

# Public Accounts Committee

## Oral evidence: Improving the performance of defence contracts, HC 185

Monday 12 July 2021

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Members present: Meg Hillier (Chair); Sir Geoffrey Clifton-Brown; Mr Mark Francois; Peter Grant; Mr Richard Holden; Nick Smith; James Wild.

Gareth Davies, Comptroller and Auditor General, Jeremy Lonsdale, Director, National Audit Office, and Marius Gallaher, Alternate Treasury Officer of Accounts, HM Treasury, were in attendance.

Questions 1 - 115

### Witnesses

I: David Williams, Permanent Secretary, Ministry of Defence; Andrew Forzani, Chief Commercial Officer, Ministry of Defence; and Sir Simon Bollom, Chief Executive, Defence Equipment and Support, Ministry of Defence.

## Report by the Comptroller and Auditor General

### Improving the performance of major equipment contracts (HC 298, Session 2021-22)

#### Examination of witnesses

Witnesses: David Williams, Andrew Forzani and Sir Simon Bollom.

**Chair:** Welcome to the Public Accounts Committee on Monday 12 July 2021. Today we are looking at how the Ministry of Defence is managing some of the Government's most complex and costly contracts. The National Audit Office has helpfully looked at 20 of these large Government defence contracts with a combined total forecast cost of £120 billion. It is not surprising to any of us around this table today that the National Audit Office has found that too often the MoD specialist suppliers deliver late and over budget. This is something that that our sister Committee, the Defence Select Committee, has also examined. I just want to put on record my thanks to the Chair of the Defence Select Committee for his support and help in preparing for today.

Welcome to our witnesses. We have David Williams, permanent secretary at the Ministry of Defence; Andrew Forzani, chief commercial officer at the Ministry of Defence; and Sir Simon Bollom, chief executive of Defence Equipment and Support, often referred to as DES, at the Ministry of Defence.

Before we go into the main session, I want to say a big farewell to a very big character in the National Audit Office, Jeremy Lonsdale. Most people who watch these hearings will perhaps not appreciate how much support this Committee and Parliament receive from the National Audit Office. Jeremy Lonsdale has been our absolute key person dealing with defence issues as the director of the NAO responsible for defence issues for the last six years.

Jeremy joined the NAO in 1988 and started working on a range of studies in the health, education and environment areas. He was promoted to be a director at the National Audit Office in 2000. He had a very interesting secondment in that year, until 2001, working for Lord Sharman on his Government-commissioned review of audit and accountability in central Government. That report led to a number of significant changes to audit and accountability arrangements, which is something this Committee continues to look at. You may be leaving the NAO, Jeremy, but these things continue.

He then returned to the NAO and directed work on welfare and employment programmes up to 2006. That included audits of many aspects of the benefits system at a very interesting time. Between 2007



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and 2013, he led the value for money practice in the NAO—the overall value for money practice. In 2013 he took over the Justice, DFID and FCO value for money teams.

He then went on secondment to do public policy research at RAND Europe in Cambridge as a senior research leader between 2014 and 2016. When he came back to the NAO in 2016, he took over the defence value for money team and has really helped this Committee motor on in our desire to tackle the Ministry of Defence and the Government about the repeated overspends and late programmes that we have seen over too many years.

If you add it all up, Jeremy, you might be surprised to learn that in total you have completed around 70 National Audit Office value for money projects and supported around 50 Public Accounts Committee hearings, which I think is almost a record. In between, as if that was not enough, Jeremy also prepared a booklet on the history of the Committee of Public Accounts in 2007, which is on the PAC website for any aficionados. He has also participated in a range of overseas audit projects, including advisory and training work, so he has spread his knowledge overseas.

Along the way he also completed a PhD in 2001 and has co-authored and edited four academic books on audit, evaluation and accountability and contributed chapters to many others. It sounds as though you will have a busy retirement if you are going to keep up that academic and writing side of things. After your time looking at the value for money of taxpayer spending in Government, particularly on defence, but also generally, what is your take on that? Do you have any words you would like to share with us all today?

**Jeremy Lonsdale:** Thank you, Chair, for the very kind words. Just very briefly, looking back over the last few years working on defence, which have been particularly interesting, and taking a step back, four points jump out. What has been really noticeable to us doing the audits has been the extent to which the MoD grapples with long-standing legacy issues. We talked a couple of weeks ago about the issues around the estate, which obviously your Committee have been considering for many years and we have been considering for many years. Clearly, the issues here today around contracts are long standing. The consequences of successive SDSRs are washing their way through. They are very much shaping what we look at.

The second thing is that there are lots of common challenges we see time and again: challenges around data, skills, IT and the importance of learning from the past. They do seem to crop up time and again in defence issues.

The other thing that strikes me, looking at the programmes, as we have, is that the complexity of individual projects is one thing, but what is really clear to us when we undertake our audits is the extent to which these are being taken forward at a time of great pace in the external environment. Nothing in the surrounding environment is ever staying still.



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Finally, looking forward, in our work we see the importance of innovation to improve performance and the application of a wide range of skills that are necessary for that innovative work. However, one thing that also crops up is that this is not just a technical issue; there are cultural issues, which no doubt the witnesses are grappling with every day. This jumped out really strongly to me in the defence work. Those are four things that I would pass on.

