



HOUSE OF COMMONS

Defence Sub-Committee

Oral evidence: Defence Equipment and Support, HC 1099

Wednesday 17 May 2023

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Members present: Mr Mark Francois (Chair); Sarah Atherton; Robert Courts; Richard Drax; Mr Tobias Ellwood; Mrs Emma Lewell-Buck; Gavin Robinson; John Spellar.

Questions 1-52

Witnesses

I: Professor John Louth, independent author and defence analyst; Lucia Retter, Research Lead, RAND Europe; Professor Matt Uttley, Chair of Defence Studies, King's College London.

II: Sir Bernard Gray, former Chief of Defence Materiel and author of Review of Acquisition.



Examination of witnesses

Witnesses: Professor John Louth, Lucia Retter and Professor Matt Uttley.

Q1 **Chair:** Good morning, and welcome to this first session of the Sub-Committee of the House of Commons Defence Committee, which is conducting an inquiry into Defence Equipment and Support—or DE&S for short—which is the MoD organisation that procures and then supports in service the vast bulk of the military equipment for His Majesty’s Armed Forces. I should explain that we have had about 40 written submissions so far to the Sub-Committee inquiry, some of which have been of an extremely high standard. This is the first of our oral evidence sessions following on from that.

For the benefit of our witnesses and those following us from afar, I will start off by introducing the members of the Committee. My name is Mark Francois and I am the Chairman of the Sub-Committee. To my right is my colleague John Spellar, who is the senior Labour member on the Committee—the ranking minority member, as they would say in the US. To his right is Sarah Atherton, and then Richard Drax and Robert Courts. Across on the other side are Tobias Ellwood, who chairs the main Defence Committee; Gavin Robinson, a DUP Member; Emma Lewell-Buck; and our Clerk, Masrur, who is here to keep us procedurally in order.

Having introduced the Committee, perhaps I could ask our three witnesses to introduce themselves and to give their affiliations, starting with Professor Louth.

Professor Louth: Good morning, everybody. Thank you very much for inviting me here. I am Professor John Louth. I am now an independent writer and analyst with a number of soft affiliations, including with the University of South Australia in Adelaide. I sit on a number of boards in the UK, either as a director or a strategic adviser.

Chair: Thank you. I understand, John, that you have just published a book, “Understanding UK Defence Exports”, which you have kindly furnished us with a copy of. We will take it as a written evidential submission to the inquiry. I think this will be an excellent publication, though I should say for the record that other publications are also available. Professor Uttley, could you introduce yourself, please?

Professor Uttley: I am Professor Matt Uttley, the chair of defence studies at King’s College London.

Chair: Thank you very much—my alma mater. Will you introduce yourself, Ms Retter?

Lucia Retter: Good morning, everyone. Thank you for inviting me. I am Lucia Retter, one of the research leads in the defence and security team of RAND Europe, and I direct our Centre for Defence Economics and Acquisition.

Chair: Thank you very much. You are three academics who have great expertise in this area, so we are very grateful to you for finding the time



to share your knowledge with us. I will ask Richard Drax to kick us off with the first question.

- Q2 **Richard Drax:** Good morning to you all. Should defence acquisition be any different or more challenging than other large-scale complex construction projects, such as Hinkley Point C nuclear power station or HS2? Professor Louth, perhaps you could kick off, please.

Professor Louth: The only sensible way to answer that is to look at other complex programmes and compare them with what we do within DE&S. That broader comparative piece has been woefully underserved in the past few years. If I were to look at a programme like Westfield shopping centre in White City, it is a multibillion-pound programme that is crafting something that is extremely difficult to generate, delivered within eight or nine years. The difference between that and, let's say, Astute is that the people in Westfield were focused on one principal thing: the opening date—the delivery date. All the commercial arrangements in place between the key tenants and suppliers were configured on meeting that in-service date, if I can use that phrase.

If we look at Astute, we were marching on performance, time and cost parameters, each equal and each significant. There is a difference between how we generate programmes within defence and what we see in the private sector and elsewhere across Government. The reason for that, of course, is that it is public money rather than private capital. The lesson to be taken, though, is that we cannot have everything concurrently. The literature is very strong that we need to focus on one priority. Whether that is performance, delivery to time or delivery to budget, it does not really matter—that is a strategic choice for decision makers—but we cannot march to all three, it seems to me.

- Q3 **Richard Drax:** I will give you part 2 of the question, professor: does defence raise challenging differences, not least around national security and sovereignty?

Professor Louth: I think it does. We have convinced ourselves that we want certain things onshore and owned. We can debate forever what we mean by "owned". We behave in certain ways that you would not necessarily see in the private sector. Whether that is a good thing or not, this century will test out of us, because technologies are being developed more rapidly than ever before, and the overwhelming majority are being homed and housed in the private sector, so by definition the relationship between public and private is going to have to change a little bit this century.

- Q4 **Richard Drax:** Matt, the same two questions for you.

Professor Uttley: I agree entirely with John's points. In terms of similarities, clearly defence is grouped together with other major projects in terms of governance, and therefore sits within that setting of the most complex and high-risk major programmes that the UK has. Clearly, there are going to be commonalities in the requirements for project management skills and expertise. It is important to note that defence is



not alone in sitting on a red-to-green cycle on the likelihood or otherwise of delivery.

It is also important to note that defence is different in a number of ways, because decision makers have to consider a range of factors. I will be as brief as I can. Capability acquisition is central to having military utility and achieving military goals. As a consequence, there are questions surrounding operational independence, that being a key requirement in order to give us national independence in what we do.

We have to acknowledge that, in the context of defence requirements, we are looking at a moving target, in effect. Requirements can change as projects develop in response to changes in the character of conflict, and therefore the utility of military systems.

There are also interesting questions around value for money, and how we think about value for money in the context of acquisition. It brings us to a perennial debate, and something we see recurring in subsequent policies. That is the extent to which we should emphasise open procurement, essentially focusing specifically on cost, lead time and performance parameters, or the degree to which things like operational independence require us to think about value for money in terms of maintaining operational independence but also reaping potential social value arising from investment in the onshore UK defence industrial base.

Q5 **Richard Drax:** Lucia, I will remind you of the question. Should defence acquisition be any different or more challenging than other large-scale projects, such as Hinkley Point C and HS2? Does defence raise any uniquely challenging differences around national security and sovereignty, for example?

Lucia Retter: Thank you for the question. My answer is probably similar to Matt's, in that I think it is a kind of "both, and", in the sense that there are significant similarities between large capital investment programmes in the civil sector and in defence.

I would argue that equipping the Armed Forces is one of the most important, challenging and complex tasks that the UK Government—or any Government that procures defence capability—faces. Some of the key characteristics that these programmes share with some civil capital investment programmes are that these projects and programmes tend to be pioneering, often quite bespoke, long in duration, and complex in design, production, business arrangements and technology, for example.

Because of their long duration, they are also plagued, I would argue, by similar challenges as civil acquisition programmes—for example, staff turnover, loss of corporate memory and insufficient understanding of risk, particularly because of the novelty and complexity of these programmes. I would also argue that they are plagued by optimism bias, and are easy to start and difficult to stop, because there is that fallacy of sunk costs, which is common across these large acquisition programmes, both in defence and in the civil sector.



I would also argue that there are limits to being able to make a completely direct comparison. One of those limits is to do with the fact that UK defence acquisition fundamentally enables the Ministry of Defence to deliver defence's contribution to national security objectives of security, prosperity and influence. The equipment that is being procured often needs to operate in very extreme environments, whether those are contested environments or even extreme environments in terms of climate and weather, and it needs to operate at very high levels of performance. These programmes often have unique attributes—for example, in terms of being collaborative with allies, meaning that there is a need to ensure that the capability is not just integrated within the wider set of capabilities in the UK, but can also interoperate with allies, which obviously brings its own challenges.

I would argue that a lot of the procurement takes place within market conditions that are sometimes unique. In some sectors—especially submarines, ships and combat air, for example—we really cannot speak of open competition. These distortions create, I would argue, a unique environment that needs to be considered when we look at defence acquisition specifically.

Richard Drax: Thank you.

Q6 Sarah Atherton: Professor Louth, I will go to you first. The Defence Committee, the Public Accounts Committee and the National Audit Office have repeatedly criticised the MoD's management of major projects, although the National Audit Office said recently that the multi-year spending review has relieved the situation. What does UK defence procurement do well?

Professor Louth: Ooh. Let me try to answer that with a conceptual point. I think we kind of club everything together in acquisition. "Acquisition" is a term that we—usefully or otherwise—apply to everything. It seems to me that buying something is different from acquiring something over 30 or 40 years. For the latter, we are probably testing the realms of known technologies; we are generating some kind of demonstrator prototype, and we are managing the risk of that prototype into service and beyond. That is a profoundly different proposition to buying stuff.

The differentiator, if you like, is the maturity of the technology of what we are buying. If we are buying something that physically already exists, either in a store room ready to be delivered or on a manufacturing line that we can add our name to, that can be delivered relatively quickly, usually to our specification. When we have bought under those terms—urgent operational requirements, for example, within theatres of the past two decades—that has gone pretty well. We have even been able to amend that engineering pipeline—that manufacturing pipeline, if you like—to certain specific qualities that we required. Afghanistan is a fantastic case in point. Buying known technology and proven capability commercially through our credit card is something that the UK can do well.



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Where we have difficulties, to my mind at least, is when we start thinking of the 40 years of tomorrow. I go back to a programme called Black Shadow, which the MoD was thinking about in 2008-09. The early requirement of Black Shadow was, "Can you please break the laws of physics?" That was effectively the requirement. Who in their right mind could respond, "Yes, of course we can. We will develop a programme to do exactly that, and here is the schedule"? It is just this side of silly.

There is that tension between those long-term programmes and projects to develop new capability, whatever we mean by that, and the ability to buy stuff that we need for our forces today. That is probably what we do well, but there is a real tension there. Folk have already mentioned FCAS and the submarine programmes. The AUKUS submarine is into the 2040s; the FCAS initial operating date, off the top of my head, is 2035. That is proper tomorrow stuff and yet we have war in Europe today.

