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Defence Committee

Oral evidence: Defending global Britain in a competitive age, HC 1333

Tuesday 20 April 2021

Ordered by the House of Commons to be published on 20 April 2021.

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Members present: Mr Tobias Ellwood (Chair); Stuart Anderson; Sarah Atherton; Richard Drax; Mr Mark Francois; Mr Kevan Jones; Mrs Emma Lewell-Buck; Gavin Robinson; John Spellar; Derek Twigg.

Questions 128 - 166

Witnesses

I: Professor John Louth, Independent Author and Defence Analyst; Paul Hough, Defence Business Consultant.



Examination of Witnesses

Witnesses: Professor John Louth and Paul Hough.

Chair: Welcome to this Defence Committee hearing on Tuesday 20 April 2021. This is a one-off session to consider the defence and security industrial strategy and the integrated review. The purpose of this session is to have a preliminary discussion on the defence and security industrial strategy—DSIS for short—and to seek experts’ first reactions to the strategy and how it fits into the integrated review and the defence command White Paper, which were both published recently.

We are very pleased to welcome two witnesses today: Professor John Louth, who is an independent author and defence analyst, formerly of RUSI; and Paul Hough, who is a defence business consultant, formerly of BAE Systems, General Dynamics and Rheinmetall. Welcome to you both. We are very pleased to have you this afternoon and we look forward to exploring these issues. Three papers have just been produced, and it is the industrial strategy that we are focusing on today.

Q128 **Stuart Anderson:** Hello and welcome to both of you. If we take the defence command paper and DSIS, ADS has described it as “a very positive step”. Do you agree with this? If not, what are your views on it?

Professor Louth: Thank you to the Committee for inviting me. I share ADS’s view. I thought this was a strong paper. You could see an author’s hand in it rather than a piece or pieces of staff work. The argument made throughout DSIS was cognisant of the critiques and challenges that had been presented by analysts and thinkers over the preceding 10 years, so I was encouraged to read it.

Paul Hough: I agree with John and with ADS. This is perhaps a turning of the corner and it recognises that the approach that has been prevalent over perhaps even the last 30 years may have become a blunt instrument. As the paper says, they now need to take a more nuanced approach to the market, to procurement and to delivering capabilities. It was a surprisingly positive step and one that is very welcome.

Q129 **Stuart Anderson:** When you say “surprisingly positive”, were you not expecting it to go in this direction?

Paul Hough: I say it is surprising because, if I were to write a wish list of things that could have been in the paper, it would tick most, if not all, of the boxes. You are always surprised when you get what you were hoping for.

Q130 **Stuart Anderson:** You say it ticked most, if not all, of your wish list. Is there anything else you would have liked to have seen in it?

Paul Hough: No, not really. As with anything, though, the challenge will come in the implementation, and the devil is in the detail, but it is the



start of a journey and of procurement moving in a different direction. We can quibble with some of the wording and ask questions, but I share what John and ADS said. It was an excellent document.

Q131 **Chair:** Just to pursue that a bit further and get us going, you welcome this, and the words you use almost suggest that you are mildly surprised. Perhaps the bar was set quite low. Could I tease out of you how you thought the industrial strategy has fared over the last 10 to 15 years? How have the Government and MoD specifically done? How would you rate them? How is this going to then move us forward?

Professor Louth: Since SDR 1998, industrial strategy and acquisition have been two sides of the same coin. We have not really differentiated between the two. Indeed, it is tricky to do so. Looking historically, SDR 1998 really focused on structures, processes and values, and everything to do with smart acquisition derived from that. Lots of new headquarters were being built and significant sums of money were being spent.

The defence and security industrial strategy 2005 really added sectorial champions to the equation, but perhaps without the clear-eyed funding to support that approach. When you get to the Levene reforms post 2010, we are back to structures and competency reform, which was added to by Peter Luff's White Paper in 2012, where we were really talking about commercial, off-the-shelf competition being the principal driver for efficiency and a modest though hard-won commitment to financing science and technology.

Since 1998, it is everybody on the bus and everybody off the bus being driven by the change management professions, in many ways. Given that background, people were a little surprised to end up with a coherent, well-written document that seemed to be reflective of some of the critiques, issues, risks and debates that have been happening over those 10 years. People, perhaps in their more cynical moments, were thinking that it would be yet another "motherhood and apple pie" paper. It was not that. It was a coherent document.

One of the smart questions worth exploring is how it fits into the other two documents. Are the triptych of documents coherent across themselves? Do they make sense as a hierarchy and as a set of emerging strategies? That is something that people will really be exploring over the immediate future.

Paul Hough: I agree with John. I have worked in the defence industry for quite a long time. Since the 1980s and the original Levene reforms, we have been on a published path of competition. As John said, the defence industrial strategy and acquisition are, effectively, two sides of the same coin and there has not been a link between previous defence industrial strategies and acquisition or procurement. We have had an emerging strategy in combat air. We have had the national shipbuilding strategy. We have good examples like Team Complex Weapons. Principally, the procurement has been following a competitive role and



has been out of step with any defence industrial strategy. This documents brings the two together and says that procurement will be used to implement the defence industrial strategy, which is a very positive step.

Q132 **Derek Twigg:** I would like to explore further how the DSIS fits with the priorities set out in the integrated review. Also, what role could the defence industry play in realising the Government's ambition for the UK to become a scientific superpower?

Professor Louth: That is a very interesting set of questions. Taking the latter one first, I am not sure what an international scientific superpower is at the moment. When we think of 21st-century technologies and the science behind them, we have to accept that they are almost international by their nature. Science and technology flow in a very capillary manner over, across and between borders. Even if we look at something that is very close to our hearts at the moment—the vaccine programmes—it is very difficult to think of them in a national setting rather than with their international supply chains and the international knowledge collaboration.

We have to be very clear-eyed when we talk about nations as scientific superpowers. Nations, and possibly even alliances, can exploit technologies and science better than others, perhaps, and one of the things we are hoping for is that the West can exploit technologies better than its current and emergent rivals. To put a national lens on that misunderstands the way that technologies work and the way that scientists and technologists inform themselves and each other in the 21st century. It is going to be very difficult to think of it just through a national lens. I would caution folk not to do that. If they do, they really misunderstand the literature on how technology and science flow, but perhaps that is something to be considered more deeply.

In terms of your first question, I am a little unsure as to how the hierarchy of plans, if I can use that phrase, works and comes together. The command paper and the integrated review felt as if it was staff documentation and as if a lot of Departments had been involved, and perfectly understandably. It felt like it had been much more staffed than authored, whereas the industrial strategy clearly had fewer people contributing to it. There may have been discussions, but it was, at least to my mind, authored by a much tighter group. You could sense that in the reading.

Over the past couple of weeks, I have tried to map across the themes from the three documents and it is not a particularly easy exercise, so I am really looking forward to more engagement with the Department and with other colleagues on just how DSIS supports our broader intent within the integrated review.

Paul Hough: If I could just add another view, I bow to John's experience and knowledge in terms of the connection between the three papers. I suggest that the DSIS could have been written independently of the other



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two papers, because it is focused on the defence and security industries and the acquisition of systems and products in that area, and is very much a servant of what the defence command paper will try to do.