**Chair:** Thank you, Jeremy. I have cantered through 33 years—your life flashing before your eyes—but I have had the privilege of working with you for the last decade, and it has been a privilege. You have always been gracious, wise and hugely knowledgeable. On defence, I would like to say a particular thanks, because without your support we could not have done the work we have done—though, Mr Williams, do not think that we have finished our work on defence. Even with Jeremy gone, we shall be keeping tough on you on this and hoping to get some proper results.

**Sir Geoffrey Clifton-Brown:** Jeremy, it is sad that we will not be facing each other across the Committee. Maybe you will appear in another guise; as the Chair has hinted, perhaps somebody will want to take up your vast corporate knowledge and experience. That is what has been particularly valuable to this Committee. You can be very proud of your service to the NAO and this Committee, which we have appreciated hugely. You are obviously incredibly knowledgeable and capable, but you also have the ability to distil very complex tasks into simple ideas that are really important for us to delve into. We have benefited hugely from your knowledge and experience, and our heartfelt thanks go out to you. I hope you have a happy retirement, if that is what you want, or that you find alternative things to do—up to you. We look forward to meeting you again in the future.

**Jeremy Lonsdale:** Thank you.

**Chair:** Thank you, Sir Geoffrey. We can add no more to that. Thank you very much indeed, and thank you, Jeremy. We now need to move on to the session today. As I said, our witnesses are David Williams, Andrew Forzani and Sir Simon Bollom.

Q1 **Mr Francois:** Could I just very quickly endorse everything that you and the deputy Chair have said about Mr Lonsdale? He has been a fantastic public servant, and we all wish him well in whatever he goes on to do.

Good afternoon, gentlemen. Witnesses, today is groundhog day. It is another hearing of the PAC. It is another series of MoD witnesses. It is another litany of failed or chaotic defence procurement programmes. This has been going on for decades, so this has almost become a British tradition. However, let me put this in a different context, if I may.

Last week, in giving evidence to our sister Committee, the Defence Committee, Lieutenant General Ben Hodges, who is a retired American three-star who commanded the United States army in Europe from 2014 to 2017, was asked by the Committee Chairman, “Do you think the world is going to get more or less dangerous over the next five to 10 years, or



will it stay about the same?" Lieutenant General Hodges said, "I believe we will be involved in a kinetic conflict with China within five years." In layman's English, that means a war. Now, I hope to God he is wrong in that, but what if he is right? In that case, we in the United Kingdom will need as much kit as we can get, and it will all have to work to the best possible standard for the defence of the realm and of our allies, so that is the context in which this hearing is now taking place.

Going to figure 5 on page 29 of the very good NAO Report, there is a litany of the usual failed or failing procurement programmes: Ajax, Crowsnest, A400M Atlas, Astute, Warrior. There are 13 of them in there, not all of which are failures, but most are, and the figure shows the cumulative delay in those programmes coming into service, which is a delay of 254 months. Now, by my maths, that is 21 years—two decades. As there are 13 programmes in the table, that suggests that it is not just the odd one-off difficulty: there must be a systemic problem in your procurement system that leads to delays of 21 years. Do you agree?

**David Williams:** Let me also start by echoing the appreciation to Mr Lonsdale: the work of the NAO in supporting this Committee is really important in helping the MoD in its accountability to Parliament and the public, and in helping us to identify areas in which we can improve.

To your question, Mr Francois, I absolutely recognise that there are systemic challenges and complexities in defence equipment acquisition, and I also acknowledge that this is not the first time that the MoD has been before this Committee on these issues. This is an inherently complex and difficult business. As the NAO Report sets out, we have probably had more success in recent years, relatively speaking, in tackling cost growth than schedule delay, and I expect we will want to explore those time points in more detail.

Just on the particular table that you highlight, though—I am not defending the position of the worst offenders on that table—it shows that a substantial proportion of the aggregate delay was accounted for by A400M, a complex multinational programme, or by A400M, Warrior and Marshall, and the performance across the rest of those 13 is more mixed. I would just make that point about the specifics, but do I accept that we need to do better, working with our principal suppliers to both estimate the time to deliver equipment projects and then deliver them? Yes. It is an area where lots of attention is focused, and will continue to be focused.

On the context that you set out, I do not want to speculate on the specific prediction from the US witness last week, but in the Integrated Review that the Government published earlier this year we absolutely recognised that the world is an increasingly uncertain place, and we need to ensure that our armed forces have the capabilities that they need to meet those uncertainties, and to do the jobs that the Government ask of them. That will place a premium, in comparison with previous years, on rapid fielding of capability, incremental development, and having something that you can use on operations and in exercises with allies. Demonstrating that persistent presence is going to be more important in the future, not less. I



also think that the pace of technological change does not seem to me likely to slow down, so—

**Q2 Mr Francois:** Forgive me, but we have limited time, so we cannot really have five-minute answers. I do not wish to be impolite, but I will take that as a five-minute “Yes, there are systemic problems”, so let’s go to page 4 of the summary of the Report. The NAO looked at 19 major MoD programmes in order to compile this Report, and in the summary it concludes that eight out of the 19 senior responsible officers in the cases of those programmes rated their likelihood of being delivered as amber/red or red. That is not quite but almost half, so for nearly half of the major programmes that the NAO looked at, the SROs ultimately running them said that they were amber/red or red to come in on time and cost. Do you accept that that is a systemic failure?