Q7 John Spellar: But FCAS, for example, was not bending the laws of physics; it was buying an armoured vehicle, and the armoured vehicle programme across the board has been atrocious. In your estimation, what is going wrong inside the process to keep bringing about not just sub-optimal but non-existent outcomes?

Professor Louth: With land systems—Ajax probably more than FCAS—one of the problems that I have written about in the past is that the requirements seem to be to want everything. As soon as we start talking about suites of capabilities on a common platform, on a common framework, everybody adds in other bits and bobs, and suddenly you have a degree of manufacturing complexity built on design complexity that is incredibly difficult to deliver.

I mentioned to a colleague recently that I went down to look at the Ajax rig many years ago, before it was being put on to the platform, and it was pretty clear that that really was not going to fit into anything that was car-shaped and mobile. I am not an engineer, but it was pretty obvious to me that that was going to be problematic. That complexity of having a whole range of requirements built on to one design and one platform was really the nub of the problem there.

Q8 Sarah Atherton: Lucia, I will ask you the same question: what does UK defence procurement do well?

Lucia Retter: We are used to stepping back and identifying what goes wrong. There have been many rounds of acquisition reform, or at least efforts to embed acquisition reform, so it is almost surprising sometimes to ask yourself, "What is it that we actually do well?"

I would argue that there are a few points to highlight. For example, at least in theory, I would argue that there is a greater degree of budget certainty for the Ministry of Defence through the comprehensive spending reviews and the allocation for three to five years. Take the United States, for example, where Congress needs to approve the budget and spending annually. That really does make a significant difference in terms of the certainty with which the MoD can operate its capability budget.



I would argue that there is also a strength in the independent audit and scrutiny system we have in the UK—the NAO, the Public Accounts Committee—but also in some internal scrutiny mechanisms. For example, within DE&S there are the cost assurance and analysis surveys, and within broader Government, there is the Single Source Regulations Office. Those are real strengths that some European allies, in particular, can look up to and look at with not necessarily admiration, but certainly with respect, because they add independent audit and scrutiny that are valuable.

I would also argue that the recent defence and security industrial strategy is a step in the right direction in terms of articulating the need to have a more constructive dialogue and relationship with key industry players, and to treat the industrial base—the UK defence industrial base—as a strategic asset. I think that that is a strength in itself. Clearly, we are now at the stage where we need to think about exactly how we implement that ambition and how we implement that policy.

Finally, I think there is recognition that understanding the benefits of defence equipment is more complex than just looking at cost-benefit. That is why we have the combined operational effectiveness investment appraisal to really more holistically try to assess what the value of the equipment is. Again, I would argue that that is probably a good thing.

Q9 **Sarah Atherton:** Professor Uttley?

Professor Uttley: In terms of what we have done well, I would point to our ability, when we have needed to, to deal with unforecasted operational requirements. We have done that in recent campaigns, and arguably we are seeing that in action at the moment in terms of how we are handling military aid to Ukraine.

I do not want to pour—I will not use an analogy. It is fair to say that there are more problems than things done well. I say that largely because it seems to me that when reading the 2021 Committee of Public Accounts report, which is excellent, and reviewing the NAO's 2022 analysis, we see almost a groundhog day cycle—the repetition of things that we have heard over and over again. I always think that if you take a pessimistic view, you are never disappointed.

What would I say in extension to that? First, we know that there is no silver bullet to reconciling these perennial problems that analysts like Lucia and practitioners have had to tackle. I suppose it comes down to thinking about acquisition as part of a wider system, in a more abstract way, so that any consideration of what might be done to ameliorate those problems requires us to look at the level of the defence operating model, or how defence works as a whole. I guess, to some extent, it requires us to look at the degree to which this has ironed out any of the performance problems that were identified, quite correctly, by Sir Bernard Gray in 2009.

I could go through a long list of points, but essentially the question that lingers in my mind is: have we created a conspiracy of optimism with



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behaviours in the MoD, and between the MoD commands and the defence industry?

Q10 Sarah Atherton: Matt, can I pick up on your point about value for money and competition? In 2021, a third of contracts, amounting to £9.3 billion, were awarded without competition. I also note that in 2022 the Government introduced a Command Paper setting out a policy on defence security industrial strategy reform of the single-source contract regulations. Do you have any observations around value for money and competition in the light of what I have just said?

Professor Uttley: Not specifically in relation to the point you made. I could look into that for you and submit a further response, if you would like me to do that?

Sarah Atherton: Thank you, Matt.

Chair: Lucia, you mentioned successive reviews of defence procurement. By our reckoning, there have been 13 such reviews since the 1980s; this is going to be the 14th, and we are hoping to do a decent job so that there won't have to be a 15th for a while. But it is true that this has been looked at in detail a lot, and one of the frustrations is that we seem to somehow keep making the same mistakes.

I will ask the Chair of the Defence Committee, Tobias Ellwood, to pick up on the lessons from recent conflicts, and how we have equipped our Armed Forces for them.

Q11 Mr Ellwood: Good morning. It will be very interesting to see whether there is a change of attitude or of culture when we shift into wartime thinking. I will give a live example; it is in Ukraine and to do with our long-range mobile fires capability. We lean on the AS-90 Howitzer, which you will be familiar with, and we have gifted these, quite rightly, to support the Ukrainians. We have now procured, in a very short space of time, the Swedish Archer Artillery System. It has been said that this may be just a temporary stopgap, but I suspect this will become the norm. It may sit in our artillery capabilities and our all-arms combat. Ms Retter, do you see an absolute distinction? Do we move into a different mode when we are suddenly dealing with live situations?

Lucia Retter: Certainly, there is a marked difference. That is something that we observed in 2004 and 2005, when there was a revisiting of how we were doing on urgent operational requirements for Afghanistan and Iraq. John already alluded to that distinction, in that there is a difference in how the MoD is able to procure known technologies and proven capabilities, versus those that are more uncertain and require better and more robust risk and uncertainty management.

I think that we are genuinely seeing a different type of situation with the need to procure equipment to supply to Ukraine. Again, I would argue that we have been able to prove that we are able to do this faster and in a more agile way. We are doing it, perhaps, in a less risk-averse manner as



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well, in terms of speeding up the qualification of the weapons and the testing and approvals.

It is something that gives us an opportunity, as the UK, to think about what the lessons are. What are the ways in which we have been able to do this more effectively now for Ukraine that we then can take forward? I agree with you that there is a difference in terms of our approach and attitude in times of crisis or need compared with the “business as usual” that we have perhaps seen in the last decade or so.

Q12 Mr Ellwood: Interesting. Thank you for that.

Professor Louth, Afghanistan was mentioned and some members of the Committee, in different guises, have regularly visited Afghanistan. I remember going to Camp Bastion and seeing the kits on display there and the differences of equipment each time I went there. The Cougar, the Vector, the Jackal, the Ridgeback, the Mastiff—there was fast and furious purchase of equipment off the shelf, perhaps without a lot of qualitative decision making as to what was required and with scant regard as to how much this was all adding up to. Is there a concern that we go too quickly when the doors open and we are interested in procuring equipment very quickly indeed?

Professor Louth: There is no concern in my mind. You will recognise that during the times you talked about we were at war. There is war in Europe now, and if you spend time in the States, as I do fairly regularly, you will hear the narrative that we are preparing for war in the South China sea as well. If we think of warfare as a today phenomenon, it is right and proper that our Armed Forces have the kit that they require. If long-term acquisition lines take 30, 40 or 50 years to deliver, that clearly doesn't answer the today problem by definition.

I am a huge fan of UOR methodologies. All I would gently urge is that, at the decision point for purchasing known and mature systems and equipment, we think about integration as well. I think we have not spent enough time as perhaps we should thinking about the impact on other lines of development, particularly training. In my mind, part of the answer is also how we train internationally as well. I am still astonished that we don't automatically train on Polish kit and the Poles don't automatically train on our kit; that is a bit ridiculous, given the context that we face in Europe at the moment. If we are going to buy, as I think we should, kit for today using our credit card within the budgets that allow that, we should integrate through other lines of development as well. There is some evidence that that is beginning to happen, to be honest.

Q13 Mr Ellwood: Thank you. Finally, Professor Uttley, that raises an interesting question about whether, when we do go into conflict or support an ally in conflict, we ignore some of the equipment that we have and then go out with our credit card and purchase equipment. Should that give us greater guidance on what we have in our own stock as well? Perhaps greater modularity—rudimentary equipment that can be upgraded for specific environments—rather than trying to keep stock for a war that we



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think may come over the horizon but then realise that we have to purchase off the shelf to meet the requirements of the day.

Professor Uttley: I suppose this relates ultimately to uncertainty. We enter into these kinds of arrangements when we are presented with unforeseen urgent crises that require a response. Arguably, that leads to an improvised solution based on what is available and the particular factors in play. Urgency is the key. Speed is imperative. If these kinds of intervention can be made and they can shorten conflict, then this, in and of itself, is a significant outcome.

It stands in contrast to the system as it were—the way in which we do things normally—that I believe this Committee is reviewing in the context of DE&S, where the protocol seems to me to be quite different. The latter attempts to ensure a range of outcomes, that there is correct expenditure and investment, that proposed new projects are de-risked in some way in an orderly manner and that the defence lines of development are in place in order to make that capability work.

I contrast a kind of system that is looking to achieve something that is a full solution to a capability that will be in play for a sufficient length of time, as opposed to forms of crisis management. But your point is very well made. Do we need to look more closely at how we have done this in the past, how others are doing it and whether we can learn and adapt, acknowledging that we will inevitably be presented with things we did not expect to incur or envisage in the first place, and therefore need to respond to?

Q14 **Chair:** We are going to come on to how other people do it and whether we can learn lessons. Before I call Mrs Lewell-Buck to do that, John, you were talking about the use of urgent operational requirements. I should place on record that the Committee went to the DE&S headquarters at Abbey Wood a few weeks ago, where we had a lot of briefings about the work they are doing to support the Ukrainian armed forces. It is fair to say that we were very impressed, and we would like to put on record our admiration for the work that the organisation is doing to help keep Ukrainians in the fight. However, there is a difference between doing that and taking 11 years to build a frigate, for instance. Can we pressure you a bit more on why you are so keen on the UORs? I think they now call them urgent capability requirements—UCRs—but, in old money, they have been UORs for a long while. Can we pressure you a bit on why you are so keen on that process?

