

CAS – AIR POWER CONFERENCE SPEECH – AS DELIVERED

Speaker: CAS, Air Chief Marshal Sir Stephen Hillier

Date: 12 Jul 17

Event: CAS' Air Power Conference, London.

Location: IET, 2 Savoy Place.

[Thanks to Air Marshal Greg Bagwell for his introduction]

Fellow Air Chiefs, distinguished guests, ladies and gentlemen. It is a great pleasure to be back at the IET this year for the Royal Air Force's Air Power Conference. I am delighted that so many of you have travelled from all over the World to be here. Over the next five days, at this Conference and then at the Royal International Air Tattoo, I aim to deliver a programme that is intellectually challenging, visually exciting and spiritually inspiring.

I am very grateful to Air Marshal Bagwell and the Air Power Association for organising this Conference on behalf of the Royal Air Force and to all our sponsors for helping make this a world-class air and space power event. I would also like to say a very warm welcome to those who are viewing this speech via Facebook Live, and especially all those members of the Royal Air Force – Regulars, Reserves, Civil Servants and Contractors – who are participating in the Conference via live-streaming at their permanent stations and at our many deployed locations around the World.

In practice, our venue is therefore much larger than just this magnificent lecture theatre: it extends across oceans and continents; it's as ubiquitous as air and space power itself. The conceptual scope of our Conference is equally wide, as we explore themes as diverse as the changing international context in which air and space power operates; and the opportunities that technological innovations will offer to air forces in the future. Many of you will have enjoyed at our launch events this morning an introduction to the possibilities of industry, academia and air forces working ever more closely together, to better leverage our physical and intellectual capital and maintain our warfighting edge.

I hope we will be able to push back conceptual boundaries during the course of this Conference. But the principle that has brought us together here today is as old as humanity itself: *the spirit of partnership* – the idea that we gain more by working together than we can achieve alone. We see it daily in our fight against Daesh, in which a diverse Coalition of 70 states from five continents has come together to defeat a violent extremist organisation. Many of you are directly engaged in this struggle, about which we will hear more tomorrow when the UK's Air Component Commander, Air Commodore Johnny Stringer, will describe how this unique partnership of nations – one which extends far beyond traditional treaty obligations and bilateral relationships – is bringing about the defeat of Daesh in Iraq and Syria. This conflict confirms once again that very few interventions are unilateral, even for the most powerful nations in the World. It also confirms vividly that conflicts evolve, often rapidly, and that, as air forces especially, we must have the flexibility to adapt at a similar pace.

And, now, it also confirms that the long-expected – by airmen at least – challenge has arrived to the air power supremacy we have enjoyed for the last couple of decades. We will now have to fight – and fight hard – to achieve and maintain control of the air and space. We will need to ensure that the joint force appreciates the implications for the future apportionment of air power effort. And this, if nothing else, will highlight the level of complexity and effort involved in control of the air, and its vital importance in achieving freedom of manoeuvre across all domains. And if that is the case for the air environment, it is perhaps even more so for space and cyber, as integral parts of the multi-domain capability range of air forces. It is a challenge that no air force can successfully tackle single-handedly, and one that we need to work together on continually, as well as in co-operation with other Services and industry.

The scale and duration of our challenges and commitments therefore demand that we work in partnership, not just to make the military burden more manageable, but also to maintain the necessary levels of international and domestic political will. This can, of course, create some practical difficulties, of course – not least in the information and intelligence domains, where the 'need to share' imperative challenges some of our legacy 'need to know' processes. Trust and reliability are the fundamental elements in driving forward change - they are also the bedrock on which successful partnerships are built.

A greater understanding of how we can collectively stretch our partnership horizons in the 21st Century will define the success of this Conference and, more importantly, the enduring effectiveness of air and space power into the future. The history of air power, and the Royal Air Force's story – are as much about mutually enhancing partnerships, as they are about a reputation for operational excellence. As airmen, we are not afraid to expand our partnership horizons. We are inherently well-disposed to working hand-in-hand with partner nations' air forces and other military and naval arms. And recognising the cutting edge of technology at which air and space power has always operated, we are equally comfortable working in harmony with our industrial partners. And there is the continuity of our international partnerships, through NATO and with a wide range of other multi-lateral and bi-lateral institutions, which help form the bedrock of our collective security. Without those partnerships, our operational success throughout history would have been very much diminished.