**David Williams:** The projects rated red are a particular concern, because that suggests that there is no obvious or straightforward route through to delivery as expected. Projects that are rated amber/red reflect, for me, the degree of complexity in their delivery, whether that is technical complexity, the complexity of the industrial base that we are working with or however it might be in bringing together different lines of development to deliver the capability overall. It does not particularly surprise me that there is a range of MoD projects that are rated amber/red by the SRO or, indeed, by the Infrastructure and Projects Authority. Indeed, if they were only green and amber, I would suspect that our ability to gauge the inherent level of risk in those projects was probably out of balance.

**Q3 Mr Francois:** I will take that as another yes. On page 54, in paragraph 5.12, under the sub-heading “Learning from experience”, it says—this is only a brief quote—that the “main purpose of evaluation is to ensure good practice is perpetuated, lessons learned and costly mistakes avoided. Existing guidance is clear on its importance and benefits. Despite this, the Department has not systematically gathered and distributed lessons from experience (LFE) from programmes. In December 2020, it established a central register of LFE. The Department told us that, by April 2022, it plans to enhance central assurance of major programmes” and “improve evaluation capability”. Are you by April 2022 going to have a system for learning from experience, Sir Simon?

**Sir Simon Bollom:** Thank you for the question. It is a critical area, there is absolutely no doubt. One of the points here is that the complex landscape that Jeremy Lonsdale referred to earlier is made more complex by the fact that we have four commands, four TLBs, a number of operating centres and three delivery agents, so it is a complex picture. I take the point about LFE and having a more systematic collection of information. At DE&S level, I absolutely recognise that as an area for improvement. I would also point to the fact that it is not just information and being able to store and retrieve information that is key; it is actually the experience of the programme managers that really makes a difference here—

**Q4 Mr Francois:** Hence “learning from experience”. I take your point. In



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1986, there was the Nimrod AEW debacle, in which we wasted over £1 billion of British taxpayers' money trying to turn a maritime patrol aircraft into an airborne early warning platform. It was such a disaster that Michael Heseltine brought in Sir Peter Levene, from industry, to sort out procurement. He produced a report in 1986 about the problems in British defence procurement, which was called "Learning from Experience"—35 years ago. Since then, the Defence Committee, who are looking at defence industrial policy, have been told, there have been 13 formal reviews of British defence procurement policy—13 over three and a half decades.

So, let's see whether, after all those reviews, you have learned from experience. Let's turn to Ajax. You have spent nearly £4 billion of British taxpayers' money on a light tank that is badly delayed—by many years—in coming into service. If we look at some of the similar, progenitor problems, you wasted £130 million on TRACER, £133 million on FRES—these were all precursors. You cancelled the Warrior capability upgrade, at a cost, according to the NAO, of £584 million. If you combine those three, that's—by my maths—£866 million. So that's nearly £1 billion wasted on AFVs already, and now you have paid nearly £4 billion up front to General Dynamics for a tank that doesn't work. What have you learned from experience, Sir Simon?

**Sir Simon Bollom:** I would say we have learned a great deal from experience, Mr Francois. In this particular case, if you want me to go into Ajax, a number of the factors that drag us down on occasion loom up: technical complexity; a moving military requirement; complexity of integration; and a programme that spans many years.

**Q5 Mr Francois:** It spans many years all right. Look, it's meant to be a stealthy reconnaissance vehicle. It's meant to be stealthy, right? It's heavier than a Sherman tank. It's too small. And it's as stealthy as a Ford Transit full of spanners. It vibrates so much it deafens its own crew. You have given over £4 billion up front, for which we've got 14 support vehicles and we haven't actually got any of the main Ajax vehicles. And now you have even had to cancel the trials, to identify the vibration problem. So everyone knows that this is a disaster, and everyone knows that the vehicle vibrates very badly. And if you have cancelled the trials because of the vibration, you must know where the vibration is coming from. What is the source of the vibration on Ajax, please?

**Sir Simon Bollom:** You want me to just take the vibration piece?

**Mr Francois:** Well, that seems to be at the heart of the problem, although there are many others. Where is the vibration coming from?

**Sir Simon Bollom:** Well, just winding it back a bit, we have had a reported vibration problem. Those reports started to come in towards the end of last year. This year, it became clear as we rolled out 24 platforms into service—they are being trialled at the moment, as you probably know—

**Q6 Mr Francois:** No, you stopped the trials because of the vibration.



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**Sir Simon Bollom:** If I may continue, the trials are there to bring the platforms into service. We have suspended the trials for two reasons: one to do with vibration, and the other to do with noise. We have suspended the trials pending some investigative work. I am sure you will accept—

Q7 **Mr Francois:** Yes, but look, people have almost been deafened. They have been taken out of the vehicle nearly nauseous. This is all in the press. You must know where the vibration is coming from. Is it coming from the turret? Is it coming from the turret bustle? Is it the drive train? Is it the hull? Where is the vibration coming from? Just answer the question, please.

**Sir Simon Bollom:** My answer to the question is that we have some instrumented trials down at Millbrook, which, as you say, are currently paused. Once we get them restarted, we will be able to get to the source of the vibration issue. That has absolutely been a priority for the last four weeks.