With regard to scientific superpowers, I do not know what one is. The key to this, and where defence can contribute, is exploitation. We spend a lot of money on research and technology in defence. The issue that we have is not so much in the generation of good ideas but their exploitation, implementation and delivery into service. Hopefully, the direction step by the DSIS will create an environment where ideas can be exploited and delivered. Too often, we enter into investments that do not have a clear exploitation path.

Q133 Derek Twigg: You said that the priorities do not necessarily mix with the integrated review.

Professor Louth: As I said, the DSIS is a servant of the other two documents. The defence command paper says what is required, and when and where. The DSIS is very much about going away and doing that and delivering what is necessary, but the direction set by the DSIS is not necessarily dependent on the other two papers.

Q134 Chair: One of the pillars that Derek was alluding to there was this idea that we work together to generate growth and prosperity. When we say “working together”, who is that referring to? I ask that question simply because I have just picked up on the wires that New Zealand is to back away from full membership of the Five Eyes community. There is fragmentation, if you like, of who our allies are in the West and who we want to work with.

We have to be honest when it comes to industrial strategy: we do not have the necessary bonds with the continent that we had before. There is some post-Brexit fallout as well. Doing business with the United States is complicated, because of its ITAR agreements and so forth. It is a tricky environment in which to do business, and yet here we are, making very niche, bespoke and high-tech bits of equipment in a very technologically advanced decade. Who are the partners? Who are we going to be working with?

Paul Hough: When the statement “working together” is made in the DSIS, it means between the customer, the MoD, the security departments and industry. Too often, they are in a situation of confrontation rather than collaboration. The DSIS sets out the course of a more collaborative environment, which is positive.

I agree with your statement about international co-operation and working together, although I take a very positive view from the DSIS that there is an openness to work with partners—although it is difficult with the US, not least because it is such a large customer and has its own industrial strategies—but also to align requirements with partners, to align industrial strategy and to become mutually dependent. Apart from the US, which has some difficulties, none of the western NATO nations can



afford a full suite of onshore industrial capability. It is about finding ways of working with people and sharing the burden such that we do one thing and allies another, and we are mutually dependent on each other.

Q135 **Mr Jones:** The Chair has started nibbling at my sandwiches, but you are right: the main theme is about the MoD and industry working more collaboratively. Clearly, that has not been a very good track record in the past. I have some other questions that I want to link to in a minute, but I just want to know what your thoughts are on what is in the report in terms of overcoming some of those traditional antagonisms between industry and the MoD in procurement terms.

Paul Hough: The document is quite light on how it is going to be done. It is going to be quite complex. As I mentioned earlier, there are some real highlights. Tempest and combat air and Team Complex Weapons are highlights, speaking as someone who is outside both of those projects. The document is also sensible enough to say that it will be on a case-by-case basis.

The challenge for MoD, other Departments and industry is that we have been on a 35-to-40-year journey not so much of non-co-operation but of competition, which has led to a certain posture on either side and to a significant set of resources on either side that have been developed to run the fight with the opposition. It will take some time for industry and the MoD to change the mindset and to acquire the skills.

Professor Louth: This is the real nub of not just the document but the strategy and what people mean when they talk about the strategy. What we are saying, effectively, is that there will be a case-by-case, sectorial approach to defence acquisition. We are going to recognise, in a very open way, that defence capabilities are quite frequently complex, that they are going to be changing rapidly over the next five, 10 or 15 years, and that there is significant uncertainty in all of the components necessary for keeping our capabilities up to date and probably in advance of our potential competitors. All of that leads to a sectorial approach.

What that really means is bespoke and flexible acquisition architecture. We will bring the Department and industry together in a much more overt way through that flexible acquisition stance. I am thinking more and more about there being some kind of acquisition safe spaces, where we are not competing and industry is not being invited to overtly compete, so we are not generating efficiencies and next-step capabilities through competition, but properly generating them through collaboration within those safe spaces. That is possibly the only way that our new realities around technology and scientific endeavour are going to come to the defence sector anyway.

That is a massive change in emphasis. It is huge for everybody. There will be significant challenges in that. What is interesting, as Paul alluded to earlier, is how that is operationalised and implemented. We note from the document that we are talking about significant R&D spend. That R&D



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spend is already committed, in many ways, within extant programmes. The science and technology elements of that will probably be new, but we will see.

That, effectively, leads to a new science and technology strategy that will be generated. We know that we will be reforming the single-source contract regulations. We know that there will be a fresh action plan for SMEs. There is going to be a land-sector strategy; that has already been flagged. There will be an intellectual property strategy and a defence supply chain and innovation strategy. It is strategy on top of strategy on top of strategy. There is enormous work here, but it all points towards significant and profound change that can all be captured in this idea of a sectorial approach and this flexible acquisition architecture. The challenge for the authors of DSIS is how it takes the Department with them.

Q136 Mr Jones: Paul referred to a success story, which is the complex weapons programme, which has worked because it has had that flexibility with industry as well as with the customer. The elephant in the room is clearly always the Treasury, which is affecting these decisions. How does this fit into the document in terms of strategy with regard to bringing prosperity into the procurement equation?

If you look at some of the decisions taken over recent years, there has been a huge tendency to buy off the shelf, directly from America, with very little workshare in the UK. Boeing is the best example of this: it gives a lot of commitments but does not deliver a great deal in terms of workshare or capability for ongoing R&D in the UK. How is that also going to fit into this? Philip Dunne's piece of work, which I thought was very good, needs to fit into this, if we are not only going to build UK capability but ensure that we get the prosperity agenda as well. It is not clear to me how that fits into this.

Professor Louth: It probably does, if it is implemented properly. There is an argument now that resilience equals local, and that the more capability you have onshore and tucked into a knowledge base that, almost by definition, tends to be local, the more resilient you will be. We have made that argument traditionally through prosperity. If we have clusters of defence competencies that are exportable, we will, by definition, have more money and prosperity within the local area.

Q137 Mr Jones: I do not disagree with that, John, but you just have to look at recent procurements such as P-8, Wedgetail and Apache. They were all off the shelf, with very few sounding boards from the procurers to bring stuff to the UK. In practice, there was very little in terms of workshare. I am not suggesting the old offsets regime but real partnerships for long-term commitment to the UK. I am not opposed to international procurement, as long as you get some buy-in to UK industry, but the track record of the MoD over the last few years has not been good, has it?



Professor Louth: That is absolutely right. If we are still pointing to those sorts of programmes post DSIS, it has not delivered what it has promised. There will be some generation of capabilities offshore—there will have to be, of course—but what we want to be able to do within those safe spaces is to say what needs to be adapted and maintained onshore for our freedom of action. We will need the knowledge base within those local areas to make sure that we can do that. We will need to have a relationship with our international partners at Government level that says, “We will have these things from you, so you will have to have these things from us”.

If you look at the direction of NATO military reform and the papers that are coming out from the joint-lessons centre in Lisbon, for example, it is all about this proper Government-to-Government, military-to-military co-operation: “We will take a bit of yours and you will take a bit of ours”. I am sure that we will come on to what this means for particular branches of the military in a later evidence session, but the whole sense of these strategies is that they have to be able to enable military capability to be delivered. That is a mix of partners. Some of it has to be generated by us and some imported, but with the knowledge to adopt and adapt. Those are skills within the local hubs around the country.

If we are able, as part of that mix, to export to emerging allies, so much the better, but that has to be all part of a Rubik’s cube of capability generation. If DSIS does that, that is smart. If DSIS is a fig leaf to ignore that and just to go back to buying things from across the pond, we have not only missed a trick but we are potentially damaging our ability to generate these capabilities.