Professor Louth: I think UORs—I will continue to use that vernacular—have the benefit of purchasing mature technology and capabilities for immediate usage. The delay is either a delivery delay or a manufacturing pipeline delay. As you quite rightly say, that is profoundly different from a multi-decade cycle of research and development, testing and evaluation, prototyping and so on. It seems, at least to me, that it is a no-brainer if it is a today problem. We match a today problem with a today solution. We do not—we cannot—say to our commanders and our young folk, “Don’t worry, you’ll have that capability in 2042. If you’re a submariner, it’s going



to be great in two decades' time." That is just not acceptable. That shift to committing more for immediate benefit in-year is something that we are going to have to start embracing. That should be the norm rather than the exception.

Q15 Chair: When you speak to the military, they tend to be quite keen on the process. To use military language, you drop all the bureaucracy—I nearly said something else—and you just focus on what needs to be done with a sense of urgency. That appeals to a military mindset, it has to be said. The taxpayer might think that there are advantages to that as well.

Professor Louth: That has been the debate, though, Mr Francois. People have been arguing that UORs do not generate value for money and they are too immediate. They argue that proper views are not being taken about what the options are, and so on. I think most citizens who pay taxes would say they would prefer that their money went to support immediately where the need arises, rather than thinking in terms of 10, 20 or 30 years' time. The argument has been overblown in recent years that UORs are the antithesis of efficiency. They are quite the opposite; they put capability into the hands of servicepeople at the moment it is needed.

Q16 Chair: Sorry—I think we might be slightly at cross purposes. I tend to agree with what you have just said. The whole essence is that you cut through the bureaucracy and speed up what needs to be done. Could we learn lessons from that for the wider procurement process?

Professor Louth: I think we could, and we are probably going to have to, because war in Europe or the threat of war in Europe probably is not going to go away, certainly in the short term. The tensions associated with the Indo-Pacific pivot are there and clear for all to see, and we have already started to commit substantial sums to our responsibilities and allies in the Indo-Pacific region. To use my vernacular, those are all today problems, so I suspect we will have to think through what that looks like procedurally and in terms of our activities. If we were having this debate in a business school, most business school professors would say, "Actually, for most organisations, 80% of resources are spent on today and 20% deal with tomorrow." If we look at the MoD, of a budget of £45 billion, £24.2 billion or £24.5 billion is linked into the EP. That is not 80:20. That is substantially different. Why is the MoD exceptional in that regard?

Q17 John Spellar: Isn't the essence of being able to have more urgent procurement that you have an industry there to be able to do it? A couple of you, if not all of you, have talked about looking at a "defence industrial base", but that is inevitably dependent on having an industry in this country and being able to switch capability or—even more importantly, sometimes—personnel. Is there any comprehension within the Department or wider Government of the importance of that?

Professor Louth: I think it is getting there. I know that Lucia has written about this recently; she is probably better placed than me to answer.

Lucia Retter: I agree that we should be linking the discussion of the ability of the industrial base to deliver urgently and at speed proven



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products that they have either been producing and have running production lines of, or for which they have been able to restart the production lines to deliver them at speed, with the fact that they need the long-term certainty that allows them to make investment in skills, people, innovation, improved production lines and improved capabilities to go long term. It is certainly not possible to separate the two and say, "We now have an efficient industrial base that can deliver the urgent requirements, and we don't have to worry so much about the long run," because they are deeply interconnected. Without that longer-term certainty, industry is unlikely to want to make long-term investments that will allow them to produce and deliver the capability going forward.

While I agree with John that there is an imbalance in the way in which we focus perhaps too much on the future, to the detriment of us being able to deliver now, the two cannot be separated out; they are very deeply interconnected. In the industrial base, the ability to deliver at speed is deeply linked with prior investment and the longer-term certainty and capabilities they have and have built over time.

Q18 Chair: To follow up on John's very good point, if you read a management textbook, it will talk about the concept of just-in-time manufacturing, where everything is made as efficient as possible, but in wartime, in some ways, you need something that is more just-in-case than just-in-time. You want spare capacity—you want the ability to ramp up. There is a natural creative tension there, and the way I think you get over that is if the Government place contracts to enable industry to gear up for higher rates of production. Government, in a sense, have to give a lead.

Professor Louth mentioned the United States. The Committee was in Washington recently, and the mood there was very much that they are giving that lead and putting in the necessary investment. For example, they have contracted General Dynamics to increase their production of 155 mm artillery ammunition from a quarter of a million rounds a year to 5 million rounds a year within two or three years' time. The mindset in the States is that they are now preparing for the possibility of a peer-to-peer conflict, whereas here, it seems to the Committee that our Government are not yet thinking in that way. Do you have any comment on that dichotomy?

Lucia Retter: I think that shift in mindset is needed; I definitely agree with that. We need to get to a stage where we are able not only to develop the capability faster but make upgrades to the capability faster. That entails different models, which perhaps we are not set up to deliver just yet with the processes that we currently have, from the start of capability development to the end—delivery, support and disposal.

There is certainly an opportunity to think about how we make that more "incremental" acquisition work, and about what that actually means. It should enable us to upgrade the capability faster or even develop capability that can be delivered faster but is perhaps a slightly higher risk. That goes back to the cultural mindset, which perhaps needs to change slightly so that you are a bit more embracing of the fact that there is



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greater risk, but the benefits to the war fighter might be much more significant. I agree that we need to adopt a change of mindset.

Chair: Thank you very much. To talk about some lessons from how other people do it, I call Ms Lewell-Buck.

Q19 **Mrs Lewell-Buck:** I will come to you first, Professor Louth. Obviously, you are all aware of the criticisms of our defence procurement and the problems, but is there anywhere else that does it better? If so, where?

Professor Louth: It depends, I suppose, who we ask and when. We are all victims and products of our very particular national histories, when it comes to defence procurement and acquisition, so no two can be compared like for like.

I like to ask decision makers whether they think they are getting a good deal or not, and the people who think they are getting a really good return for their money are the Saudis. They think they have an absolutely fantastic system, because they can buy exactly what they want from whoever they want—that is their language, not mine. They are not constrained by an onshore, in-country industrial base. They can import what they want, in terms of maintenance, and when they are fed up with it, they can kick everybody out and do it again. They are chuffed to bits with that. That wouldn't work for us, I suggest, but if you compare bang for buck, in terms of capability fielded, a number of people would make the case that the Saudis have substantial capability benefits, perhaps even over the UK.

It depends who you ask. The Australians would make the case that they are developing an approach to defence acquisition that is entirely bespoke for them and will yield significant benefits, but the counterpoint is that they will be heavily dependent upon the US and the UK. That may work for them, or it may not in the future—who knows, because what US are we talking about? Are we talking about a Democratic US, or are we talking about a Trumpian US? Will they differ? I don't know. No one knows, but I suspect that that will be a challenge in its own right. I would counsel against asking who does it better than us, because you will end up with the Saudis, the Australians or the South Koreans, and do we want that?

Q20 **Mrs Lewell-Buck:** Could we do a mix of certain countries? If so, which ones?

Professor Louth: A pick 'n' mix—we could, but we have already started to note the nature of the complexity. I would not suggest that we add more complexity to our system.

Q21 **Mrs Lewell-Buck:** Professor Uttley?

Professor Uttley: On international best practice, in response to the question about the extent to which the problem we have with cost overruns, delays with major programmes and so on is a uniquely British disease, we can say that that is not the case. We see this in other countries. We are not alone in having, or perceiving that we have, problems with our system.



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I guess this raises a broader question about what makes, or contributes to, the credibility of a national system. I guess the first indicator is the fidelity with which the existing acquisition system delivers in the way that it is meant to provide. Another factor that we should bear in mind when we are looking at comparative examples is the level of transparency in procurement decision making in different systems. Put slightly differently, some countries are quite open about where things are going wrong or are problematic. Other countries are more guarded about that.

The United Kingdom and the United States share similar problems and challenges in acquisition, albeit in different political systems. If we look, for instance, at France, it has close comparisons to the United Kingdom but is more guarded, shall we say, in its public scrutiny of the system that it has. Clearly, we cannot go around all countries and look for evidence of best practice, but there are some interesting cases that are worth reflecting on, and that may reach back to the earlier discussion that we had about adaptation and bringing in capability quickly.

The South Korean model is particularly interesting, referred to as innovation by combination. The South Koreans effectively avoid doing large amounts of R&D, testing and so on. They rely instead on integrating, or cannibalising, existing practices and technologies in other countries. The example that I would point to—I will be as brief as I can—is the K2 Black Panther main battle tank. Basically, the South Koreans went around the world, scoured all the main battle tanks, worked out which of those tanks had the best gears, brakes or components, and effectively cannibalised the best of each and amalgamated them into what is now one of the world's top three tanks in terms of its capability.

I suppose what we need to recognise to some degree is that the United States and United Kingdom, for instance, have particular problems as tier 1 defence powers that have large portfolios and are acquiring major long-term capabilities, given our respective power and policies. Other states are doing things that are perhaps interesting, and certainly worth reflecting on when we think about potential reform.

Lucia Retter: I agree with both John and Matt. John mentioned that a lot of the acquisition systems have been shaped by the history, geography and specific, unique characteristics of each country. I would argue that it is difficult to do a one-for-one comparison between the UK and other countries, even those that spend a similar amount of money on defence, like France.

I like Matt's point about finding those things that we perhaps see that other countries do well. It could be, in the South Korean case, the way in which innovation is integrated into capability development. It could be looking at how countries use their industrial base and the wider education sector to build up the ability to develop, even if it is just niche defence capability, not necessarily the full portfolio of capabilities, like the United States, for example. For the Nordic countries, you could look at Sweden and Norway, and the way in which they engage with their industrial base and the education sector.



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You could perhaps try to do a more robust assessment within defence. I am not aware that there has been one on where the examples of good practice might sit for the different sub-elements of procurement, rather than the whole procurement or acquisition system. As John rightly said, that has its unique characteristics, sometimes for historical or geographical reasons. There are also the unique ways in which countries see their geopolitical role, which again is not something that can be compared one for one.