Q8 **Mr Francois:** Sorry, I am going to stop you. Are you seriously giving evidence on the record to the Public Accounts Committee of this Parliament that, after all these months of trials, after people who have been in the vehicle having to be tested for hearing damage, you still don't know where the vibration and the noise is coming from? Is that your evidence?

**Sir Simon Bollom:** I'll turn that around. People were reporting hearing and vibration issues, and we paused the trials. The trials that we were undertaking down at Millbrook were to get to the seat of the problem with the vibration such that we can take some engineering action. That is what the trials at Millbrook are there to do. At this stage, I don't have definitive information on the source of the vibration or, more importantly, what we can do to address it.

Q9 **Mr Francois:** In other words, you don't know whether you can fix it or not. I put it to you that your evidence is patently ludicrous. You have been testing this vehicle for months. The contract was signed in 2014. You must know where the vibration is coming from. You just don't want to tell us because it means that you may have to cancel the programme.

What you did with Warrior, which was in development for 10 years, was throw good money after bad, despite many people begging you to cancel it. In the end, you finally cancelled it. If you do what you did on Warrior, you will do exactly the same. You have claimed complexity, but I put it to you that your evidence is ludicrous.

Let's switch to another programme. Do you recognise—

**Sir Simon Bollom:** If you don't mind, Mr Francois, I should be able to respond to that.

Q10 **Mr Francois:** Well then, tell us where the vibration is coming from when you respond. Where is it?

**Chair:** Sir Simon, please do respond.



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**Sir Simon Bollom:** Okay. Can I just point out that we are going through a comprehensive set of trials on Ajax to bring it into service? During those trials, the vibration issue arose. We were testing the full range of capability of this equipment. I refute the point that this is a tank that does not work. It has an absolutely world-beating capability, in terms of integrated sensors, weapons systems and protection to troops. We were going through that trial process. During the trial process, as you rightly say, the vibration issue has come up. During trials, issues arise. On this occasion, we stopped the trial because the primary thought was for the safety of those undertaking the trials.

We need to do some very specific vibration management, as you rightly say, to get at the source of the vibration, but does this mean that the capability is not fieldable? Does it mean that the capability needs to be cancelled? Not at all. You get these sorts of things; that is why we do trials. We are on the case. We are doing some work to get to the source of this, and I am confident that we will get to that.

**Mr Francois:** I am sorry, Sir Simon, but if you can't tell this Committee where the vibration is coming from after months of trials, palpably you cannot be on the case. Let's switch to another—

Q11 **Chair:** Can I just ask, Sir Simon, when these trials will be complete? What steps are you planning to take to resolve this matter?

**Sir Simon Bollom:** The scope of work that we have with Millbrook, which is an independent trials organisation near Bedford, will complete by the end of August. We are currently getting drops of data from those trials. We are working with General Dynamics's engineers, as you would expect, to analyse the data, get to the source of the issue and look at what engineering mitigations we can put in place. It is a concurrent piece: trials work at Millbrook, engineering work by GD—of course involving the Army. Obviously, it is of very high priority to sort this out.

Q12 **Mr Francois:** One last question on Ajax and then we will switch. According to figure 10 of the NAO Report, as at March 2021, you had spent £3.755 billion on this programme—so, coming on for £4 billion—of which, according to a PQ answered this morning, just over £3 billion has gone to General Dynamics. Why did you write the contracts such that we pay nearly £4 billion without having the vehicles delivered? You would not buy a car like that.

**Sir Simon Bollom:** You would not look to have a motor vehicle-type of arrangement with a bespoke development programme. Much is done with pretty much all of our military development programmes. Worldwide, there is a development contract, a demonstration contract, a contract for training, a contract for manufacture. We have paid for the work against agreed milestones that has been completed by General Dynamics, all the way through from contract signature. We are at an advanced stage of the manufacture, and then into service, so pretty much all the one-off costs—demonstration, manufacture, production of training devices—have been paid against stepwise capability milestones.



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The other point, if you want to take the car example, is that we deferred all those costs until we started delivery of the vehicles. We would get a pretty nasty spike, industry would have to cash-flow all the way through the development programme, and interest would accrue.

**Q13 Mr Francois:** To continue the car analogy, for £4 billion I would want a car that works. I think colleagues want to come back to Ajax given some of your answers, but may I just switch quickly to another programme?

Do you recognise this—Crowsnest, Merlin Mk 2? That programme has a very tortured history, so I will summarise it quickly. You signed a contract with Lockheed Martin in 2016 to take a helicopter—a Merlin—and put an airborne early radar on it and integrate the two to provide air coverage for the fleet. In 2018, a major contract amendment was signed. As that had not worked, in 2019, there was a recovery plan because the programme was judged to be “undeliverable”. The actual flight trials with a radar were very badly delayed. The initial operating capability when it was reset for the second time was agreed as September 2021, with a full operating capability in 2023. Crowsnest is now at sea as part of the Queen Elizabeth carrier group. I will not press you in open session about the degree of capability that Crowsnest has, but why has it taken five years to integrate an airborne early warning radar on to a helicopter?