Q138 **Mr Francois:** Good afternoon. DSIS uses the word “partnership” repeatedly, but I just want to press to test quickly, following on from what Kevan has said about what that means. Some people would say that that is code for watering down competition. No defence budget is infinite and there is always going to be some finite amount of money, and you are going to want to get the maximum value out of whatever money Parliament votes for defence.

How are we going to maintain pressure on contractors to remain efficient and to continue to provide value for money, and not have procurement programmes go horribly wrong, as so many have in the past, under this new regime, if we are making less of this work competitive rather than more? In other words, how do we keep the contractors honest?

Paul Hough: I suspect that what happens in large competitions is that the losers lose, and they lose permanently. If you look across the sectors, we have a stable industrial base in the air sector and a strong partnership between the military, the MoD and the air-sector providers. Similarly, in the naval sector, we have rationalised down to a small number of providers. In the other sectors, there has been a lot of competition, but what is going to happen eventually is that, as companies lose



competitions, there is no work for them, so they leave the market and fragment their workforce.

What this DSIS recognises is the reality that there are some areas where competition is absolutely right and proper and is going to deliver you a good outcome. What it is saying is that it is now retaining the option, as John said, sector by sector. One of the good things that it says is that they are going to understand their supply chains and the impact of their decisions on the market. If a competition will sustain the market, I assume they will have one; if not, they will enter into partnerships, as they have successfully done in some other sectors. They are not turning their back on competition, but just saying that there may be some areas where we should be looking more at collaboration.

Q139 Mr Francois: Just to explore this a little further, you have a competition and somebody wins it, but if you do not hold them to their contract, you still have a massive problem. Warrior CSP is a classic example of that. It was cancelled in the review. They wasted £400 million on the programme. You mentioned land systems. As a Committee, we recently produced a fairly punchy report on that. It caused quite a stir, it is fair to say, because we looked at a whole range of programmes where the contractors, having won programmes, simply did not deliver, even when, in some programmes, they had a decade to do it.

The thing I am pushing for is, whether you award the contracts competitively or non-competitively, whichever of the routes you do down, once a contractor is under contract to deliver a particular capability against a given price and a defined timescale, how you are going to hold them to account under DSIS differently from the way we have often failed to do it for decades.

Paul Hough: It will not change that approach. Contractual commitments are still contractual commitments.

Q140 Mr Francois: Are you saying that it makes no difference?

Paul Hough: In our procurement system, we have grown a very large overhead of running competitions. We ran a competition for Warrior CSP. The winner will have its contract cancelled, but the winner has also published how much money it has had to put into that contract. The competitions are generating a huge overhead in terms of time, money and risk. If they had just gone to the original supplier, they may have had the Warrior a bit earlier, so it is not clear that competition is delivering what it says it is going to deliver, or has done in the past, Warrior being a good example.

Q141 Mr Francois: I do not want to get bogged down in this and hold everything else up, but what I do not get about DSIS is that I do not see anything that is different. Once contractor A is under contract for programme B, what, under DSIS, is going to make sure that contractor A does not massively overrun and cost the taxpayer hundreds of millions of pounds on programme B? That is the fundamental problem in



procurement, and DSIS does not say anything about it, does it?

Paul Hough: It does not, because, as we have said, the devil is in the detail. You are right to draw this out, but the example that we have given of where a more collaborative approach has been taken is recognised as successful: Team Complex Weapons. What happens in a competition is that, in order to run one, to nail everything down and to hold people's feet to the fire, we write extremely long and detailed contracts and we start to manage the contract rather than the outcomes. The company and the MoD employ a lot of people to make sure that we write requirement after requirement, and we end up with a bloated contract.

We run a competition and people commit to technical and programme risk that they otherwise would not need to take, but they need to win the competition. It will be on a case-by-case basis and a competition may still be appropriate, but you would hope that, by working together and looking at the art of the possible, we will avoid some of the issues you are referring to.

Q142 **Chair:** Can I just pursue this idea of strategy a little further? First, the bigger question is how we do this well. We are fortunate that, on this Committee, we have a number of former Ministers, and we have all been in different situations on international visits where we may be pushing or promoting a British product.

I recall being in Kuwait, unable to really flog a British angle on an upgrade to their Warrior, because we had two competing British interests and we could not choose a winner. France came in and had selected its own winner before presenting it to Kuwait. Guess who got the contract. The French did, because the French embassy was able to really row in behind that bid. Is that something that we need to consider here: that, when we are looking abroad, we have an internal competition before we then exhibit a potential export to an ally?

Professor Louth: Or even to live with that sense of continual, smaller competition. Competitions are fascinating. If it is a single competition at the programme level, we tend to get the challenges around overpromising, underdelivering, cost overruns and delays. Those are well documented and Mr Francois knows them extremely well.

If we have continual competition within the notion of a safe space like TCW, we are not saying that competition no longer exists, but just that it is done in a way where it is within that safe space and people can win, reshape, bring in new technologies and challenge earlier TRLs to be part of that broader mix. The principles within TCW and elsewhere have done that extremely well, but we do not talk about them. We tend to get stuck on the broader challenges around this one big-bang competition model that we have lived with for the past 20 years, with all of its problems.

If we had a smart sectorial programme that was bringing in all of the best of technologies, of engineering and of horizon-scanning, and was generating solutions that were going to be fielded, tested and evaluated,



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and that were going to be cutting-edge—the sorts of things that the industrial strategy alludes to but has not mapped how it intends to do yet—that is absolutely something that the UK Government can promote to its partners and clients.

That is an incredibly strong thing, because not only does it attend to the questions around prosperity and supporting these local clusters of excellence, but it also allows us to shape the way that militaries are thinking within those states. That could be extremely important to us when we are thinking about questions of reach and of reserves at depths.

These are all the sorts of things that have been alluded to in the command paper, but without any real sense of how we are going to do it. I was very encouraged that the industrial strategy talks about Government-to-Government commercial mechanisms. If that is done well, it is a win-win; if it is just a statement of, “Let us hope for the best”, we are where we are now.

I share your sense of frustration, Chair. If you were able to promote our sectorial safe space that was delivering capabilities, you would be on to a winner. If you are just pointing out, “We will be having some competition in the future, mate”, of course another country is going to come in and dominate.

Paul Hough: One of the most encouraging things that the document says is that the MoD recognises that it shapes the market. Given your example, you would hope that, in the future, we do not end up in a situation where, effectively, we allowed UK competitors to come forward and shoot each other in the foot.

Chair: My case study was not illustrated in the document itself, which is no surprise.

Q143 **Gavin Robinson:** Thanks to both of you this afternoon. John, you mentioned the number and nature of different strategies that are to be developed and how that may impact on flexibility, but one of them that you mentioned was engagement with SMEs. How best can the Ministry of Defence can engage with and incorporate our SMEs within their overall plans? I know that Kevan Jones referred earlier to the Dunne report, which was a great piece of work. It shows the huge disparity that there is in support for defence spend throughout our country.

From my perspective, in Northern Ireland, a figure of £103 million sits quite starkly against £945 million in Wales, which is three times our size, or £4.96 billion in the south-east of England. Not all of that spend will be with SMEs, but it does show that there is a massive job of work to do for Government to engage better with SMEs. I would be keen to hear what your reflection is on how best they could involve SMEs going forward.