Q22 Robert Courts: I have two questions, coming out of things that you have been talking about, that I would like the panel to comment on. The first is primarily for Professor Uttley, but others may wish to comment. You mentioned the K2 main battle tank that Korea has procured. Would you comment on the T-50 programme? Does that fit within that model that you spoke about—of taking the best of elsewhere? How successful has it been?

Professor Uttley: I regret that I am not an expert on tanks, so I cannot really answer your question authoritatively.

Robert Courts: The T-50 is the supersonic training aircraft.

Professor Uttley: Yes. Could you repeat the question?

Robert Courts: You commented on the K2 main battle tank and how the practice was to go around the world, take the best bits of other tanks and put them together to create their own. I am mindful that the Korean aircraft industry has made the T-50 supersonic trainer, and I wondered whether you were able to comment, or anyone was able to comment, on how successful that programme has been and whether they adopted the same model.

Professor Uttley: Forgive me; I do not know the answer to that question, but I will certainly chase it up.

Q23 Robert Courts: It may be something that we can look at, given that we are looking at it in wider procurement inquiries anyway. Unless anyone else has any comments on that question, can I ask for the panel's comments on Israel's procurement policy? It is well known as being a highly technical country with lots of start-ups, but in terms of, for example, airframes, it tends to buy abroad. Given that we are looking at what other countries do, are there any lessons there?

Chair: Who wants to go first on that? John?

Professor Louth: It is an interesting point. Israel has what I would describe as a blended approach. Israel collaborates with certain countries, including some countries that we would be surprised at, in the region. It is a community that collaborates, but it also choreographs its defence industry extremely well as a polity. I think the relationship between military, government and industrialists in Israel is pretty unique and really powerful. But then I imagine it would be, because it is a relatively small country, and a lot of folk have been brought up together and undertaken



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the same training, if you look at the way it thinks of its broader military stance.

To Lucia's point, that is entirely bespoke and unique. It would be extremely difficult to replicate that here, and when we talk of Israel we need to be mindful of how industries are owned and governed in Israel. A lot of the listed companies that we have in the UK would not necessarily align themselves to that kind of industrial model, so ownership becomes really important when we start thinking about these things.

Q24 Chair: I should say that the Israeli model is one that we have been looking at. I think it is fair to say that it has pluses and minuses. Would either of the other witnesses like to comment on the Israeli system? Lucia, do you have something on that?

Lucia Retter: Unfortunately, I am not an expert on Israeli defence acquisition, but I would definitely support John's point that whenever we make such comparisons, we have to be very mindful of the context and the unique characteristics. Obviously, Israel is very conscious of the threat environment that it is in, and therefore it will have unique characteristics, some of which may translate to the UK but many of which will perhaps not. So I think that doing that comparison in a robust way is important.

Professor Uttley: In brief, Israel is a national security state. It is preoccupied by national security, given its location and its strategic culture. To the best of my knowledge, what we see is significant integration of research institutes, universities and firms of all kinds, which effectively co-ordinate and co-operate in ways that produce outcomes that are intended ultimately to ensure national security. Arguably, Israel's threat perception has driven a more integrated science and technology and manufacturing base within Israel.

Chair: Thank you. Gavin Robinson will put a final question to each of you. Spoiler alert: we will put this question to all the witnesses who come before us.

Q25 Gavin Robinson: Good morning. Earlier, Professor Louth opened the prospect of a pick 'n' mix, so this is our lucky dip question—just so you know. It is one for each of you individually. I hope you will be able to give separate answers, but if you like, support the other ones you have heard. It is a chance to shape future recommendations of our Chair's inquiry. If you had one key suggestion to materially improve defence procurement in the United Kingdom, what would it be?

Professor Louth: I am going to be naughty and stretch that to two. One is a conceptual piece: the moment is fast approaching to think about acquisition as a split between today and tomorrow. I do not think that is too challenging for folk. I think we can all wrap our heads around that. It will be very important to us. How that reshapes the defence budget should be a consequence of that thinking. That is the conceptual point.

On activities, there has been a kind of fetish in the past couple of decades or so for closing requirements fairly early on—the user requirement and



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the systems requirement. We lock that down as soon as we can and protect it against all incomers. The pace of technological change now is truly transformative and will prevent that, so I would make the case for really fluid UORs and system requirements from now on.

Chair: Thank you. You make important points. Lucia, if you could change one thing, what would it be?

Lucia Retter: It will not surprise you, given what I said earlier and throughout this inquiry: if there were a more constructive relationship with industry, a lot of the challenges that we face within the defence acquisition process could be tackled more effectively. A lot of the time, when such acquisition programmes go wrong, we find it is for a mixture of reasons, some of which are in the control of the MoD, some in the control of industry, and some completely outside their control, with neither able to make many changes to things such as exchange rate fluctuation, inflation, economic environment and so on.

Having a more proactive and constructive dialogue with industry, and treating the industrial base as a strategic asset in its true sense, would make a meaningful difference. That is not only a policy and conceptual change but, unfortunately, a big cultural change, which is perhaps even more difficult to implement, because it involves creating and fostering relationships that are based on trust and greater openness. That often requires visionary leadership, which is able to get through some of the complications of contractual negotiations, data sharing, security arrangements, and all those other difficulties and commercial sensitivities that we always face.

There are some examples of where things have been done differently. We should think about how more of that could be done. An example is the portfolio management agreement in place between the MoD and Team Complex Weapons, MBDA; or the Aircraft Carrier Alliance. There are some examples where, perhaps, we could learn how to engage with our industrial base more constructively to understand better its incentives and constraints—and, vice versa, where industry could understand better the constraints and incentives for Government.

Chair: Thank you. Professor Uttley, perhaps selfishly—because I read war studies at King’s—I have saved you until last. If you could have one change to improve the system, what would it be, sir?

Professor Uttley: The need for more comprehensive institutional learning, and the application of lessons at all levels. We seem to be living in a groundhog day cycle of reinventing the wheel in defence acquisition policy, strategy and implementation. For example, we oscillate between a desire to acquire capability that is proven and off the shelf, and at the same time to develop a defence industrial strategy.

The outcome of this has appeared in recent reports by the Committee and by the National Audit Office. My suggestion is that we take the NAO’s 2021 finding of recommending learning on the basis of past achievements and



failures and using that as a strategic tool for thinking about what we need to think about.

Chair: Thank you, all three of you. We realise you are all very busy people, so we are extremely grateful to you for giving us your time and the benefit of your knowledge. One theme that came out from all your evidence was the need for a sense of urgency, not least because of the war in Ukraine, and the need for us to try to do some of these things in a quicker and more efficient manner. Thank you very much, all of you.

You are welcome to stay on the line or, John, to sit at the back when we move on to our second panel. On behalf of the whole Sub-Committee, thank you very much indeed. We will now have a quick break while we change to our second panel with Sir Bernard Gray.

Examination of witness

Witness: Sir Bernard Gray.

Q26 **Chair:** Welcome to the second session of the Defence Sub-Committee's inquiry on Defence Equipment and Support—DE&S. We now have Sir Bernard Gray as our witness. Sir Bernard, you were sitting at the back at the start of the first session. To save time I will not reintroduce all the Committee members, some of whom I think you know personally. For the record, please give us your title. Then I will ask Richard Drax to lead on the questions.

Sir Bernard Gray: Thank you, Chairman. My name is Sir Bernard Gray. I have worked for the Ministry of Defence on three different occasions. Once was for Lord Robertson as a special adviser during the 1998 strategic defence review, when I worked with Mr Spellar. Once was for Lord Hutton, when I did the review of acquisition for him in 2009, I think, which was published to Parliament, and you will all have seen it; much of it still applies. The third time was as the Chief of Defence Matériel between 2011 and 2015.

Chair: Thank you very much. So, considerable experience there, which the Committee is now shamelessly going to draw on. In order to begin that process, I ask Mr Richard Drax to lead off, please.

Q27 **Richard Drax:** Good morning, Sir Bernard; nice to see you. Can I just be slightly naughty, Chairman, and quickly pop another question in? In my constituency of South Dorset, they have opened a battle lab, which you may have heard of. The aim of that is for SMEs to be given ideas by MoD to design whatever it is that the MoD wants, and to come up with something. This procurement process—you have played a very large part in it over many years—still seems to be failing in so many areas. For example, were we to want a light tank, I think the idea is to say to the SMEs, "We want a light tank. Can you please design it?" They all compete, a design is chosen, a tank is built and tested, and then a successful model is given to the big boys to build. That seems to me a more efficient way, rather than saying to the big boys, "Can we have an Ajax tank?" and 11



years later, we still don't have it. Is that a way forward?

Sir Bernard Gray: I listened with great interest to all the previous evidence—by the way, I agree with a great deal of it. I would place some emphasis in different places, perhaps, but I broadly agree.

In this case, it depends on individual examples, obviously. It is hard to do a fighter aircraft that way, probably. However, if you are drawing largely on existing technologies, with some bridging technologies that an SME might be able to insert—that may apply in the Israeli case, for example—then it is possible to do that, but it still requires a level of funding; those SMEs do not have large amounts of capital reserves that they can commit, on a private venture basis, to the project.

I certainly think that smaller-scale innovation is an interesting thing to do, and we still have a substantial science and technology budget, which has not always made it across the valley of death between a good idea and an in-service product. Some of these things could be encouraged, but they all take money, and the difference in emphasis that I would place on the conversation we had before is that I would emphasise the central role of money in all of this. Frankly, there isn't enough for the scale of ambition that the Ministry of Defence has at the moment. If one wanted to fund some more of that good activity that you're talking about, it is coming from somewhere else, or it adds to the excess demand, as it were, in the system today that potentially contributes to the problem in a way we could discuss. In principle, it is a good idea, but I have not yet seen it work in substantial-scale examples.

Q28 Richard Drax: Back to the questions—forgive me, Chairman. You were here earlier, so I will repeat the same question to you: should defence acquisition be seen as somehow different from, or more challenging than, any large-scale, complex, civilian construction project, such as Hinkley Point C nuclear power station, or High Speed 2?