**Sir Simon Bollom:** You rightly highlight that there have been delays to the programme. This is a main contract with Lockheed Martin, subcontracted to Thales. As with many integration operations, particularly with air radars on to platforms, this is complex. Things arise that were not expected, and they have to be dealt with.

**Q14 Mr Francois:** The gist of your answer is clear: it has taken five years because it is very complex. That is basically your point, yes? It is quite a complex thing to integrate a radar on to a helicopter, and that is why it took five years. Is that essentially your argument?

**Sir Simon Bollom:** Well, it’s not an argument; I am just stating that in actuality it is a complex affair. The pandemic pressure was worldwide in terms of trying to do this—

**Q15 Mr Francois:** Fine. One of the reasons we lost nearly a year was that the helicopter allocated to the trials was left out in the rain to rot for nearly a year, wasn’t it, by Leonardo, which is a subcontractor to Thales, which is a subcontractor to Lockheed Martin? I put it to you that there is nothing highly complex about leaving a helicopter to rot in the rain for a year. What is highly complex about that?

**Sir Simon Bollom:** The high complexity is the mission software, and that has paced the programme all the way through. It is—

**Q16 Mr Francois:** Yes, but leaving a helicopter to rot in the rain for a year—that is not complex; that is imbecility, isn’t it?

**Sir Simon Bollom:** Stating that it was left to rot I would suggest is overstating the issue.



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Q17 **Mr Francois:** The aircraft was unavailable for flight trials for a year, wasn't it? You had to go and get another one.

**Sir Simon Bollom:** The flight trials were not held up for a year. What paced the programme all the way through was the software design and installation. When we came to carry out the radar powered flights at the end, we did have issues with the serviceability of the aircraft. You are correct in that—

Q18 **Mr Francois:** Thank you. So, it is a very complex thing. If we had to go to war, could we have done it in quicker than five years? Or was it just so complex you could not speed it up?

**Sir Simon Bollom:** Well, if we had tried to do this as an urgent capability requirement, then, as we have done on many other programmes, there are other routes that we can take. So, yes, it could have been speeded up with that in mind—

Q19 **Mr Francois:** By how much?

**Sir Simon Bollom:** What we are looking for here is a capability that endures beyond a single operation. Actually going through the integration, the certification, of the capability is as I say complex—

Q20 **Mr Francois:** Very complex. You have made the point about complexity. Do you recognise this photo?

**Sir Simon Bollom:** I can't really see it.

**Mr Francois:** It's a Sea King AEW Mk 2.

**Sir Simon Bollom:** Okay.

Q21 **Mr Francois:** In 1982, we had the same challenge: when we went to war in the Falklands, we did not have any airborne early warning platforms to fly above the fleet, and obviously we were at risk of attack from the Argentinian air force, so we issued an urgent operation requirement to integrate a radar on to a helicopter. In fact, that radar is a precursor of this radar on Crowsnest.

In essence, it was exactly the same challenge: you had to integrate a radar on to a helicopter. They did that with successful flight trials in 11 weeks, 39 years ago. Presumably, we know more about modern electronics now than we did four decades ago. Here's the difference: five years or three months. If we could do it in three months four decades ago, why is Crowsnest taking five and a half years when it is basically the same job? It is the same radar.

**Sir Simon Bollom:** No.

**Mr Francois:** Yes.

**Sir Simon Bollom:** I am sorry, Mr Francois. You cannot say it is the same radar that we are trying to integrate—

**Mr Francois:** It is an upgraded version of Searchwater.



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**Sir Simon Bollom:** This is a Cerberus radar. It is going to be fully integrated into the platform. In terms of the task undertaken on this radar versus that one back in the Falklands as an urgent capability requirement—I was not around at that time—

**Mr Francois:** Thank God!

**Sir Simon Bollom:** Neither were you, I suspect. But I think you will find that that was very much, “Integrate as quickly as you can to the timescale”, and that most of the kit I think was standalone in nature—

Q22 **Mr Francois:** My last question and I will hand back to the Chair: why has it taken 10 times as long on your watch to do essentially the same job that we did four decades ago?

**Sir Simon Bollom:** Again, I’d have to come back and say that is not essentially the same job. If you look at the amount of software that has had to be designed, built, rig-tested and flight-tested, we have had to get that through certification. In terms of complexity, I would say it is an order of magnitude more so than happened back with the Sea King.

**Mr Francois:** By the way, Cerberus isn’t the radar. It is the mission system. Back to you, Chair.

**Chair:** Thank you, Mr Francois; we will come back to you in a moment. I will bring in Nick Smith.

Q23 **Nick Smith:** Thank you, Chair. I want to quickly go back to the issue with Ajax. Sir Simon, this problem of vibration must be very serious. You say you first picked up reports of problems towards the end of 2020. Given that this programme has been in hand for a number of years now—I assume with prototypes being tested all through—had your procurement team or the engineers in General Dynamics picked up this issue of vibrations before the end of 2020?

**Sir Simon Bollom:** That was one of the issues that struck us all. The Ajax variants and derivatives had done something like 40,000 km of running, and severe vibration had never been reported before. It was only when we started to rack up the track miles on the testing down at Bovington and we started to roll the platform out into initial service that soldiers were reporting with vibration-induced types of symptoms.

Those were the first reports. We took it very seriously when it was raised. Various work has been done to look back through the archive, to get some data and get to the root of it. We felt the need to get an independent body to really look at this and look at it against the current HSE guidance limits.