Professor Louth: I have a vested interest in that I am a senior non-exec of SubSea Craft, which is a defence SME on the south coast, so I look at this through the lens of a boardroom as well, and it is extremely



challenging. The point you make about your part of the world is well-made, because the universities over there have a fantastic record of tech spinoffs. Small tech-rich companies in Northern Ireland are under-represented in terms of the potential SMEs within the supply chains that we should be seeing in the defence market and the defence sector more broadly.

One of the interesting things for me in the industrial strategy as laid out is that it seems to recognise that and that it has to have mechanisms in place to allow the really good idea from somebody who has no experience of working with defence to come to the fore. If you are comfortable with my terminology of this bespoke, flexible acquisition safe space, that could be a place where that individual brings their technologies.

One of the things that we need to do, though, is to really understand whether SMEs drive innovation or not. At the moment, it is assumptive. It is not a definitive statement. Some of the initiatives around generating stronger data and stronger knowledge of what various component parts of the defence enterprise are bringing to UK defence would be extremely welcome to perhaps demonstrate what I think is true: that both large primes and SMEs innovate. Quite often, they are innovating in the same spaces. Having large programmes in existence allows innovation. If you have a large programme associated with a bespoke sectorial acquisition programme, the job's a good'un, in many ways.

The way that the action plan that we are promised from DSIS is generated is really important. If it is a generic staffing exercise, that is a mistake. If it is a properly considered, created and crafted document by people who know what they are doing, from the sectors in the question and from some of the SMEs themselves, we have a chance. Now is the time for the SMEs to put their hands up.

The last point that I would make is that, if you are an SME and do not understand defence, and you do not have an MP who is championing your corner, you look on the DE&S website. If you looked at it now and look through the organisation chart, you would not have a clue who to talk to. Indeed, even if I asked every member on the Committee to write down the name of the person or the post that is MoD's SME champion, you would come up either with a blank sheet of paper or with different names. I can almost guarantee that. That is not smart, so all those mechanistic things need to be generated as well.

Q144 **Gavin Robinson:** I agree with you on that. I remember organising a roundtable with DE&S and MoD officials for procurement opportunities for ADS members in Northern Ireland. They all flew to London. There was a ministerial reshuffle the day before, and it was going to be cancelled because the Minister could not attend. It turned out to be a most effective meeting because of the lack of ministerial attendance, I have to say, and the freedom for the companies that came with no Minister being there. That was a one-off and has not been repeated since, despite best



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efforts, and that is for those already engaged with a membership body. I take your point, John, and thank you for your response. Paul, do you have any reflections on the question of how best the MoD could engage with and incorporate SMEs within the schemes?

Paul Hough: From my perspective, the MoD is very good at engaging SMEs at reasonably early stages of the lifecycle of a project. There are various engagement events, such as warfighting experiments, et cetera, which bring new ideas and SMEs into the fold, but my impression is that they are then left in the jungle without any maps or equipment. It really comes back to the fact that, if you bring an SME in, you need to be able to give it an exploitation plan as to how what it is doing will mature, get into service and deliver it some benefit, or you need to be brave enough to say, "I am sorry but this is not going to work".

As John has mentioned, a lot of the pathways are through prime competitors who hold the big contracts and projects. A lot of those guys are very open to innovation and SMEs, because it is good for them, so perhaps, if it is something in a particular area, the MoD could identify the prime contractor that is holding this contract where the idea might be implemented, and ask that prime contractor to work with the SME to develop an exploitation plan.

Q145 **Sarah Atherton:** Apologies, gentlemen, for coming late to the party. I think we have met before; I am Sarah Atherton. I hope you have not answered this question already. The DSIS details Government co-operation between Departments, but with different Departments come different agencies and legislation. I wonder what your opinion is of the interface between the DSIS and something like ARIA or the National Security and Investment Bill. How will they work together?

Professor Louth: That is a really interesting set of questions that people are just starting to explore. If we take ARIA first, it strikes me as interesting that, quite often, it has been compared to DARPA. DARPA really took off, in its predecessor organisations and in the form we know now, after the Second World War. There was not a lot of capital flowing, so Government had to step in and pump-prime, with public money, what international financing capital does today.

We have to be very clear-eyed about that difference when we think of ARIA. £400 million was the same sum that Sir Peter Luff talked about in 2012, when he wanted to ringfence 1.2% of the budget for science and technologies. It is good pump-priming money but not a vast sum, and it is certainly going to be spread extremely thinly across all of the sectorial areas that DSIS talks about. We have to be very clear-eyed about ARIA and what we want it to do.

We know that there is a strong sense of £6.6 billion for research and development within the publication, but a lot of the applied research and development is already sunk within the programmes that exist at the moment. The pure research things that you and I would think about



perhaps in terms of science and technology at the early stages of technology readiness levels are not really included in those sums, which are relatively small amounts of money.

What having something like ARIA signifies is good. It will potentially encourage companies, big and small, to think about their investment strategies. Government have to start thinking about matched funding and having those conversations not just with companies but with investors early on. I know that they are difficult and that it is really hard to find out who in the Department should be holding those conversations, but they are absolutely critical. Hopefully, this kind of sectorial approach and this safe space for acquisition will allow some of those conversations to be had. That may be the real benefit of something like ARIA.

Q146 **Sarah Atherton:** What about monitoring hostile states' involvement in SME contracts? I am thinking of China's involvement here. How will DSIS incorporate that element of scrutiny and protection?

Professor Louth: It did lean heavily on the National Security and Investment Bill, as you saw in the document. It was a BEIS initiative, as the principal organisation. One of the assumptions with that whole approach is that international finance can be identified and located within a specific border. That misunderstands the nature of international capital. If we identify where a particular investment vehicle comes from, the moneys flowing into that vehicle are not bounded by the border; they are international. It is going to be extremely difficult for the Investment Security Unit to do its work, if it is not staffed by dead-eyed investigators rather than generic policy civil servants. My honest response is that I will wait to see what that looks like.

Paul Hough: I may be mistaken but the document does not mention ARIA, which I would say is an omission, because you would hope that they are looking to see how the scientific and research and technology work is co-ordinated. One of the other encouraging things in the document, though, is a commitment to understanding the supply chain, because, at the moment, I do not think the MoD does. I do not think that many people do. By understanding the supply chain, you can look at the key risks and, therefore, at least have a better understanding of which entities may be subject to influence from adversaries. It also allows better planning. It is one negative and one positive, as it were.

Q147 **John Spellar:** First, I want to follow on from what Paul said about the MoD not understanding the supply chain. Sometimes the discussion seems to be all about the really white-tiled, gleaming high-tech, but much of the supply chain is very medium or even low-tech, and people who do that very well. If that is hollowed out—and this ties in with the prosperity agenda as well—we have neither the physical capability of people who really know what they are doing nor the human capability of maintaining that base of engineers, not just the PhD scientists.

There was a mention of programmes. For many of these, demand creates



its own supply. If the MoD is not looking, from its top-end equipment right the way through its purchasing, at maintaining that national supply base, then, in any of these discussions with international groupings and international collaboration, we are coming to the table with a pretty thin hand. I just wondered how we could bring that in, rather than focusing just on the top end of tech, but looking at that full supply chain.

Paul Hough: You make an excellent point. The management of supply chains has largely been outsourced to the prime contractors, which is a reasonable perspective.