Let me offer an important current example. In the RAF today, we are working hard with our industrial partners to enhance our capability, whilst improving efficiency and driving down costs.

Tomorrow will mark the first anniversary of the Typhoon Total Availability eNterprise – or TyTAN for short – a programme which, with our partners BAE Systems and Leonardo, is combining a multiplicity of engineering and support arrangements to achieve cost savings in the region of 40%, whilst at the same time improving fleet availability. TyTAN is expected to yield savings in the region of half a billion pounds over the 10-year lifespan of the current contract. But a critical thing about TyTAN is that these savings are then reinvested into Typhoon capability enhancements, giving an aircraft which is not only more capable on operations today but which is also more competitive in the export market. TyTAN debunks the myth that driving for efficiency can only result in capability shortfalls – through our partnerships, we are incentivising everyone and achieving more for less, which is good for the Royal Air Force, our industrial partners, and the country's prosperity.

Prosperity and combat effectiveness have always relied on innovation, and embedding innovation invariably depends on the trust, will and intellectual capital of a number of partners. Indeed, if suitably empowered with the intellectual freedom to push the boundaries of science and collapse institutional stovepipes, partnerships will deliver ground-breaking advances. 73 years ago today, the RAF's Gloster Meteor became the only Allied jet aircraft to enter front-line squadron service during the Second World War, exemplifying how the brilliance of engineers like Sir Frank Whittle, the industrial power of the British aircraft industry, and the operational potency of the Royal Air Force could be welded together in partnership to deliver transformational innovation to the front-line.

It was a revolutionary moment in the RAF's development. But the Meteor's first combat a few weeks later, in which one of the new fighters destroyed a V-1 Flying Bomb – the world's first cruise missile – reminds us that none of us can afford to stand still. Whilst our own partnerships may flourish to deliver revolutionary innovation, our opponents will be endeavouring to do the same.

Partnerships can be at their most potent when they combine. For example, in the RAF today, we are working both with industry and our allies in procuring and developing the P-8 Poseidon maritime patrol aircraft. We are working very closely with the United States Navy, Boeing, the Royal Norwegian Air Force and other key allies to ensure that each partner's requirements are most effectively and efficiently met – which harmonises requirements, streamlines production-line planning and embeds long-term interoperability.

As we strive to seize further opportunities, we are adapting how we do our business. In part, this means forming new partnerships with those with whom we haven't worked before, so that we can take full advantage of the wider innovations beyond the Defence sector that are contributing to the economic and technological competitiveness of our country. It also means working with our established partners in new ways. We need to be sufficiently nimble to exploit emerging opportunities. One of our responses has been the creation of the RAF's Rapid Capabilities Office, whose motto is 'Explore, Expedite and Exploit', with the goal of delivering a competitive edge to the warfighter as quickly as possible. It is still early days for this new team, but already it is bearing fruit: it has entered a novel partnership with Leonardo on the BriteCloud Expendable Active Decoy programme, in which each partner is making a substantial investment to maximise the mutual benefits. The outputs of this integrated partnership will help us meet the challenges of an increasingly hostile electronic warfare environment. It is just one example of how the RAF is forging new partnering arrangements to deliver enduring, operationally-responsive capability to the front-line.

So far so good. But I would suggest that when we think about partnerships, we are still tempted to lean towards a two-dimensional, traditional model of what we mean: for instance, working with our Joint colleagues, other air forces and our traditional industrial partners. I want this Conference to challenge many of those preconceptions because, rather like war itself, whilst the principles of partnerships may not have fundamentally altered, their *character* certainly has in the 21st Century. The tempo of World events, the rate of technological progress, the scale and diversity of actors operating in the industrial and operational spaces, the scope and speed of communications and information, together offer the chance to advance our capabilities by challenging our established ways of doing things. They provide us with an irresistible impetus to adapt, innovate and change, in collaboration with our partners. That is at the heart of delivering a Next Generation Air Force.

We also need to leverage our partnerships to help meet the challenges and exploit the opportunities presented by the increasing investment in our front-line capability. The recovery of the Royal Air Force's Maritime Patrol Aircraft capability; the expansion of our ISR and RPAS fleets; and the reinforcement of our Typhoon and F-35 forces, all come with a resource demand, people as well as money. Meeting the people challenge is about focusing on our core roles and adjusting our structures, to ensure that we

maximise capability at the front-line. Likewise, we must minimise our overheads so that we can maximise our outputs, as any high-performing organisation in whatever sector should strive to do. We need to live up to our maxim of being 'agile, adaptable and capable', but also be much more innovative and imaginative in meeting the people and process challenges that now face us.