Sir Bernard Gray: Broadly speaking, I think the answer is no; they are not different in kind. I would add Crossrail to that; it is an example that was often cited to me when I was in office. They are in a sense similar, and you see the same problems arising—the growth in the budget, delays, and changes in scope. For example, there have been the HS2 reductions in scope that we have seen over the last few years, and all the variability in it. A particular glaring example is the way in which the Treasury has throttled back on HS2 cash flow in a way that has extended the programme by a couple of years. That will definitely cost a lot of money. The fact that the Treasury has been coy about how much this will increase total programme costs tells you something—and not that it's free. If it was free, they would have told us that. If you have the same number of people working on the same project for two years longer, that will cost you more money. That problem is replicated in spades in the MoD.

The difference with the MoD is partly to do with a point that I think Professor Louth made about changing requirements. I may not completely agree with him about this, but we do have evolving requirements, whereas



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HS2 is, broadly speaking, a well-characterised requirement, as is Crossrail or Hinkley. We have changing requirements, but the Ministry of Defence is also doing about 30 of these things, not one. You have HS2 as an organisation; it is a big project with a lot of components. But the MoD is doing Tempest, submarines, Type 26, main battle tanks and so on. In the major project academic work done in Oxford to train people, the MoD swamped any other Department by a factor of, broadly, 10. We have many of these projects, but the characteristics are quite similar.

Q29 Richard Drax: Sir Bernard, one thing we have not taken into consideration as a factor is, of course, politicians. In the private sector, there is no interference; it gets on with it, and it either delays or not. In defence, politics plays a very large role—sometimes, perhaps, not a helpful one.

Sir Bernard Gray: The debate you were edging around before was about the requirement for a defence industrial base in the UK, versus buying off the shelf in a well-characterised way, which is, broadly speaking, simpler and cheaper. The debate was about where you want to be in that. I think we do haver about, rather, about which one we want. My experience, including of Mr Spellar, is that politicians have actually been quite well disciplined about this. It is rather more—if I can put it politely—the users who tend to change their mind or be overly ambitious. As I said 10 years ago, there is a potential capability—

Q30 Chair: Sorry, Sir Bernard, but by “the users” you mean the military.

Sir Bernard Gray: I do. I am slightly skirting round that board. I will come on to why, but I will just give you a specific example. There is something called a co-operative engagement capability for naval ships. One ship might identify a target, and another ship might be better placed to fire on it. If they can share the data link like that, you can share that around. This is something that the Navy wanted—it is basically an American system—and my point was that the Secretary of State does not wake up one morning and say, “You know what we really need? It’s a co-operative engagement capability”, because they are, naturally, not subject specialists in quite that way, whereas the First Sea Lord might well wake up one day and say, “I want a co-operative engagement capability, and I’ll try to persuade the Secretary of State to go for it.”

In general, I have actually found politicians to be pretty disciplined. You may be a bit shocked to hear it, but I think it is largely true. But they are clearly swayed by defence industrial base considerations generally, and we do not have a very clear policy about that. My personal view on it is that it is worth the UK specialising in areas where we can have competitive advantage, and that we should buy off the shelf in certain circumstances. For example, if we only want 10 P8 Poseidon anti-submarine warfare aircraft, spending £3 billion on developing the aircraft for a run of 10 in the UK, so that we have a unique aircraft, does not seem to me a very sensible thing to do, whereas if we are buying 10 off the shelf from Boeing via the Pentagon, and Norway and other NATO countries are buying some, we end up with a common fleet, and we have saved money that we can



add to, for argument's sake, Tempest, or some other activity. I would split it like that, but we do not have a settled industrial policy, really. When we do try to have one, every child wants a sweetie, so it is very hard for a Government to say, "I want to invest in electronic warfare or combat air, but I don't want to invest in naval shipbuilding or ground vehicles"—that would possibly be a good example. Industrial policy is a difficult issue, but mostly the requirements change, and growth and demand come from the military.

Q31 John Spellar: May I endorse the frustration that Ministers sometimes feel about the desire of the military to change a spec that has been locked down, with very considerable cost, and added complication and delay? I also question this argument about it being cheaper. Surely the Treasury definition of "cheaper" refuses to take any account of income tax paid by those who would be employed in the industry, or the impact on local economies. Hasn't the argument about near-shoring of production been changed dramatically by the need for sustainability, as seen through the context of the Ukraine war? Running out of stuff actually becomes very expensive when, with "cheapest is best", you can't resupply yourself.

Sir Bernard Gray: I completely agree that the Treasury value for money model does not work well. Subsequent to retiring from the Ministry of Defence, I did some work in the automotive sector. They found it extremely difficult to keep onshore jobs such as the CAD engineers. That work, in the case I was involved with, could be outsourced to India. We lost 300 CAD engineers out of a particular company to India, because the company could halve its costs by doing so. But if we do not grow the base-level CAD engineers, we do not end up, 20 years later, with vehicle designers who have worked their way through and understand the issue. The Treasury was simply deaf to any arguments about wider societal or income benefits.

I would also agree that we could usefully do more with ensuring security of supply. Something that I think several of us have been involved in is the MASS contract for General Munitions, which had capacity payments to keep BAE—who own it—production up and running for artillery and ammunition, as well as small arms weapons. The Department at least had the foresight to do that 20-odd years ago. But every time that contract came up for renewal, the Treasury argued to cancel it, because it said, "There is an international market in general munitions—in shells and so forth—and we can just buy from the market. Why should we pay capacity payments to BAE to keep the lights on in factories, where we don't actually need it for training purposes?" Ukraine is the answer to that. We definitely need some capacity.

The issue that we have is that what we are doing today, we are not really paying for. If I look at the equipment plan, we have got back to a situation that is very similar to where we were in 2009-10, when I did the report. In any given year, we spend about £15 billion or £16 billion buying new equipment and supporting existing equipment, but we enter that year with about £18 billion-worth of demand, because we have, broadly speaking,



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ordered more than we can afford to pay for, and then we need to throttle back expenditure.

I think the key problem, and why this is going wrong, is that there is a sort of Maoist revolution that goes on inside the Ministry of Defence all the time—there is no stability. Essentially, come 1 April, the poor folks involved, in the finance department and the project teams, are basically told, “Find me £50 million out of your programme that we can slow down this year,” in a whole series of decisions, “to cut back on the £2 billion of excess commitment that we have this year, because we don’t have enough cash.” The difficulty with that is that, broadly speaking, it means that you have to reopen all the contracts.

I am fond of saying that there is nothing in this that isn’t involved in renovating your house or getting somebody to build a new one for you. It is very similar. If you run a competition between three builders to do a renovation job on your house, and you nail down a perfectly good contract, and then as soon as they start work, you start saying, “Oh, well, could you just put an orangery on the back of that?” or, “Oh, we found some asbestos in the walls,” the contract variations are very substantial.

That is the case in particular if you say, “I can’t afford to pay you at the rate that I was going to, so can we build this house over two years rather than one?” He says, “I have to keep my team on the ground for two years and not one; you have to pay for the site manager and everyone else.” The costs vary, but you have lost all negotiating leverage. You have selected and awarded a contract to one person, and as the demander of change in the contract, you are essentially at their mercy.

The biggest example of that was in 2008, I think—I am losing track of time. We signed the contract to build the production phase of the aircraft carriers and, less than six months in, we decided to slow down the programme by two years. Less than six months after signing what was then a £3.7 billion contract, we slowed it down by two years. That added £1.5 billion to the cost of the programme. The programme rose from £3.7 billion to £5.2 billion, simply as a result of that decision to throttle back cash flow, which is exactly what has just happened with High Speed 2.

The problem is then when you turn around and say, “Well, can I hold anybody to account?” For sure, the military is ill-disciplined about maintaining requirement stability—“I ordered it in pink but I’ve decided that I like it more in blue” is a frequent sort of thing. But the requirement of the Department to get down to its actual ability to service the contracts in a year—that will be my answer to the final question when we get there: we must balance the budget—means that everybody has all of their parameters changing all of the time. It is not reasonable to turn around to a team leader and say, “Well, you said you were going to do it for x money, and now you’re doing it for y,” because he or she is having all these chaotic changes imposed on the programme. People stop trying to hit a target that they know is going to change very quickly.



That is the big thing that we have not really discussed: the over-programming in the Department, which we got rid of in 2010. People may not have liked Dr Fox's defence review cuts, but the fact is that it rebalanced the programme and, from 2010 to 2015, there was no cost growth in the equipment programme. Through a combination of Dr Fox, Lord Hammond, me and others in the Department, we were able to impose discipline on the situation because we had a stable benchmark against which to gauge people. The revised aircraft carrier contract, which we changed in 2012, has turned out to deliver the ships at the cost predicted 10 years later. Stability in the programme is absolutely vital if you want to get better performance.

Q32 Chair: In the unlikely event that President Xi is watching this session, I think he would be intrigued by your description of Maoist revolution, but that endless change and endless revisiting of decisions is a syndrome that this Committee recognises, unfortunately all too frequently.

You produced your review of acquisition for the Secretary of State in about 2009. It became known as the Gray report. In 2011, Lord Levene did a broader review of the structure of the whole of the Ministry of Defence, not just on procurement. Both of those were over a decade ago. What has changed in defence acquisition since that time, and has it been for the better or the worse?

Sir Bernard Gray: As far as acquisition is concerned—this extends into support as well, but we can come on to that—we had stability for five years, and the 2015 defence review injected between £20 billion and £25 billion, depending on how you look at it, of additional equipment into the programme. That was predicated on the basis of £20 billion-odd in efficiency savings around the Department, and—guess what?—those efficiency savings never arose. It also raided the rather carefully husbanded contingency fund that we had. Which of the other large programmes we have talked about operate without any contingency? There is literally zero contingency in the MoD EP. Unexpected things do happen, and if you have no contingency, you have no oil—no flex—to be able to deal with them. I fear that we are very much in the same situation as we were in in 2009, as far as acquisition is concerned.

We added up the Department's numbers over 30 years, and put a sort of cone on it, of the best-case and worst-case outcomes post 2010. On the central case, there was £35 billion of excess demand—excess expectations—in the system over what the likely case was going to be. The Ministry of Defence had travelled in the hope that, post-2010, even in the banking crisis, it would get substantially more money. So, it didn't take decisions before the 2010 review because it hoped to get more money. That exact situation applies today, so when everybody is talking about 2.5% or 3% of GDP being spent on defence, people are not making decisions about the structure of the forward order book or the force structure, which they might need to make if that money was not going to arrive. Nobody wants the unpleasant task of cancelling things. If they can live in hope that many more billions of pounds might arrive, they will put off the evil day. That is what is going on right now.