Q148 **John Spellar:** Except they sometimes take stuff in and whack a huge markup on it.

Paul Hough: Exactly, so there is a commercial position. Their risk is a business risk, not a national security risk. Understanding the supply chain and where it sits in the UK and around the world, and understanding where that supply chain is being used at the lower levels, in medium and low-tech, by your potential partners can yield a lot of benefit, in my opinion. At the moment, you could co-ordinate procurement action with partners to get the best out of that supply chain. You should not take the management or the understanding of the supply chain away from the prime contractor, because they have a commercial risk, but the MoD or DE&S need to grow that capability and really understand it from many different perspectives.

Professor Louth: Mr Spellar, you and I have talked about this over the years. A healthy defence enterprise has to have lots of ingredients, from the high-tech, new, niche and disruptive, right the way through to experienced engineers, designers and integrators. One thing that the literature on new technology is teaching us now is that it cannot be exploited without experience. It just does not happen if it is just new talking to new. There have to be experienced folk in the mix somewhere.

We know now, in terms of the literature around resilience, that having that healthy enterprise and having technologists in the same space as designers, engineers and good project and risk managers all helps with our resilience. Your insight is bang on the money. If we use the industrial strategy to focus on specific communities at the expense of one or two other key ingredients within that enterprise, we are again misunderstanding the nature of a complex defence enterprise. It all has to be healthy, or no part of it is healthy.

Q149 **John Spellar:** That is very helpful; thank you very much. Could I just draw together one or two strands that have appeared in some previous exchanges? One is looking at domestic by default in a world where, for example, there are much greater sounds now in the US about being worried about their supply chain and domestic enterprise, and about strengthening by America. How do we best handle our international partnerships, which are inevitable, to ensure not clunky workshare but proper international exchange and co-operation, and to ensure that we



are getting the best possible equipment as well as a proper balance, maybe by international specialisation and engaging in realistic discussions with partners? Is that a feasible prospect?

Professor Louth: It is, simply because, if we do not do something like that, we will fail collectively. This sense of old-style workshare does not really fit into the vision of the industrial strategy, at least as I interpret it. I am seeing more around co-operation in the early technology-readiness levels, so proper research and exploitation co-operation. I am seeing the need for co-operation at the design phase, as well as real knowledge of how users will exploit those emerging capabilities. There will be a national dimension there, as well as an understanding that that national dimension will be exploited internationally, whether that is us with partners on a battlefield or us supporting export campaigns.

If we are just defaulting back to, "We will get to a particular development moment and then workshare", we are missing the opportunity that this offers us. More importantly than that, we are probably missing the opportunities to generate the capabilities in time and at a cost that we can all live with. I do not think that anybody would thank us for that, so we have to have a broader vision and sense of what we mean by this international collaboration. We need to call out countries that are going to be just "me for myself". That is not the way that international collaboration, for the West, at this moment of risk and uncertainty, should work.

Paul Hough: One of the things to remember here is that this is not a light-switch moment. We are not going to just switch from what we have been doing for the last 30 or 40 years to a brave new world under DSIS. A lot of the spend, over the next five years at least, will be on contracts that have been placed under a different regime. It comes back to the point of mutual dependency. We are already, in some areas that I am aware of, dependent on other nations to supply. They may need to become dependent on us.

Perhaps a first place to look at this is in research and technology funding. It seems slightly bizarre to me that western nations are spending money on the same areas of research and technology. Perhaps we could sit down with some of our allies and decide where that money might be best spent, so that we are doing something for them and they are doing something for us.

Q150 **Chair:** One of you tested us to see whether we could name the SME champion in the MoD. His name is Andrew Forzani. I know that only because I had to phone a friend. I hope that that is the correct answer and that I can move on. I just mention him because you are right: it is something that we should all be familiar with. It also raises another point about the personalities that are involved here. We are speaking of strategies, and we normally associate strategy in a military context with operations and big battles, and the ability to shape the future with desirable ends using available means. Whenever we think of the great



strategists in the armed forces over time, whether it be Patton or Nelson, we also think of very large personalities.

We have not only this industrial strategy here, but the air strategy. A land strategy and a maritime strategy are coming too. How much of this is reliant upon an almost larger-than-life personality to drive this, or is it so set and are the instructions so clear that it does not really matter?

Paul Hough: I agree with you that this is dependent upon the mindset of not just one but a whole series of individuals in the MoD and in industry, who are going to work out how to work together or, indeed, how to maintain competition. It will come down to a set of individuals who see the vision, develop the strategy and implement it in a careful and timely manner. In the end, it always comes down to the people and the leadership.

Professor Louth: I agree. For the past 27 years or so, we have embraced a technocracy rather than a really substantial, character-led approach to generating capability. We are at a moment now where we need a few of the larger personalities and disrupters with a bit of intellect behind them to stand up and shape this. If we leave this just to a technocratic endeavour, again we are missing an opportunity.

Q151 **Richard Drax:** Are the MoD's procurement requirements enough to sustain a domestic defence industrial base by themselves?

Professor Louth: "I am not sure" is a hedging answer, but I suspect not. The elements that we think of in terms of the industrial strategy—the protective segments such as nuclear, offensive cyber, Crypt Key, complex weapons, novel weapons, test and evaluation, and CBRN—can burn all the money that we have available within the EP if we started again from scratch, but that is not what we are doing. There is a balance required around how we are going to think about furnishing our own requirements and supporting those companies with those exquisite capabilities and technologies to be able to sell their capabilities to our partners. Both will lead to a healthy defence industrial base, presumably, but they both need to be exploited in slightly different ways.

Paul Hough: The simple answer is no, from my point of view. There will be some areas where, for national reasons, the UK may decide to maintain capabilities for which it has no immediate requirement. Largely, it will need to find demand from the UK and from our partners, which will sustain an industrial capability onshore. The important thing is that we cannot, as Mr Speller said, say that we are all going to make widget X, because there is only enough demand to sustain one facility within our allies for widget X. There will be some tough decisions and, industrially and commercially, there will be some winners and some losers. This is where it is clear that the market will not sustain a competition.

Q152 **Richard Drax:** We had an interesting time at the Royal Navy recently. In a chat with one of the officers, he was suggesting that we retain the shipbuilding skills for warships but farm out others to a cheaper builder,



say in the Far East somewhere, because we cannot do it all. Is that something that you would support, or do we try to retain it all? What you are saying is that we cannot and that we have to prioritise.

Professor Louth: Yes, and it depends on what the “all” represents. A force structure in the minds of folk in 2020 is going to look substantially different from those in 2035, so we need to think through what capability we will require in 10 to 15 years’ time. That may mean that some of the “all” that the Royal Navy officer was talking about is not part of that force mix. I am very conscious of when Stephen Lovegrove gave evidence to the Committee at the beginning of February. I wrote it down. He said that the equipment plan—our capability requirement, if you like—post the integrated review and the industrial strategy will contain substantially different programme and capability choices to EP 2020.

We still need to see how these three documents play into the equipment plan. Are we going to cancel things to make headroom for the protective segments from the industrial strategy? Presumably not, so how do we start manoeuvring from a force structure that we want to amend? How does that work through the EP? We will come up with answers that are more complex and nuanced than the binary of, “We will do some things onshore and buy some things from Malaysia”. It is not going to be as simple as that.