Q24 **Nick Smith:** Just to tease that out a bit more, you say that prototypes have backed up 40,000 miles with no problems—

**Sir Simon Bollom:** Kilometres.

Q25 **Nick Smith:** Excuse me. Is it the same vehicles, having done 40,000 kms, where you’ve found the problem, or is it different vehicles? Are the



vehicles being given different turrets? Can you give a bit more insight into what has gone on?

**Sir Simon Bollom:** I think the first prototypes were commissioned in about 2016. You are right that there are different configurations and vibration is sometimes a difficult thing to track down and isolate. We have some vibration data from the reliability growth trials, but in terms of using it to accurately get at the source of the problem, it felt important to do a really thorough job, which is why we have commissioned this baseline trial with Millbrook.

Q26 **Nick Smith:** One more quick question, please, Chair. I think you have Ministry of Defence officials or soldiers embedded with General Dynamics who are testing vehicles and have been for a long time. Have you had detailed discussions with them about their experience over the years that you can share with us?

**Sir Simon Bollom:** Yes, I have been down to Merthyr. I was at Millbrook last Thursday as well, to talk to both the project team and some of the people operating the platform. It is a mixture. Physiology, as you will appreciate, is very much an individual thing and people suffer to a greater or lesser extent depending on that. What I picked up were some quite mixed reports, which is why, for me, the important thing is to get some definitive data and lay it against the limits that are set out by the HSE, which are there to protect the majority of the population, and to be quite scientific about how we go after that.

Q27 **Nick Smith:** There is just a hint that you are talking about the physiology of the soldiers—of the technical team who are driving the vehicles at the moment. Is that what you are getting at?

**Sir Simon Bollom:** No. What I was saying is that vibration affects people in different ways, so somebody may well feel the effects very severely; others won't, which is what I thought you were getting at. The important thing for me is, as I say, to get some data, lay it against the limits and then have a definitive programme of reducing it to where it needs to be. Sorry if I have missed your point.

Q28 **Nick Smith:** I am just trying to understand. If you have had Army teams embedded for a long period of time, they would have been feeding back to you this issue over that length of time. I am just not sure what the feedback mechanisms are with the Department and the company to deal with this problem earlier rather than later. I am looking to you, as the senior officer, to give us confidence that you have gripped it over the last three or four years.

**Sir Simon Bollom:** When it was first reported, in the middle to end of last year, we took it very seriously. People were reporting sick with vibration-related symptoms. We made sure that there was a feedback mechanism. There was a comprehensive piece of testing, in terms of hearing and the physical effects, that the Army medics have done for all of those soldiers that have been exposed to Ajax during this trial period. I am confident



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now that that link is there, and what we now have to do is to ensure that when we restart the trials, it is indeed in a safe working environment.

Q29 **Nick Smith:** Had any of those sicknesses been reported to you before the middle to end of 2020, with the teams embedded?

**Sir Simon Bollom:** No. There were some anecdotal reports, we are now finding, but the sickness issue was last year.

Q30 **Nick Smith:** How far do the anecdotal reports go back?

**Sir Simon Bollom:** I don't have that information to hand. Stand by.

**David Williams:** Perhaps I might come in on that, Mr Smith.

**Sir Simon Bollom:** December '19.

**David Williams:** I have asked our director of health and safety and environmental policy to conduct a quick review on precisely the point that you raise about whether there was any anecdotal or informal feedback earlier in the process on which we might have taken earlier action, or how reporting processes have been working. That review is due to complete later this month, at which point we will have a fuller timeline, which Ministers have said that they will share.

Q31 **Mr Holden:** I am a little concerned, because you seem to be suggesting, Sir Simon, that this is about the physiology of some of the people involved. Is this the tank crews feeling it, or is it the vehicles?

**Sir Simon Bollom:** No, it is very much the tank crews. Just to be clear about what I was—

Q32 **Mr Holden:** Are you saying that there is an issue with the tank crews or with the vehicles?

**Sir Simon Bollom:** The vehicles.

Q33 **Mr Holden:** So this is an issue with the vehicles, not with the physiology of the people inside them.

**Sir Simon Bollom:** Correct. My point was that the vibration affects people in different ways.

Q34 **Mr Holden:** I am sure that is true. Just looking at this project, going a little bit back to what Mr Francois was pushing on earlier, there were 761 vehicles initially; that is now down to 589. It is a programme that had its inception back in 2010 to replace the CVR(T) vehicle, which had been in operation since 1967. Yesterday, we had the European cup final: the last time England won was in 1966, so that is 56 years ago. Some of these vehicles—the ones that the Army are currently using—have been in operation for 56 years. The new Ajax was meant to have come into place already, but we have now spent 60% of the entire budget for the new, revised down 589 vehicles. Is this common practice, to spend 60% before you have even got a single vehicle that is road ready?



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**Sir Simon Bollom:** It is common practice that we would pay for the development programme against agreed development milestones.

Q35 **Mr Holden:** Isn't the problem with your development milestones that you keep moving them back? From the NAO Report—I am just looking at the Ajax programme—you rebased the contract in 2019, so actually it is not against development goals at all, because the development goals keep slipping.