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As far as that is concerned, sad to say, having spent five years, and having lost most of my hair, trying to do something about this, we are slightly back to square one.

As far as Levene is concerned, it is very well intentioned, but the problem with it is that it essentially tries to rest authority for both the requirement and the budget with the command, but there is no sanction if the command then, broadly speaking, overspends. From my time there, one particular command—I won't name it, but it lives in Portsmouth—consistently overspent. The problem was that they would have “holding to account” sessions with the permanent secretary, but what was the permanent secretary going to do? Fire the First Sea Lord?

The problem in defence terms is that it isn't quite like a business because you can't just fire the chief executive for poor financial control. So, Levene has not succeeded in its aim of making people responsible for that, but it has had the additional disbenefit of disaggregating the budgets. For most of my time, I had a singular relationship between my organisation and the centre in DCDS (Cap)—Steve Hillier for most of the time I was there. He had the whole programme, and I had the whole programme, and we used to meet weekly to discuss all of it.

Because I was coming here, some people rang me up and I said, “Well, what does the consolidated ask look like, either on an annual basis or over the 10 years of the programme? How much excess demand is there from the commands to DE&S over DE&S's cash budget?” They don't know the answer, because it is all split up among commands and there is no single, consolidated picture at the centre. In some ways, although well intentioned, Levene has made it worse.

Q33 Chair: If we are looking at the equipment plan now, Sir Bernard—my colleague, Mr Spellar, has a question about the top-level budget holders—you have made some important points there. The equipment plan runs over 10 years because, owing to the nature of building aircraft carriers or complex fighter aircraft, that takes longer than the three years you normally have in a public expenditure round cycle. From memory, I think the current equipment plan involves £242 billion. We are talking about a quarter of a trillion pounds of taxpayers' money. This is no small sum of cash.

One problem the Committee sometimes sees—you touched on this, and I want to draw you out more on it—is that the chiefs of staff are very reluctant to cancel anything. They always want every bell and whistle on every bit of kit. That means you end up with this constant running fudge. In 2010, some brutal decisions were taken. Some people agreed with them and some didn't, but at least, as it were, whereas for years eyes had been bigger than tummy, suddenly it was all made to match again. How important is it to try to persuade the chiefs of staff to take decisions in order to make the whole system work?

Sir Bernard Gray: It is vital, but the word I would question is “persuade”. The chiefs themselves are leaders of their tribe, and they are also semi-



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accountable to retired chiefs of their service, and they don't want to be the person who let the side down. There is significant social pressure not to make concessions.

From my point of view, in order to get them to co-operate on something, we first of all need to decide what the level of budget is really going to be over 10 years. If we go on to talk about some other people who do it—at least in some ways—better than us, the French have a 10-year equipment programme law. It is an Act of the French Parliament, and the DGA—my then opposite number; confusingly, the person and the Department are both called the DGA—had the absolute authority to be able to compel the services to stick to that. If you turn round to the chiefs of staff committee and say, "You have no choice. Parliament has decided that this is the budget, and you are going to be compelled to meet it," they can then turn round to their tribe and say, "I did not choose to do this; this was imposed on me." You are more likely to get co-operation in that frame, I think.

Q34 Chair: In fairness, to use an American phrase, if you look at the chiefs of staff as the war fighters, should war come, they want to win, so, for perfectly honourable reasons, on one level, they want as much of everything as they can get, and they want it to be as sophisticated and effective as it can be. In a sense, their motives are honourable, as I say, but the problem comes when none of them are prepared to compromise and what they want simply materially outmatches the amount of money available, doesn't it?

Sir Bernard Gray: Yes, absolutely. Everybody has their perspective and their priorities, but the point about the impact of this system is that if you look at the aircraft carrier case—it is a large object, and easier to see—because we had to throttle back everything, including the aircraft carriers, we spent £1.5 billion more building them than we would if we had a properly balanced budget at the time. That £1.5 billion could have gone into armoured fighting vehicles or escort ships or anything else.

Without it being intentionally this way—it is just a game theory problem we are faced with—it is in the interests of the individuals to try to cheat the system and get more advantage than one of the others, for perfectly honourable reasons. The net impact of all that is that we effectively waste large amounts of money in overhead in industry, instead of that actually going into productive output in industry.

Chair: Our main Committee—in March 2021, from memory—produced a report titled "Obsolescent and outgunned," about the Army's armoured fighting vehicle programme, the net of which was that we had not brought a new major AFV into service for over 20 years. That was for a variety of reasons, one of which was that, in simple terms, the Army kept changing its mind about what it wanted. Because of that, we ended up with nothing, or at least nothing substantial, so it is a real problem. Perhaps I can ask John to follow up this point about top-level budget holders.

Q35 John Spellar: Is the conclusion that we have to come to that giving greater autonomy to the top-line budget holders fundamentally is not



working and, going forwards, is not sustainable? If that is the case, what should be done?

Sir Bernard Gray: I think it is the case that it is not working. Centralisation has its own problems, because there is a tendency inside Main Building just to see something as a line in a spreadsheet and not necessarily to see its real impact on capability on the ground. Head office is not the answer to all of everybody's prayers. There is not a really easy answer to this.

What we do need to do, at least, is find a way of getting clarity about what the total demand is in the system and what the actual supply of cash to meet that demand is. That means honest budgeting of programmes, for example, instead of deliberately under-costing them as an entryist technique. We need a consolidated picture there, and we need some form of enforcement that says, whether disaggregated into TLBs or aggregated in the centre, that the MoD cannot exceed the five or 10-year planning target it has been given. It has to plan on meeting that, not hope that something more will turn up.

As you say, Chair, it is a great deal of taxpayers' money, which could be going into something else useful if defence cannot use it, or into better use in defence. We need to stop the value-destructive process of constantly rescheduling if we are going to get on top of it. You either need more enforcement down into TLBs, or centralisation and then the NAO, or somebody else, enforcing the Ministry of Defence into realistic, long-term planning.

Q36 **John Spellar:** I will touch on another thing you mentioned earlier: the attempt to balance the budget by fictional efficiency savings. Shouldn't we actually take an axe to this terminology? They are not efficiencies; they are cuts. In my experience, very rarely is there any action plan as to what these mean in detail. We have management speak—things like "stretch targets" and so on—but without any proper planning. That is a ludicrous way of organising. Should we not look at this whole terminology, and, indeed, this whole form of accounting?

Sir Bernard Gray: Yes. My view of the 2015 defence review was that it could have been okay if people had not been allowed to commit to new expenditure until they had made the saving. If command A are saying that you can save £500 million in this, then it is not until they have saved that £500 million that it becomes available for recycling into the capital budget.

Q37 **John Spellar:** Is it not the fact that in many cases there is nothing behind these offers of efficiency savings? They say, "We'll save £200 million," but there is no detail as to how that will be brought about in practice.

Sir Bernard Gray: I think that is broadly true at a time when people are assembling something like a defence review. That is why I say, "Okay. I will take your target, but until you find a way of achieving it—and achieve it—I am not going to let you spend the extra money". The danger that people then feel is that, if we make an efficiency saving over here, the Treasury will then say, "Excellent. You do not need the money," and then



take the money away. People have a legitimate fear about that, but, logically, my structure would be that if you are going to predicate anything on savings or cuts, you have to achieve those before you redeploy the money.

Chair: That is very helpful.

Q38 **Sarah Atherton:** Sir Bernard, what should DE&S stop doing and start doing to improve defence procurement and acquisition?

Sir Bernard Gray: I think it is an issue for the system as a whole. Broadly speaking, if you ask a stupid question, it is not entirely surprising when you get a stupid answer. I think Professor Louth mentioned one programme that was asked, "Please, can you break the laws of physics?". "Sure, no problem, can we have until Tuesday?" We need to make better decisions about what to ask DE&S to do. We have talked about that.

You had a discussion about UORs earlier. What is interesting in some ways is that many of the vehicles procured under UOR programmes have not been taken into the Army's core vehicle fleets. That is partly because they may be suitable for certain circumstances that applied in Afghanistan, it may be that they are expensive to maintain, or it may be that the Army wanted a more coherent operation.

The benefit of UORs, as John said, is that of the time, capability and cost matrix, it basically picks time. As with Ukraine now, it says "The most important thing is time. I need it within two months' time". That does not allow you to stretch out the programme and get extra overheads. It does not allow people time to start changing the specification. It forces you to take what is around, versus some idealised state of things. The discipline of time has many benefits. The difficulty of it is that if you want a defence industrial base, you may have to buy on the international market—the Swedish Archer system is a good example of that. Therefore, you may not have as much operational autonomy as you would like.

I think John's idea is an interesting one. Do you want a fast-track, UOR-style, off-the-shelf system for something, or do you want to develop a more complex, forward-looking submarine where we cannot buy it anywhere else, or Tempest aircraft where we think we can export them or something, and try to bifurcate them like that? The whole thing is still predicated on discipline and honesty in the budget.

Q39 **Sarah Atherton:** What about contracts? Do you have any observations about their ability to contractually arrange? What I am thinking of, in very simplistic terms, is if I contract with a builder and they mess something up I should not, as the customer, have to pay for that. There is some debate about the Prince of Wales at the moment. Who is going to pay to rectify those faults?

Sir Bernard Gray: As I was saying earlier, the problem is that we prejudice our position in the contracts because we keep going and asking for changes as a result either of a specification change or stretching out time. Usually, what the contractors get to do is bury all the bodies in that



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contract change. I used to have a picture pinned up over my desk, which had a very large superyacht with a small tender behind it. Some wag from the Pentagon had sent it to me. The small tender at the back had "Original Contract" as its name painted on the side. The large superyacht had "Contract Changes" painted on it.

It makes the point that the trouble with trying to enforce contracts is that if we keep breaking them it is very hard for us to get any discipline. I do not know the details of the current Ajax position, but I can imagine that we made a significant number of changes that caused us to be unable to enforce anything on GD, because essentially they could say, "According to the contract as amended, we did what we said we were going to do."