The Royal Air Force's Strategy – with its focus on our people, delivery on operations and growing our frontline – *illuminates* the way to delivering the Next Generation Air Force, but its *implementation* will only be successful if we embrace the imperative to reach out to our partners – not just in industry, academia and our Allies – but across the whole spectrum of society too. Because, in an increasingly competitive employment environment, we must engage ever more effectively with all communities if we are to recruit and retain the highly skilled, motivated and representative Royal Air Force – Regulars and Reserves – that the country needs. The RAF's Centenary, which we will celebrate next year, gives us a unique opportunity to engage across our whole society, commemorating our rich history, celebrating our achievements and, in particular, inspiring the next generation. So we are strengthening our educational partnerships across the country and developing innovative ways to connect with our young people.

Our 42,000-strong Air Cadets Organisation will continue to play an outstanding role in developing the potential of young people and in representing the Royal Air Force in every corner of the country – they and their legions of dedicated staff come from every conceivable background across the rich diversity of the UK population. We are making good inroads into gaining the support and recruiting from BAME communities and the female population, with proportions increasing year on year, and we will continue to do better in these regards.

The re-activation of Number 601 Squadron of the Royal Auxiliary Air Force provides us with an opportunity to embrace key leaders from industry, academia and research institutions who will better understand what we do so that they can advise and advocate on our behalf in areas that the regular RAF would simply find hard to do. We are justly proud of our reputation for being a meritocracy and as an engine of social mobility, and through the opportunity presented by the RAF's centenary and through our national network of partnerships with industry and education, we will ensure that we recruit and retain the very best people that our country has to offer, whilst offering them long-term careers where *even* the sky isn't the limit. To that end, our apprenticeships programme is delivering fantastic results – at present, the Royal Air Force has over 2,700 young people on apprenticeship schemes, and is delivering qualified professionals who can work confidently and competently with minimal supervision, thereby improving our productivity and efficiency. OFSTED has awarded us an 'Outstanding' grade in all areas of our apprenticeship programme, and such is the quality of our training, that others – including BAE Systems – are sending their young people to train with us at RAF Cosford. So, we are doing well, but we mustn't be complacent – we will only secure our future success if we are able to recruit the best possible people and deliver on their expectations by providing them with the opportunity to progress and shine according to their merit.

What I have offered so far is an RAF perspective. It would, of course, be premature at this stage of the Conference for me to suggest that you will arrive at any particular conclusions, but I would like to leave you with a few challenges. First and foremost, I

encourage you to engage in the debate – whether you are in this lecture theatre, or attending remotely – this is a golden opportunity to influence future thinking on air power and its future application. Please engage using the Crystal Conference app, and the panel chairs will ensure that as wide a range of views as possible is expressed – if everyone agreed with everything which is said, then there would be little point in holding the Conference. So I want to hear your points of view, because no-one has a monopoly on good ideas. In particular, I would ask you to consider the following 3 areas as we progress through the Conference:

First, question whether, in fact, partnerships in the evolving 21st Century *are* different in character – or perhaps even in nature – from those which have existed hitherto. And if so, whether there are particular areas in which those differences are most profound? Second, if you consider that there are special features about partnerships in this era, can their distinguishing characteristics be recognised in order to identify other opportunities? And last, but not least, if 21st Century partnerships are in some way different, what benefits do they promise to deliver for air power, and how can we best exploit them?

I do not expect that we will reach unanimous conclusions to these and the many other questions that will arise during the Conference. But I do anticipate that each of us will gain a much better insight into the potential that exists to work together more efficiently and productively, whilst understanding that each side enters a partnership with their own specific requirements. Indeed, as in all partnerships, having the good sense to appreciate the other party's needs is just as vital to your own success as it is to theirs. In short, your partner's success should be just as important to you as your own.

In closing, I would like to welcome again all the speakers and panel chairs. They will provide the *real* substance on which our discussions will feed. I look forward very much to your engagement – either directly in this hall or remotely – and for taking part in what I am sure will be a lively, entertaining and revealing Conference, conducted, of course, in the spirit of partnership.