What we will be thinking about, perhaps, is understanding the knowledge flows, the tech transfers and where the core competencies are between our respective countries and our potential partners. That is much more than a couple of things onshore and a couple of things offshore.

Q153 **Richard Drax:** Presumably, for our own security, we are going to have to make sure, not least in cyber and space, that we retain all these specialist skills. We cannot farm those out, because, once lost, they are gone.

Professor Louth: That is absolutely right. To maintain those skills, we need to maintain and generate them in the early phase of the operating cycle. We cannot just think about a satellite launch in 12 months’ time and bring folk in at the end of that journey. They need to be there now. They need to be recruited now. We need to understand the skills and competence mix to take us to that vision in a relatively period of time.

We need to think about what we do with them thereafter, what the maintenance and through-life support programmes look like for those skills to develop and be enhanced, and which partners we do that with. These things will find their own way and will flow, but they need to have the security of that safe space, so that people will know that they can build their careers within these areas.

Q154 **Richard Drax:** Paul, what effect will the reduction in the size of the Army have?



Paul Hough: It will not have a huge effect on the implementation of the DSIS. The land industrial strategy will need to take cognisance of the reduced size of the Army and its different roles. Hopefully, in the land industrial strategy, you will see a lot of this come to life in terms of, "This is what we wish to or will do in the UK, this is what we will do with partners, and this is what we will let the market take care of". That is one of the dynamic areas at the moment, because we have a hugely fragmented supply base in the UK, as well as around our allies, so some rationalisation of that supplier base is likely.

The other thing to mention, just to try to build on what John was saying, is that we are talking a lot here, because of John's and my background, about the defence aspect of DSIS. The security aspect is also vital, and that is where the Government need to be looking at the skills base. If you look at security, it is in people's intellectual property rather than in industrial facilities, so we need to have the right number of people with the right skills in order to deliver the security of the country.

Professor Louth: There are some issues though. The industrial strategy has been talking about having these sectorial, specific focuses. We forget that, when it comes to land forces, there is still something really important about numbers. We forget, perhaps at our peril, that land forces are about manoeuvre, stealth, hide, being pre-positioned, logistics and common training. I am hoping to see it in the land strategy, but I did not really get the sense that we had remembered that numbers, particularly in a European context, are still important.

The smaller Army was, for me, signalling that we will be much more expeditionary, without really thinking through what General Ben Hodges said to your predecessor committee a few years ago: that mass, numbers and joint training matter in the context of Europe. I have not really read anything about that in any of the three papers.

Q155 **Richard Drax:** Professor, you are speaking to the converted, I can assure you, and I think I speak for my colleagues on this Committee. We agree that the loss of mass is very serious, but what effect is the reduction in the size of the Army going to have on procurement per se?

Professor Louth: The issue for acquisition within land systems is going to be about both the systems themselves and, much more importantly, the joint training within those systems. If we are generating systems over the next 20-to-30-year cycle only for a relatively small, tip-of-the-spear land army, we probably do not have the volumes necessary for that to be an attractive proposition.

That is not a disaster if we are having those active conversations with, principally, our NATO partners on what that looks like as a collective capability generation for NATO. I am a little surprised that we have not had a broader NATO and Europe conversation from these three documents, because that seems pivotal. As a country post Brexit, this hinge between the Five Eyes and NATO worlds, and being an honest



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broker between respective communities in Europe, seems something that we are missing.

If we were to develop land systems with our partners for broader utilisation of potential European battlefields for deterrence, that is great. If we are talking about land systems just to feed a relatively small, modest, tip-of-the-spear land force, the land industrial strategy is going to have enormous problems.

Q156 **Chair:** It was interesting that you commented there about mass matters. You may be aware that there are six Russian naval ships going through the English Channel right now, one behind the other. I would have to scratch my head to see whether we could match that and muster six at one time, given the cycle that they go through in preparing to go to sea, training and so forth.

Are we making judgments about having niche capabilities that are so high-spec that not all come to fruition? The best example of that is the F-35. We originally ordered 138; we have confirmed 48, with a hint that we might purchase some more, but certainly not the original commitment. How does that messaging ripple through British industry when we make these big promises but fail to honour them?

Professor Louth: It does. People do remember promises. You mentioned 138, which was confirmed four and a half years ago. That is a relatively short period of time within an acquisition cycle. We are now down to 48, plus a few, possibly. That impacts on companies and, more importantly, on the investor community. These companies are only as robust as their investors allow them to be, so we need to be very clear-eyed when we make these promises on numbers and then drive away from them.

Tempest has, in part, been very aware of that and has been smart in its thinking around that. FCAS more broadly and this mix of manned, unmanned and autonomous, without really committing to numbers, is probably a smart way of thinking about the problem, given the experience of the F-35 programme, but also the experience of how technologies are changing what we think we need. If we think we can freeze a requirement today for something like combat air, we are deluding ourselves. It is not going to happen. We are going to have loads and loads of mini frozen requirements that evolve over time. Your instinct is right that numbers and the signalling of numbers matter to adversaries, companies and investors.

Paul Hough: We have a history of promises around projects like F-35, but we also have a history of writing exquisite requirements, which drive risk and cost. We need to move more to alignment of requirements with our allies. The document makes frequent reference to industry investment and co-investment. Of course, industry will invest only when it has confidence in a return, so it is about generating that confidence in



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terms of sticking to our promises and embarking on programmes that have a reasonable level of risk.

John just referred to FCAS. While I am by no means an expert in this, as we move into the cyber and artificial intelligence world and the agile development of software, writing a requirements document that has 3,000 firm requirements in it on day one and expecting them all to be delivered at the end of the project is just not the way to go. Flexibility, change, veering and hauling are going to be the new way of working.

The Americans said that their sixth-generation fighter went to first flight within one year. As manufacturing becomes smarter, requirements are going to change and projects are going to be moving forward all the time. There will be no firm end date.

Q157 Mr Francois: One theme that is stressed strongly throughout the DSIS is the prosperity agenda. As of last year at least, the United Kingdom was the second largest defence exporter in the world. DSIS stresses that very strongly. There are some people who do not like that, but, bluntly, if we had not had a defence industry building Spitfires and Hurricanes in 1940, this building would no longer serve its current purpose and this hearing would not be taking place this afternoon.

Both of you said you welcomed DSIS. Presumably, you are very pro our success as an exporter of defence equipment around the world. That is important both for subsidising domestic programmes and for driving prosperity and technological advancement. I presume that you are not going to disagree very much with that, but I would like to hear if you do agree.

Professor Louth: I do. The Government-to-Government commercial mechanisms in support of exports hinted at within the industrial strategy are a very positive development. Prosperity is, in part, going to be driven by our ability to export not just niche capabilities and high-end technologies but more routine materials as well.

Paul Hough: We need to be slightly clear-eyed about defence exports and the measure you mentioned, Mr Francois. I do not know the exact figures, but if you stripped out the sale of Tornado and Eurofighter to the Middle East from those statistics, our ranking would drop considerably. We should be fairly clear that we may not be as successful at defence exports as the figures might indicate. We need to better understand and be clearer about defence exports. Most countries now are demanding in-country manufacture. I heard the other day that Saudi Arabia wants 60% in-country manufacture. If you do not have your regional headquarters there in three years, you will not get the contract.