Chair: I think that is probably a pretty good summary.

Sir Bernard Gray: I agree that we need contracts that are capable of enforcement, and we got some. The aircraft carrier was an example of this, or when we buy from FMS through the United States, like we did with P-8 Poseidon ASW aircraft. You have discipline there, but for the vast majority of it, the—forgive me—constant state of turmoil going on means that all contracts are reopened, and therefore the enforceability of all contracts is pretty low.

Q40 **Sarah Atherton:** Very quickly, do you still believe that DE&S should become a Government-owned, contractor-operated organisation?

Sir Bernard Gray: The reason I advocated for that was to force the discipline of the contract between the centre and the delivery agency, so it made it painful for Main Building to change its mind. What we found was that, despite a lot of expressions of interests beforehand, the willingness of project management organisations to take risk was lower than we expected it to be and lower than they had said that it would be. We had to withdraw that competition because there was not enough interest in taking enough risk, but we do need something. The question is what the disciplining function is that causes the Ministry of Defence as a whole to live within its means in a verifiable way, and therefore that the instructions that they are sending to Abbey Wood are clear and consistent, and basically unchanging. That goal remains. The question is how we achieve it.

Q41 **Richard Drax:** The Ajax contract is interesting. We went to visit a factory. I take your point about delays, changes and all that sort of thing affecting the contract, but in this case one of the major factors as I understood it was the ear defence—something as simple as that. The ear defenders that the civilian workers used when this machine was being built and then tried had double the protection that the Army, in the contract that had been signed, were going to use themselves. We had two sets of earphones: one was the civilian double protection, and one was the military ones that they were going to use. Of course, it was not sufficient to protect their ears from the noise. As we know, we have had soldiers injured as a consequence. That was not discovered for, what, 10 or 11 years? It is just extraordinary to me how a lack of due diligence—call it what you will—



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completely scuppers the contract.

Sir Bernard Gray: Obviously, anybody being injured in the workplace is a bad thing, but I think the problem with Ajax is more substantial than that.

Richard Drax: It is, but this is one issue. There are many issues.

Sir Bernard Gray: I understand. I am not close enough to know about where that vibration is coming from, but I do know that they have tried to put a turret that is much larger than is fit for purpose on a vehicle carcass that is never designed for that. I can imagine a number of problems, including vibrations modes, coming out of the fact that the people specifying it in the first place have basically designed a vehicle that does not have the correct margins in it.

Now, I cannot speak about who made what decisions about what level of ear protection was being used, but it is interesting—why did we ignore a perfectly valid BAE offer in 2009-10 and go with an untried system that combined Lockheed Martin and General Dynamics to produce a unique vehicle, and why was the Army so insistent on that? But then when you get into the whole thing, the Department tried to protect itself with a fixed-price development contract and then a fixed firm price offtake contract. But then the Army kept changing the mix of vehicles in the fleet and the requirements within the vehicle and so on—basically invalidating the contract. In all that chaos, am I entirely surprised that they missed one thing? Not really, I suppose.

Q42 **Chair:** Let me ask a quick question on Ajax, because it is germane, and then I want to ask you something on contracting in principle. The Secretary of State called in a QC, now a KC, Clive Sheldon, a man with an impeccable reputation, to conduct a so-called lessons learned review into the Ajax programme—not so much on the technicalities, but on who knew what when, as a politician might describe it. That report was submitted to the MoD some four months ago and has been going through a rather drawn-out fact-checking process. The Secretary of State told the House earlier this week at Defence questions that he has now demanded to see it, and I think he wants it published pretty quickly. From everything that you have said, presumably you would agree that the sooner we get our hands on that report, the better.

Sir Bernard Gray: Yes, for sure. Just for the purposes of clarity, I have not seen hide nor hair of it either, so I have literally no idea what he said, but I can imagine some of the problems that will have arisen in it.

Q43 **Chair:** I don't know what is in it, but a few people who have seen it have told me privately that it will be worth reading—so, the sooner, the better. On contracting, there are two parallel issues. You have made the point very clearly that, if you constantly tweak the contract, you leave yourself very vulnerable in terms of protecting taxpayers' money. You have made a powerful point on that. But some people would argue that, even if you stay with the original contract, these really large defence companies have contract lawyers who know, shall we say, every nuance of that style of business and are exceptionally good at writing contracts that protect the



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contractor. Some people would argue that perhaps some of our contract lawyers do not have quite that degree of experience. Do we have a lack of a skillset in terms of the people who are writing our contracts from DE&S's point of view?

Sir Bernard Gray: I wouldn't necessarily be critical of contract or commercial people directly. But as a general rule, in DE&S, the MoD, the Department for Transport or the Department for Energy, the Government do not pay what top private firms pay. We have had some discussion this morning and on previous occasions about the frustrations. On the one hand, I like working for the Government, but on the other hand, as I say, I had hair! The frustrations of working for the Government are substantial. It is a very rewarding thing to do, and you serve your country, but it is a painful process.

If you are a contract person halfway up a tier in Abbey Wood, even before you have put the contract to bed on the original purchase order, you have one person or another saying "Can you reprofile the cash flow? Can you change it from green to blue?" There is constant change even prior to writing a contract.

It is unlikely you will be able to match the expertise that defence contractors can put forward. I think that is fair. But I do not despair of that, because of the application of some intelligence and will; I kept saying that one of the great benefits of working for the Government is that you can change the law. That is a very powerful tool.

I had one defence contractor, which I will not name, where we needed to, as something central to our national security in 2011-12, reconstitute buildings that had been developed largely after the second world war. They had reached the end of their useful lives and we needed new ones. This particular defence contractor was used to quite generous margins and was insisting that even though this was a risk-free contract for them, they would only take the 12% margin that they were used to and they could make a profit on the profit they were making at subsidiary levels and so on.

I went to the then Cabinet Secretary and I said: "Contractor A is being rather difficult in a time of national crisis when we are trying to get the budget under control and so on. We cannot live without this capability, but this person is basically trying to hold us to ransom. Would it be possible, Cabinet Secretary, for us to nationalise this? It is a one-line Bill and we have done it in other cases." Eventually, after a bit of discussion, he said yes. I went back to the contractor and I said: "I am terribly sorry that you do not want to do this work, but do not worry about it; we will do it ourselves." Oddly enough, he then agreed to the 8% margin.

There are some tactics. In the renegotiation of the Aircraft Carrier Alliance—a slightly longer story but a good one—where we ended up with a contract in 2012 that was solid and was delivered to, notwithstanding calibrating the driveshaft, it was possible to put in place structures that



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compelled industry and which also made it profitable for them to share the benefits, aligned with them. We can do things.

One of the other examples was from a friend of mine who was the US air force acquisition executive: a guy called David Van Buren. You may remember the US air force ran several competitions to get replacement air tankers. First, Boeing won and that was declared invalid because it had hired someone from the Government. Then, Airbus won and that was invalid because it was Airbus. They ran it again and Boeing won and David was the person in charge inside the Pentagon. He said: "We now have a solid contract after all this hoo-hah. If anybody comes into my office and suggests a contract variation, my answer comes in two parts. First, no. Secondly, you are fired; as in, proper fired, not reallocated to the audit department—you are fired." Oddly enough, nobody came suggesting variations.

There are things we can do to protect ourselves. We are not without resources, but it is a difficult problem. The public sector can be outspent by the private sector in contract terms.

Chair: Thank you very much. We have given that a good go. It is an important point to explore. I think Mr Courts wants to ask you something about lessons learned from Ukraine.

Q44 **Robert Courts:** Yes, this is obviously the topic of the moment and I appreciate it is probably something we could have an entire inquiry on. Quickly, in the time we have available, are there any lessons for procurement from the current contract in Ukraine that you think we need to learn now?

Sir Bernard Gray: You touched in the previous session on decisions you make in wartime versus peacetime. If I look at the Storm Shadow integration issue, some people are saying: how come they can put it on Su-24 in a few months and it takes us three years and £130 million to do it on Eurofighter? My point in reply to this on Twitter is that if you are actually fighting for your life today, you take a number of risks and accept a number of limitations on the operation of the weapon that you would not take if you had all the time in the world.

For example, you might only be able to pre-programme it before it sets off on its flight, so you may not be able to change its instructions when you are in the air. That might be a limitation you would accept. You might accept that the wires running through to this are for one mode, which is fire. These things are dangerous, because essentially it has a 1 tonne bomb in it. It is also heavy, so when you drop it off an aircraft, the aircraft becomes unstabilised as it loses the weapon, and you do not want the bomb hitting the tail of the aircraft. There are a number of actual technical issues.

You might say, "Well, I kinda think it's okay," if I'm in Ukraine today, whereas if we said, "Actually, we are going to convert the entire Eurofighter fleet on the same basis, and if we lose 10 pilots and 10



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aircraft, that's life", I think Parliament would have a different view. There are reasons for the two behaviours being different.

On the issue around weapon stocks, I was always concerned. Because complex weapons are expensive, and because, most of the time, we think that conflict is some distance away, our complex weapons stocks have been relatively low—the numbers are classified but they have been relatively low. I always wanted them to be higher because stuff turns up and it takes quite a long time to make a complex weapon—it is a 12-to-18-month process—whereas in general artillery munitions we were much better set up for all that because we had decent stocks as we had to keep BAE ticking over, and we also had a wartime stock, knowing how fast artillery is used.

So I agree with the point—forgive me, I think you may have made it, Chairman—that the US has already taken the demand signal and geared up for additional weapons production and the long-lead items for other things, and I agree that we have not. If I were the Prime Minister I would, as well as indicating our support for Ukraine, be diverting money into that kind of weapons production and signalling that we are going to up our existing weapons stocks by a factor of 10—which is itself a deterrent message to be sending.

I think, for us, it does bear on this whole question about short-term, off-the-shelf, rapid solutions for lash-ups that are good enough for today, versus long-term, defence industrial base, next-generation technologies—there is a bifurcation there. If I were the Prime Minister, the thing that I would be doing immediately is earmarking a significant amount of money specifically for weapons production. That would both ensure we were replenishing what we are using and send a signal.