**Sir Simon Bollom:** Well, some of them do, and for the ones they have hit, we have paid against those payment milestones.

Q36 **Mr Holden:** So we are paying against the payment milestones, but they are not delivering against the milestones.

**Sir Simon Bollom:** Okay, but the other point is that all of this is subsumed into a firm price. It is with regret that the timescales have slipped, but there is an obligation on General Dynamics to deliver the 589 vehicles against a firm price of £5.5 billion.

Q37 **Mr Holden:** So what happens down the line, Sir Simon? We get that there is a firm price—we understand that. You cancelled the Warrior armoured programme, which was, again, a sort of upgrade of the CVR(T), which has been in service since 1970. There was a delay of 56 months before you finally cancelled it. According to figure 5 on page 29 of the Report, Ajax is currently on an 11-month delay. What is the Ajax programme actually going to be delayed by? It says 11 months here. What is it actually going to be delayed by?

**Sir Simon Bollom:** One of the other points on this is that you rightly referred to the recast in 2019. We have got the hold-up now for vibration and noise, and we have had some delays through covid, so another part of the work that has been commissioned following the IPA report is an independent review of the route through to the FOC in 2025.

Q38 **Mr Holden:** You are now reviewing the review—we get that, although you are calling it something different. You are doing a report on the review. It is 11 months so far, so what delay are we actually going to see? Is it going to be around that 56 months mark, or is it going to be longer?

**Sir Simon Bollom:** In terms of the capability fielding, we now have an issue—as we have just been through—with vibration and noise, so I cannot really give you a prediction.

Q39 **Mr Holden:** We understand that, but when is the earliest possible date that you could get it if everything goes to plan following the review and the review of the review? What is the earliest possible time you could have it operational?

**Sir Simon Bollom:** I would rather not be specific on that.

Q40 **Mr Holden:** You are talking to the Public Accounts Committee. This is public money. I think we deserve a few specifics on these massive contracts on which public money is being spent.

**Sir Geoffrey Clifton-Brown:** Have a guess.

**Chair:** Give us a range, Sir Simon. If you do not want to give us a fixed date, give us a range of when you think it might be ready.

**Sir Simon Bollom:** Chair, I would love to, but—

**Chair:** Sir Simon, can we just extrapolate back? There is testing going on, so you must have an idea of how long it will take to get that under way and evaluated. That gives you an extension to the project. From your vast experience, how long might it then take to modify? Are we talking another 11 months, two years, five years? Ballpark, what is the best-case scenario, and what outer window would you like to put on it? *[Interruption.]* Have we lost Sir Simon? I think we have hit a technical hitch, so David Williams can pick up until Sir Simon comes back online.

Q41 **Mr Holden:** Mr Williams, you heard all of Sir Simon's evidence. You obviously communicate with him regularly, and you are the person who holds the pen, at the end of the day. Can you give us a rough idea? When is the earliest opportunity?

**David Williams:** It is not that Sir Simon and I don't want to tell you what we think today. It is that we need to go through the next steps in the project work programme to be able to answer your question sensibly, not only for you but for us. The IOC—the initial operating capability—will not be declared until we can see an acceptable path through to resolution on the noise and vibration.

Q42 **Mr Holden:** We understand that, Mr Williams. What is the earliest possible date?

**David Williams:** As Sir Simon has said, we are expecting to get data from the Millbrook trials during the summer, once we have restarted those, and that will allow us to—

Q43 **Mr Holden:** Let's break this down. The earliest date is September.

**David Williams:** Yes, September sounds good to me. I think it will be the earliest at which we will be able to take a view on a path to IOC. If you understand, that is a necessary first step in then thinking about the path to full operating capability, which will depend in part on the extent to which engineering solutions are needed for—

Q44 **Mr Holden:** We all understand that, Mr Williams. You have to have the initial operating capability before you go to full operations. So September is the date when your Millbrook trials should report back. From that, if everything looks well, what would be the first date for your IOC? How many months will it take from September to get to that position?

**David Williams:** I can't sensibly answer that—

**Mr Holden:** What was the initial date in the programme?

**Mr Francois:** 2017.



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**David Williams:** 2017 was the date, when the first development contract was signed in 2010. That was pushed back to 2020 as we signed the manufacture phase of the contract in 2014, and pushed back again on the reset work in late 2018. We had been pushing for an IOC around about the end of June, which clearly we have not met, so the best you might hope for would be a month-for-month slip—unless, having established the issues that need to be addressed, there is any joint work with the company that we can do to make up for delays in the schedule.

**Q45 Mr Holden:** I understand. So your first possible IOC would be June 2022. Is that what you are telling me?

**David Williams:** No. We were targeting June '21. We need to see, on the back of the Millbrook review and other data, what the impact on that date is. Clearly, we are not going to make the end of June, since it is already July.

**Q46 Mr Holden:** And we are not going to make the end of September because of the trials. So, end of the year? The start of the next year? You have to be able to give us a date, otherwise we will be looking down the barrel of another Warrior programme, which was delayed for 56 months and then you just cancelled it.

**David Williams:** I think it is absolutely reasonable for you to ask the Department to set out at the earliest possible moment what a revised schedule would look like; I just can't do that today.

