think there's food for thought in that because I do think as we develop our defence strategy, we need to make sure that it goes beyond what I think is a very reasonable question that Anthony Cordesman poses about the DoD budget, and I guess the equivalent strategy. Now, I think, for us, in writing a strategy there are two big points that we've got to deal with — both those points are self-evidently interconnected, and they're particularly interconnected by our definition and determination of the threat.

The first big point is that we need a new strategic culture, arguably a way of warfare for this era of constant competition.

And secondly, we need a modernisation programme that allows us to modernise at the pace of relevance, and I think those are our two big challenges.

So a new strategic culture for an era of constant competition, and being able to modernise at the pace of relevance. Picking up the first point on a new strategic culture. I'm going to set it up and then draw some deductions about what I mean from that. First and foremost, the Integrated Review demands a more global posture that would see our Armed Forces engaged and committed, and less sitting, metaphorically, on their burdens and readiness as contingent forces.

In other words, they're in use, and they are at readiness to be redeployed rather than to simply to be deployed. And that set out in our integrated operating concept, and it's predominantly about making sure that we've got the military soft power being employed, underpinned of course still by our ability to war fight.

Now I'd argue that this demands a very different culture. This culture for an era of constant competition is not something that we have been accustomed to over the last generation or two. I grew up in the bipolar world of the Cold War, we then moved to what was essentially a unipolar world where stabilisation and counterterrorism became our challenge, and we now find ourselves in this multipolar world of constant competition.

And, of course as I have said many times before, it's populated by assertive authoritarian rivals. Who see the strategic context as a continuous struggle, in which all of the instruments of state craft can be employed to be able to achieve the effect, recognising that they aim to win without going to 'war', as we would define it.

But of course what they have also done is to invest quite thoughtfully in in capabilities that are designed to target our weaknesses and circumnavigate our strengths — that has been obvious because they have been able to watch it play out in the new information domain of the last 20 years.

We therefore argued that we need a slightly different form of deterrence — a modern deterrence — which goes beyond the traditional terms of comprehension, capability, credibility and communication to introduce competition as something we need to be doing.

Now, this recognises that escalation management is a big challenge. It is becoming a bigger challenge because there is this risk of inadvertent escalation and, therefore miscalculation, and it is greater now than It was a few years ago. Firstly, because politics has become more bellicose, secondly because of the preponderance or regional instabilities and conflicts, and third because we now have these new weapons and these new domains like cyber and space, which are not regulated in the way the traditional domains are regulated.

I think it is easy taking on terrorist, which we have become accustomed to over the last 20 years, but it is quite another matter when you are competing with states, and that requires some thought.

On top of that the world becomes a more complex place anyway, with the challenges of climate change, population expansion and migration, extremism and pandemics — as we have seen over the last 12 months — questions about the Westphalian system, and of course about democracy.

My view would be that if we are going to execute what the IR demands of us we need a new strategic muscle. First and foremost, it is about integration of all of the instruments of state craft — from ideology through diplomacy through to the economic instrument and all that goes with it.

We do that up to a point reasonable well through, the national security structures that we have and our national security committee, but the extent to which it is agile and dynamic and proactive — given the environment I have just described — I suspect some people might want to challenge and question.

If we are genuinely going to integrate to be able to compete then the way that is pulled together nationally is pretty fundamental to our ability to do it — recognising that the 'military instrument is just one of the instruments that would need to be applied.

Secondly we need the structures and the tools to do this, and that is one of the reasons why we are investing significantly in our network of defence attachés and we are expanding it, we are making it very clear in career terms, it's no longer a backwater, and we intend to have provide a global footprint that can provide genuine insight and understanding, sense and warn, but also hunt for opportunities; both in terms of where we can use our soft bar but also that plays into the national requirement for prosperity.

The next aspect to the 'muscle' is we have to make judgements on our appetite

for risk, and we understand the consequences of engagement. We also need to recognise that it requires strategic patience, well beyond the lengths of a single parliament. It requires prioritisation. We are a small-ish country which is not able to be globally present.

We also need to recognise that we are going to have to sustain it for the long term and this is going to be about 'depth' not 'breadth'. We are learning, and must learn, from the entanglements over the last 20 years. Then I think we need to recognise that this form of competition – this form of modern deterrence this notion of competition at the heart of it – may well require strategic communications that may well test the balance of traditional state craft.