Q45 Robert Courts: I would just like to unpack that a little. I totally accept, understand and agree with everything you said about stockpiling. Can we just come back a little bit to understand your point about innovation? I accept entirely that you are reintegrating Storm Shadow and you need to use it right now, so you will take the risk. It is all a risk-tolerance issue fundamentally, isn't it? But it does strike me that there is an innovation piece going on with regard to getting weapons to Ukraine and them using them that we could benefit from here. Would you caution against that? Do you think that we would be cutting corners we ought not to?

Sir Bernard Gray: In what way?

Robert Courts: Do you think that we could learn lessons from the speed with which we have managed to procure things and get them into service in Ukraine?

Sir Bernard Gray: Broadly speaking, what we are supplying them with is from our existing inventory. I think there is a good process in place. People are obviously fairly quiet about it, but you see the Ramstein meetings every couple of months, and there are subsidiary meetings that go on quietly behind that about making sure that people get what they



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want, where they want it and how it is moved and so forth. We are able to do this because we do have a stockpile. I am not particularly aware of us going out and buying things specifically for the purposes of donating them. They are coming out of our hide, essentially, right now. Therefore, the logic takes me to think that what we need to do in order to reinforce our own position is to go back into the—I suppose Archer is an example. We have supplied AS-90 to them. I would be supplying more of our ground vehicle fleet, including some of the UORs we have in store. If we are not going to use them and we are currently storing them, why not send them?

Chair: The Committee might have some sympathy with that.

Sir Bernard Gray: Then, equally, we need to be pulling forward other things in order to recapitalise our own defence base, but that takes money. I would caution against adding to the over-programming by saying, “Okay, let’s have some more complex weapons, but there’s no more money,” because that will just make the existing problem worse.

Chair: I understand the point you are making. Interestingly, when we went to Washington recently, one of the things we learned was that the United States Air Force Secretary had formally directed the United States air force “to prepare for war”. In conversation, it emerged that that was more in a Taiwanese context than in a Ukrainian context, but none the less, a very clear political direction had been given to prepare for a peer-on-peer conflict. It is fascinating when you are over there to see the mindset they are in compared with the one that we are in. Gavin, you were going to ask about comparisons with other countries.

Q46 **Gavin Robinson:** The Chair has just asked you about comparisons with other countries! Sir Bernard, thank you for joining us this morning. I think that if the Chairman was allowed to have cartoons on the front of parliamentary reports, he would ask you for a copy of the tender for the original contract for the super-yacht, but I do not think he is allowed to.

Chair: We will check the Standing Orders. We might be able to get it in as “figure X”.

Sir Bernard Gray: I have a copy of it somewhere; it is matter of finding it. It makes the point beautifully.

Q47 **Gavin Robinson:** I have a couple of questions. You have referred to a statutory footing for the equipment plan in France as one example, and you have referred to your counterpart in the Pentagon taking such a strident position on the change of contracts. Are there other international examples you could share with us that you think are worthy of not only consideration but adoption by DE&S?

Sir Bernard Gray: For sure. France is an interesting example. I note that my academic colleagues have cited some others that are of interest, but the DGA—the organisation in France—is more powerful than DE&S is in the UK. You can pay your money and take your choice about whether you think that is a good thing or a bad thing, but in France, they are very clear that the sustaining of the defence industrial base and the exportability of



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products is absolutely central to their requirement setting. The demands of the French forces are third. This is constitutionally set up inside of the DGA, and the DGA is basically able to say, "You're going to get this." The French are very good engineers. They come at it in a very Cartesian, logical way.

I would point out that the French version of Ajax is built and working, because Nexter, which is the organisation that built the gun, also built the light tank, for want of a better phrase. It is up and working and out there, and you can buy it. They did not atomise it into a Government-furnished equipment 40 mm cased telescopic ammunition gun system and then a turret system and then a vehicle system, which, when I was there, was a nightmare to deal with. They are now able to sell that vehicle elsewhere because they had an integrated whole doing it, and they could effectively mandate that Nexter, as the French vehicle manufacturer, was where it was going to go.

When we came up with the Anglo-French FCAS system, prior to Tempest, I worked very closely with my French opposite number on this, and we were talking about how we get about £250 million over two years into technology development. This is in the 2012 to 2014 timeframe. He basically said that he was going to take it from the Rafale production budget. Dassault was going to keep the money, but he basically said, "I'm going to tell the French navy and the French air force that they're getting fewer airframes. R&D isn't subject to EU competition requirements, so I'm able to reallocate that money on my own cognisance into the development programme." He looked at me and he said, "Where are you going to get your money from, Bernard?" Broadly speaking, I could go and ask the Prime Minister and various other people, and see if we could cobble it together. But he was able to say that sixth-generation uncrewed air systems were more important to the defence industrial base of France, and likely to produce export prospects in excess of what the F-35 could do. His strategic view was, "We want to do that, and we want to be at the leading edge of that technology." He could move funds to make it happen, and the armed forces had to live with the outcome. If he had proposed downing all French combat aircraft, I dare say that the Ministry of Defence would have had a word, but the point was he had significant flexibility to be able to move those funds. In their long-term planning horizon, the French have clear requirements set out, unlike us. We have havered about on whether we want industrial policy. Sometimes we do, and sometimes we don't. They have a very clear set of rules, a very clear budget and a very clear line of authority. They don't get everything right, by any manner of means, but they have achieved more than we have.

One thing we could have done by way of compromise—a lot of this is about what you want to compromise to achieve what you need to do—is buy the French FREMM design and build them in the UK, for a little over half of what Type 26 costs. They are in service with the French navy now, and we are talking about seven or eight years ago. We could have bought that design and been building that in Glasgow from 2015 onwards. They would probably have allowed us some of the production slots that they



already had, because they couldn't afford all of them in their row. We could have lifted the first two ships off the French production line, and taken those into the Navy as we migrated into building them. We would have had next-gen ASW capability 10 years earlier than we will now get it.

But the Navy were insistent. The French FREMM has land attack weapons, anti-submarine weapons, air defence weapons, torpedoes, anti-submarine warfare and a gun. Broadly speaking, we don't have most of those capabilities on Type 26 right now. We could have bought a full weapons fit and got the ships earlier, for less money, if we had been willing to compromise on the design component. However, the Navy didn't like it because the fire control—by which I mean stopping fire spreading through the ship—is not as good on French ships as it is on British ships. Because of our Falklands experience, we have majored on that. We have made a different design choice, which has cost us a lot. I am afraid to say that the French are by and large better disciplined about this than us.

Q48 **Gavin Robinson:** You were here for the previous evidence session, and you heard what Professor Louth said in answer to the final question. Mr Courts is going to ask you that question shortly, so hold yourself—you will get an opportunity to give us an answer. In his answer, Professor Louth mentioned not crystalising your decisions at an early stage, and leaving things fluid. I didn't get the opportunity to ask him how that would sit or rest easily alongside the continual criticism we hear that costs and budgets are stretched exponentially because of continual choices and changes within contracts. Based on what you have said, could I ask you for a quick reflection on that answer?

Sir Bernard Gray: John and I exchanged a word as we swapped over. I am afraid this is a point on which I disagree with him. John completely accepts that it requires good behaviour to do that, but the problem is that on planet Earth you don't really get good behaviour. I think people would abuse that right to continual change. If you came round and mandated it, they would say, "Parliament has told me I can change my mind any time I like." The reality is that in a very complicated situation like this, I think you have to try to nail down as many things as you can to reduce the number of variables you are trying to deal with. Otherwise, it is just unmanageable from a human perspective. Therefore, one thing I would be in favour of is that. It wouldn't be my No.1 pick, but I am not in favour of a change in spec, basically.

Q49 **Chair:** Just before we come to Robert, I should just say that as part of our homework, for want of a better phrase, for this inquiry, we recently had a really good briefing from the French embassy about how they do procurement and about how the DGA operates. When we went to Abbey Wood, they said—to paraphrase—"There are some things that are our fault, but there are a number of things in the procurement system that are not really our fault. We inherit things from the centre. Sometimes there are things already wrong by the time we inherit them." There is a fundamentally different philosophical approach in France. The DGA, as you say, has greater weight relative to the centre, and is far further up the food chain. That doesn't mean that we should slavishly copy everything



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they say, but empirically they have had far fewer procurement howlers over the years than we have, so they must be doing something right. Is that a fair characterisation?

Sir Bernard Gray: I agree with that.

Chair: Right. Thank you. In that case, I know colleagues don't want to miss Prime Minister's questions—or Deputy Prime Minister's questions, as I think it is today—so perhaps I can come to Mr Courts.

Q50 **Robert Courts:** Thank you. This question is probably the most important of all. You have touched on it already, but if you were to do one thing to materially improve defence procurement, what would it be?

Sir Bernard Gray: Balance the budget and shoot anybody who tried to subvert that.

Q51 **Chair:** Could you put it a bit more directly than that?

Sir Bernard Gray: I'm with David Van Buren: "No, and you're fired!" Something has to force people to recognise that there is a cost here. The cost of indiscipline is less equipment for our dollar to the frontline. I am not trying to be the bean-counting accountant here; I am trying to make sure we don't waste what money we have through indiscipline.

Q52 **Chair:** To be clear—this is an important point, Sir Bernard—you are not just talking about Treasury spending control; you are talking about the Ministry of Defence being more internally disciplined about how it allocates its resources. Have we understood you?

Sir Bernard Gray: Yes. Ultimately, we have an external corset from the Treasury today, and it just causes dysfunctional behaviour. What we actually need is the Ministry of Defence believing that it actually has to do this, and for that to go through its DNA. Since the second world war, we have had an approach that says, "Technological innovation is how you win wars, so it doesn't matter how much the technological innovation costs. We should have it, and you are in favour of us losing wars if you don't want it." But if you have only one fighter that is exquisite, you are going to lose anyway. As Ukraine is finding out, we need a bulk of weapons that are good enough in this world. We need to maximise the amount that we are getting through to the frontline in a variety of ways and minimise the amount that is being wasted in overhead, both in the Ministry of Defence and in the industry.

Chair: Sir Bernard, you have been characteristically lively and challenging in your evidence, which is why we wanted you in. Thank you very much indeed. You have given us a great deal to think about. On behalf of the whole Sub-Committee, I thank you very much for your time.

Sir Bernard Gray: Thank you for inviting me.

Chair: I'm glad we did.