We have this market where countries are building up industrial capability, and we are running the risk that we are going to generate huge overcapacity. I am all for defence exports. Government-to-Government arrangements are key. Working with allies such that we export to and



import from them is probably a much sounder first step in defence exports than some other steps that might be taken.

Q158 Mr Francois: I understand your point—and DSIS makes this clear—that, certainly in recent years, the vast bulk of our exports have been in the air domain, although, in fairness, if you look at the maritime domain, we had two massive wins with the Type 26 frigate in Canada and Australia. Going forward, in a sense, there is, at least for the next few years, there is an increasing maritime element to that.

We have covered exports, so let us turn to the domestic procurement market. If I remember my A-level economics correctly—and I am stretching back a bit here—the defence market is almost unique in that it is both a monopsonistic market, i.e. one with only one customer, and also an oligopolistic market, i.e. one with a relatively small number of large suppliers that dominate the market, including the American giants, BAE Systems, and then the likes of Thales and Airbus. John quite rightly mentioned SMEs, but those large companies dominate and there is a relatively small number of them.

Given that, it is difficult to achieve value for money, whether competitively or not. DSIS talks about reforming procurement, but it does not say very much about what form that reform will take. It genuflects to it, but it does not really go into detail. What is your understanding of what they mean by reforming procurement within DSIS and making it work better?

Professor Louth: The best way that I can perhaps offer an explanation, and my understanding of what they are signalling, is that, pre this document, acquisition in the UK for defence capabilities was a linear activity. We had the CADMID cycle, although it is not a cycle but a very linear process. We had very straight-lined commercial-officer activity aligned to CADMID. The commercial officers, particularly in the Department, were focused principally on competition assessments for decision-making. They were doing courses on three-point estimation, on understanding the issues around that decision point within a business case and on contract-monitoring. That was the role, in many ways, of the commercial function within this linear acquisition process.

The industrial strategy is signalling that it will take, by sector, a much more flexible, creative approach to what that acquisition space looks like. My interpretation of that is that the commercial functions in industry, the Department and elsewhere in Government will be urged, as a political imperative and direction, to be much more creative and take much more risk. That is going to be problematic in terms of what commercial officers are perhaps prepared to do, and there is going to be a challenge between the special advisers and the top of the commercial function within MoD around what that bespoke, flexible acquisition architecture looks like.

If reform is based on, “Let us go and create something by sector”, we will, almost by definition, never know what good looks like, because there



is no template to follow. We will know good only retrospectively, which will be problematic, if you like to test and evaluate things. That is almost a political act of faith.

Q159 Mr Francois: You use the phrase “act of faith”. Whether contractors win programmes by competition or not—and let us not spend the rest of the hearing having a philosophical argument about whether one route is better than another; sometimes one route makes more sense and sometimes another does—the fundamental problem that the Department has had for years in terms of equipment procurement, under Governments of both colours, it is fair to say, has been the ability to manage the contracts to time and cost.

Our colleagues on the Public Accounts Committee have looked at this in exquisite detail. It reported a little over a year ago that, of the 32 biggest programmes that the MoD had, five were running to time. There is, historically—this has gone on for years—a real problem that the MoD cannot seem to manage its contractors effectively, which is one of the reasons why the equipment plan remains out of balance. According to PAC, of the £190 billion or so in the plan over 10 years, it is now up to £17 billion out of kilter, because, to some degree, our eyes have been bigger than our tummies. We have continued to pretend that we can afford more programmes than there is money for in the Budget.

How is DSIS going to solve that? The managing the defence programme reform that we heard so much about just over two years ago was going to bring the equipment plan back into balance. We and PAC, as well as most external commentators, agree that it palpably failed to do that. How is this all going to be different? You could have all the strategies, buzzwords and catchphrases that you like. If you cannot run procurement programmes to time and cost, it is all a bit of a waste of time, is it not?

Professor Louth: I could not agree more. You capture the historical problems beautifully. The challenge that we have now is almost re-educating our understanding. We have tried, under all flavours of Government, to commit to multidecade programmes as if we understood how much they would cost and how long particular technology insertion would take. We have all colluded in that: the commentators, the industrialists and the folk setting the requirements. Indeed, the commanders have done so, because they have had their favourite capabilities and pieces of kit.

What we are going to have to do in a complex, 21st-century, high-tech capability environment is just accept that we will not be able to cost and nobody will be able to price a lot of the unknowns that are necessary for those complex capabilities. We will only be able to put a price on them and to understand how long they are going to take for us to deliver and integrate them when they get to a technology-readiness level that we can identify.

Q160 Mr Francois: This is the nub of the whole thing. The procurement of



equipment, and its support when we have bought it, is about 40% of the MoD's entire budget now, give or take a percentage point. If you cannot put that right, giving the MoD more and more money is a bit like handing wads of cash to a chronic alcoholic. They always plead, like a child in a supermarket tugging at the apron-strings of the Treasury, that they never have enough money. Parliament then votes them this extra money but a vast amount of it is wasted, and they then come back and say they do not have enough money.

I will have one more go it: how is DSIS going to address this problem? For all the good stuff in the strategy—and there is some very good stuff in it, not least on the export side—it still does not explain, with any clarity that I can discern, how the MoD is going to better manage its contracts in the future to prevent all these endless overruns and bring the equipment plan back into balance than it did before the document was published. In other words, it misses the point.

Professor Louth: In terms of your alcoholic analogy, if we were to just give the alcoholic a bucketload of money and access to the pub, that would be mad public policy. If we were to manage the alcoholic's condition on a day-to-day basis and give them just enough money to get through that day, with a proper test and evaluation moment for multiple parties at the end of that day to feed you into the following day and to make sure you have the right money for the next day, that is a good way to deal with a set of unknowns and uncertainties.

Most of our complex programmes have been a set of unknowns and uncertainties. A lot of them have been assumptive in the amount of time it will take to deliver and the amount of money it will cost to generate. We have all colluded in that over the years, knowing in our heart of hearts that there were certain elements within those programmes and activities that we could not possibly understand.

The submarine programme is a case in point. When we generated the submarine programme, there were a whole range of unknowns that we could not possibly grasp, but we pretended we could. The experts among us all just said, "That will take six weeks, that will take 12 weeks, and that will take two years". There was no dataset for that; it was just assumptive. We costed that, and suddenly that cost becomes how much a submarine costs to build, but it was not right.

Q161 **Mr Francois:** With respect, there was a dataset at General Dynamics Electric Boat across the pond, because they carried on doing it. The problem was that we stopped doing it for a number of years and had to restart after a long gap. It was not like no one in the world knew how to build attack boats; it is just that we had stopped doing it for a number of years.

Professor Louth: Exactly that point, and the amount that we could bring across was constrained. We ended up bringing across some of the people from that company who were working on a lot of programmes. The point



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is well made: it is almost impossible to cost complexity. It is almost impossible to put a timeline on the integration of complexity, when one of those lines could be, "Go and break for me the laws of physics".

Q162 **Mr Francois:** Hang on, John. I take your point, but look at Crowsnest, which is years late. One of the reasons why it is years late is because the subcontractor responsible for the air vehicle—the helicopter, in English—left it out to rot in the rain for a year. That is nothing to do with challenging the laws of physics; that is just idiocy, is it not?

Professor Louth: I could not argue with that all and would not even try to defend that. I am not saying that there have not been examples of really bad practice and that there has not been padding. Of course there has, and it would be ridiculous to pretend otherwise. What the IS is giving us is the opportunity to at least be honest amongst ourselves.