In structural terms, much was made when we launched the Defence Command paper last week about security force assistance, but also the creation of new Ranger Battalions that would apply the same sort of risking capacity building that US green berets have played over time. This notion of train, advise, assist and accompany, particularly with local forces perhaps increasing our ability to influence UN peacekeeping operations in a better way or indeed playing to help others with counterterrorism.

It's also about filling vacuums that might also be filled by our assertive, authoritarian rivals. So identifying the partners that we can work with to make sure the vacuums don't get created, but which we can help them with CT or other institutional operations, I think is at the heart of this.

It's going to be about making more of our network of global basing and training opportunities whether that's Gibraltar, Singapore Kenya, Belize Oman, etc.

It's going to be about working with allies and partners – that's absolutely fundamental. Finding likeminded countries that will operate with us, and that may be about new partnerships, it will certainly be about refreshed ones. It's about recognising k that the UK still has in military terms and military soft partners, particularly real convening power. And I think identifying communities of interest where we could work together with partners, is absolutely at the heart of what the IR is asking us to do.

Recognising of course that all of this is underpinned by the enduring capacity to war fight, and we need to be really clear about our readiness and our resilience, and by demonstrating it, which is one of the reasons why this autumn and autumns is hereafter, through a series of exercises under the mantra 'agile stance' we will be testing our readiness or ability to upload our ability to disperse and our ability to protect, and look after our critical national infrastructure.

In this new muscle we will also need to think really hard about warfare. We need to understand how our authoritarian rivals are seeking to establish new rules, and we need to protect the rules that matter to us, and perhaps help others in international terms, create the necessary rules to get after some of these new domains like space and cyber, and of course it's going to require us in military terms to think quite hard about our command and

control, how that works.

It means that we will definitely invest strongly at the strategic and the operational level and recognise that in this much broader space we are going to need to invest again in componentry — not something as a military we did much over the last 20 years, we were very much focused on land campaigns in Afghanistan and Iraq.

So all of that requires us to think really hard about how we create and build this new strategic muscle that will be necessary for this era of constant competition. Now the second challenge for us, I think, is how we modernise at the pace of relevance. And here I think it's very important to adopt the process of net assessment, which has been successfully used across the Atlantic for some years, but which perhaps we need to invest in particularly on this side of the Atlantic.

It's about understanding the trajectories of our potential opponents, and our allies by five-year epochs looking forwards. I think at the front end of that, let's not lose sight as we modernise, or what are called some of the analogue capabilities, as distinct from the digital capabilities, because they are still going to be relevant to us in all sorts of ways, perhaps not quite in the same quantities, but they'll still be relevant for some time to come.

I think we should note that we are learning a bit about future battlefields from what we're seeing playing out over the last few months or so. I personally think the future battlefield is going to be about a competition between hiding and finding much more so than it's been in the past, and I think there are some pointers towards this for what we've seen playing out over the last five years in Ukraine, but what we've also seen recently in Nagorno-Karabakh.

I think it's showing us the mass potentially can be a weakness, as of course are single points of failure. And I think this may well challenge some of the traditional principles of war. We've always talked about the economy of effort and concentration of force and the extent to which concentration of force if it's there for too long, becomes a weakness is something that people might want to reflect on.

And of course that means that dispersal is perhaps the solution one is looking for. But as we think about dispersal, and how we dominate space. I'm mean ground space, land space and air space, we will need to think about how we exercise command and control, and our philosophy of mission command, and the empowerment that it espouses is going to be vital. If you wish to run something on a dispersed basis, like, I think, new weapons are suggesting we will have to.

I've talked a lot about sunset and sunrise capabilities, but I'm just going to emphasise some of the characteristics of those sunrise capabilities, which I think are relevant to this future battlefield.

Clearly, smaller and faster to avoid detection is going to be relevant to

this. Reduced physical protection for increased mobility would be relevant. Relying more heavily on low observable and stealth technologies. Depending increasingly on electronic warfare and passive deception measures.

Fundamentally, a mix of crewed and uncrewed autonomous platforms, recognising that getting that mix right, can give you mass. If you take for example the air domain. And I think by 2030, it's entirely respectable for us to posit a view that a tactical formation in the Air Force will move from being eight typhoon, to being two typhoon, 10 mosquitoes and 100 Alvino, because that is another way of generating significant mass, and you can see that playing out both in the land and maritime domains as well.

That implies that we're talking in Sunrise terms of being more dispensable, cheaper and less exquisite. And of course this has got to be integrated into ever more sophisticated networks and systems to avoid that single point of failure, and to make the network spark up.