There is a way of approaching complex capability generation that should be different from what we have done previously. I am not sure we will be able to mend the 95% of our costs that are sunk in today's EP, because you are not going to go back to basics on those, but for tomorrow's programmes, there is at least a sense that we can be a little bit more creative in how we think of that acquisition space.

Paul Hough: I totally agree with what John said. He said it very eloquently and much better than I could. I welcome your statement, Mr Francois, that it is a monopsony. The DSIS is the first time that the MoD has recognised that and that it has an impact. In terms of what difference it will make, given the absence of detail in the document and given the contracts that are in play at the moment, it will make no difference in the short term. As John says, for future programmes and as we move into a more agile world, hopefully we will be able to at least understand what we are getting for our money.

Q163 **Chair:** It does beg a bigger, more strategic question that requires Government to give clarity as to whether we want to go very niche and bespoke, but where the market is much smaller. As I illustrated before with the F-35s, we have cut back on our numbers. If we want to build things that the rest of the world wants, does the market not increase, the simpler and the more versatile the product? The Type 31 is perhaps a good indicator of this. Should we be looking for something far more modular and simpler, which is likely to have a wider market than something that is very high-tech and niche?

Paul Hough: It is a very complex question. Essentially, the industry and the supply chain are building for the UK armed forces, which have a set of requirements that may be too exquisite from time to time. If you were looking at what the rest of the world wants, you would need to look at what your allies and other nations want. What your allies want is similar to what we want. They are running on a similar cost base, are looking at similar technologies, and have similar capabilities. Other areas that may



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wish to have more of a particular item are unlikely to be able to afford them.

Professor Louth: The industrial strategy makes the point that Government shape the market. Government have to be overt in what they see the market having to perform and the industrial companies within that market undertake over the next five to 10 years.

Chair: It is perhaps beyond the scope of our study today, but it is also about where you are likely to use this. Are we getting ready for a very high-risk but low-probability event? As we heard today, we are retreating from Afghanistan, where the threat was very low but we were defeated. The insurgency was on the ground, with RPGs, landmines, AK-47s, Typhoons, Tornados and all this other high-tech kit and digitalisation, but we could not win. There are some big questions there about how we utilise force. I would have preferred to have seen A-10 Thunderbolts sent out to Afghanistan than expensive jets, but that is a personal perspective.

Q164 **Mrs Lewell-Buck:** Throughout the session today, a point that you have both made at various times is that the key test of the success of the DSIS is going to be its deliverability. Following on from points made by my colleague Mark, only three out of 30 of the MoD's major projects are on time and on budget. Does the MoD have the right procurement and project management skills to deliver on this?

Paul Hough: Despite what Mr Francois and John have said, the MoD, in my experience, from a project and commercial management point of view, is extremely capable at developing projects that become so complex that they run over time, over budget and under specification. What we are moving towards in some areas is a more agile world, where we are looking at the rapid insertion of technology and the agile development of capability. That is a new skill that is only developing in industry. It will take some time and some concerted effort for the MoD to acquire that skill. It will also take some time for them to have a change in mindset to work with industry, rather than in confrontation with industry.

Q165 **Mrs Lewell-Buck:** This might seem like quite a basic question, but how on earth will they come up to speed and get those skills? How will that happen?

Paul Hough: The issue is that the DSIS is not something that is going to happen or be fully implemented next year. It will take some time. It will take concerted and focused effort, training and recruitment, sector by sector. It will also require that the MoD develops an understanding of industry. It has always seemed quite strange to me that industry spends millions and expends a huge amount of human resource to understand the MoD and the armed forces, but the MoD does not spend anything on understanding industry. If we see major progress in this in five years' time, they will have done well.



Professor Louth: You hit on a very important set of questions. If you were a young person joining the MoD as a project officer or a commercial officer at the beginning of the century, you would have been in a number of headquarters that were established to make you fit for purpose, and then subsequently demolished. You would have been required to join the smart acquisition and development stream, which lasted a number of years and then was demolished.

If you were any good, you would have joined the acquisition leadership development scheme, which ran for a while and invested heavily in you as an individual, and then stopped. You would be encouraged to think about acquisition as a complex enterprise and then told, "Forget all of that. All this is about efficiency through competition". You would have got on and off so many buses that you would have forgotten how to walk.

It is a phenomenal journey that these folk have been on. All the time, they have developed skills and competencies that made them the first port of call for industries such as oil and gas. The number of commercial officers from MoD recruited by oil and gas companies is phenomenal. I do not subscribe to the argument that folk are under-skilled; they just may have been historically under-led and part of a community that became flotsam in this complex movement between thinking of things as an enterprise and thinking of things as just market forces.

What the strategy seems to be suggesting now is that we want these folk to be characterful and to use their full range of skills and creativity in a way that they have had not had the opportunity to do before. The challenge may be whether people are going to feel comfortable taking those opportunities. If they have been led in a whole range of different directions over previous years, will they feel confident in what they are now being told to do? If people have gone native and embedded themselves in the linear nature of acquisition as competition and contract-monitoring, are they even going to have the competence set to do so? I recognise your question in that regard. It is going to be an enormous challenge, for sure, and it needs to be led well.

Q166 **Mrs Lewell-Buck:** You have hit the nail on the head: it is always about good leadership and leading from the top. Is the right leadership in place for this? The staff there do not operate in a vacuum. They have pressures from management, from Ministers and from Secretaries of State. Are the right elements and the right type of leadership model in place for this to happen?

Professor Louth: The challenge, in part, is who we are talking about. If it is DE&S, it looks no different today than it did pre the industrial strategy's publication. It is almost as if nothing has changed in terms of how they present themselves to the wider world. If we are talking about the acquisition policy folk in Main Building, and that broader community within central Government—in the Cabinet Office, Treasury and elsewhere—I get a strong sense from that community that they want to



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lead this into the sectorial, bespoke acquisition architecture that would encourage people like me.

The challenge, of course, is that this is a vast community. If we are talking about the programme and project management community, it is an awful lot of folk in Bristol and in frontline command who have issues and thoughts around requirements. It is policy folk in Whitehall, as well as government relations people and key decision-makers within industry itself. That is a big community to influence, and that community is not going to be led in a traditional hierarchical way.

It has to be engaged as an intellectual exercise around why this is right, and not just right for acquisition but for our country, and why this is part of our broader regeneration. It has to be completely apolitical and there has to be a sense of how we can generate the kinds of capabilities that are going to keep us and our partners safe. It almost seems to be made for a moment where the UK wants to regenerate.

Paul Hough: I have nothing to add to what John said, except to say that there should be some quick wins to demonstrate the benefit of the approach that they are taking, but it will take some time and concerted effort.

Chair: That brings us to the close of this session where we look at the defence industrial strategy. Thank you very much indeed for your time. You have stressed the importance of that symbiotic relationship between Government, MoD and the industry. We hope that this document provides, along with the other two, that opportunity for that reset to take place. We should pay tribute to the incredible capabilities that we have in this country. We are the second largest exporter in the world after the United States. It is something that we can be proud of and something that we want to keep working towards and supporting.

Thank you very much indeed for helping us understand this latest document. We are glad that it has got a general thumbs-up. We will wait to see whether the proof is in the pudding in terms of how it plays out. On behalf of the Committee, thank you very much indeed for your time.