Those are the sorts of characteristics that we're going to be aiming for, recognising that integration and multi domain integration across the five operational domains will be the turnkey enabler, because we can't predict precisely what the right answer is going to be.

We know that information centric technologies are going to be at the heart of this, but it's going to be the application of combinations of these technologies that will be relevant. And that raises questions about how you back the right horses, and some of the criticism that our Defence Command paper has attracted is this sense that we're backing the single horse.

Well, that's probably our failure in terms of the narrative, because to my point about not losing sight of the analogue. We also don't yet know precisely what the future looks like. Hence we need to have a systematic campaign of experimentation, and we need to think really hard about our acquisition system.

The key hypothesis for it to test is multi-domain integration. Now I think in this enterprise at one end you'll see Strategic Wargaming, modelling, but in particular you'll see the use of modern synthetic environments and the partnership we have with Improbable for the single synthetic environment is a good example of how you can actually afford to fail, recognising that it's less expensive in synthetics to be able to do that.

And then of course, at the other end, in terms of this way of warfare, it involves battlefield trials and tactical procedures. Now already we have an ecosystem of innovation hubs in each of the services and in Strategic command. We'll energise those hubs in support of this federated model, genuinely to get this enterprise off the ground and going.

The key is generating a philosophy of integration from experiment to concept development to capability development to warfare development and then ultimately to realising the capability you need. Now fundamentally we can't do this on our own. It has to be done in collaboration with the private sector. In a new type of relationship based on a more open and transparent

two-way conversation. And that's why I would commend the Defence and Security Industrial Strategy that was launched last week. What that does is to get after a different relationship with industry and a different relationship with our allies and our partners to maximise the potential this all offers.

I think we should also recognise that as we look forward, that software is going to be as important as hardware in determining what our Armed Forces will be capable of in the future. Put simply, it's all about data. The internet will collect it, the cloud will host it, robotic processing will automate it and artificial intelligence will apply it. Hence, I think one of the most important additions to our defence inventory is a new digital foundry that will provide technical know-how and allow for rapid adaptation and innovation. In the future, I think data scientists are going to be found at almost every level in our Armed Forces. They are going to be the new Afghan Interpreters which give you the turnkey capacity to be able to maximise that adaptability and innovation.

At the heart of all of this, first of all, is our defence operating model. I think we've got some big questions to ask ourselves to which I'm not going to provide the answers, about the extent to which our acquisition system, and the way we organise ourselves, is perhaps not integrated enough to achieve the effect. We are effective at requiring platforms, how effective are we at acquiring systems? How we think about our operating model and the way in which we conduct this integration across the five operational domains and the enabling structures to achieve that to happen, whether that's Defence Equipment and Support or Defence Digital, is a big question that we need to reflect on as we seek to make this modernisation work.

Now the final point I'd make is that at the heart of all of this is people. They are our adaptive edge. That's why we are investing in a modern career structure to try to maximise the talent. At the heart of it is a common skills framework which is going to be matched to the civil sector. It's horrifying that we have nearly 350 career employment groups across the three services. We're learning that we have to simplify this and we have to match it to the civil sector if we are going to attract the skills we need in the future. We're also learning that we're going to have to manage these careers more centrally than have them managed inside the individual three services. We've made some quite ground-breaking starts in terms of the cyber profession, for example, which is now managed centrally in Strategic Command. It is underpinned by a common skills framework which means that we're very clear about the career structure across Defence, out into Government more widely and GCHQ and then into the civil sector as well. And by doing that we're pretty confident that we will begin to encourage lateral entry, which is a first for the Armed Services, but equally to have a much more profitable and productive relationship with our Reserves.

One of the things that will be announced quite soon, will be the Reserves Forces 2030 work which looks to see how we can have a more productive Reserve which will not just provide an operational Reserve at 180 days readiness to be able to augment and improve the mass of our Armed Forces, but equally will be a home for the expertise where we need skills which can't necessarily afford to have in full-time service. A pretty imaginative people programme is

going to be at the heart of maintaining that adaptive edge but also ensuring that innovation happens. That requires us to think really hard about how we empower that innovation from the bottom, where the generation that matters is much more likely to understand it, than at the top.

In sum, I think we have a significant opportunity but it's going to require a relentless focus on delivery. It needs to recognise, back to where I started from, that we will need a new strategic culture for this era of constant competition and we'll need to think hard about how this modernisation is conducted at the pace of relevance. Fundamentally, that means we must retain this stable funding platform that we have been fortunate to put in place over the last six months.

Thank you very much for your attention.