**Q47 Chair:** Okay. Mr Williams, can you then undertake to write to us, as soon as you can do that, with milestones? If for any reason you cannot put that in the public domain, which we would obviously discuss with you, we could do it on a reading room or Privy Council basis, to come and see what the challenges are about delivering this project, because—as colleagues have repeatedly highlighted—it is one of the many projects oft delayed and therefore costing the taxpayer more. And the worry that we have, as others have said, is that it is throwing good money after bad. So, at some point, you either have to decide to go ahead and spend the money or pull the plug. Consequently, Mr Holden's questions are very legitimate. When can you give us an idea of that timetable?

**David Williams:** Why don't I write to you after this hearing with an expected timetable for coming to a view on IOC and FOC dates? Indeed, as I recall from parliamentary engagement, Ministers here have undertaken to update the House should there be changes to those dates, in a timely fashion. So it is not that we are trying to keep this commercially sensitive; we just need to work through a set of steps in order to come up with a target that is plausible.

We are absolutely focused on getting the capability into service, but it needs to be a capability that meets the requirements for the Army and is safe for crew to operate. What I do not want to do is to get into some of the challenges with the legacy projects of optimism bias in setting dates until we have fully been through the information that we are going to get and assessed that appropriately.



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**Q48 Mr Holden:** Thank you very much, Mr Williams, and it is very good that you will write to us as soon as possible with those revised dates; that is very helpful.

Sir Simon, I will just come back to you; I am sorry that you dropped out at a crucial moment, before Mr Williams had to step in. There has been a huge number of rumours around this entire programme, started back in 2010. Is there any truth in the rumour, and is it the reason why we are now seeing the issues with General Dynamics looking at this programme many years after we started it, that the real issue behind the programme was that the Department had concern that it was spending far too much time with BAE and needed to broaden its base?

**Sir Simon Bollom:** That is not a rumour that I have heard, Mr Holden; as far as I am aware, and it long precedes me, GD won this under competition.

**Q49 Mr Holden:** Mr Williams, is that something that you have heard? Is there any truth to it?

**David Williams:** Not to my knowledge, no. I was not in the Department for the 2010 initial contract; I was in the Department and involved in the 2014 manufacture contract. As Sir Simon says, there was a competitive process here and that has delivered the result that we are working with.

**Mr Holden:** Yes, a result that we can now all see is in chaos, because you cannot even give us a timeline. Thank you very much indeed.

**Q50 Chair:** Can I just check on that competitive process, Mr Williams—or maybe Sir Simon? You can decide who is the best to answer. Sad to say, this Committee can turn us into cynics, much as we all want to see good government. There are some times when competitive processes are stacked so far that one supplier is best placed to deliver. Can you tell us, Mr Williams, that this competitive process for this so far unsuccessful project was a genuinely open competition?

**David Williams:** To the best of my knowledge, yes. It was a competition run against a set of published criteria; it went through a process of evaluation; and it went through the normal departmental investment approval processes. There was not, as far as I am aware, any influence one way or the other.

**Q51 Chair:** Okay, but with that set of initial criteria—we have seen this, for example, with broadband, where Fujitsu was encouraged to bid against British Telecom, but actually the whole bid was really rather structured so that only British Telecom was likely to win. So I take something outside the defence realm to make it a little easier. Are you confident that this was done in this case? We know that there is an issue, which we will come on to, about how you ensure that some of these very specialist suppliers are held competitive? Was that an element in trying to make sure that you got another company to deliver, which perhaps had been in the frame quite so firmly previously?



**David Williams:** As I say, not to my knowledge. I have no knowledge to lead me to believe that it was not a full competition in the way that I have described. There was, as I understand it, some importance attached to taking an off-the-shelf military solution and modifying it to UK requirements, partly to give confidence in the underlying engineering. There may be some learning from experience to be had there. My understanding would be that the field will have been shaped in part by companies that could point to some existing vehicles or capability in service. However, if you want a precise answer, I would need to have a look at our archives and come back to you.

Q52 **Chair:** Could you? And could you tell us now—or, if you cannot tell us now, look at your archives—how many bidders there were for the Ajax programme?

**David Williams:** In the original competition? I cannot tell you that off the top of my head, but it should be pretty quick to find that out.

**Chair:** Thank you. We look forward to receiving those answers.

Q53 **Sir Geoffrey Clifton-Brown:** Good afternoon. Could I perhaps come to you, Mr Williams? Figure 9, in the conclusion, says: "A key part of the Department's agenda must also be to learn lessons routinely across the portfolio, including being honest in acknowledging and learning from examples of poor value for money when they occur." I have listened carefully to the exchange between you and Sir Simon this afternoon. You knew you were coming before this Committee. You knew you were going to be asked questions about this programme. Yet all I have heard, I regret to say, from both of you, is a lot of evasion. In this reset contract in 2019—you, Mr Williams, are the accounting officer for the Department—how much more money will you allow to be allocated to this project before you decide to cancel it? You have spent £4 billion. The total cost is £5.5 billion. How much more money will you allow to be spent on it before you cancel it?

**David Williams:** First, I apologise if we come across as evasive. We are trying to avoid answering in relation to decisions that are based on information and reports that have not come to us yet—not that we will be evasive about decisions that are made.

As we have talked about, this is a firm price contract. In the first instance, to the extent that there is reworking to be done, we would expect that to be a matter for our industrial partner, GD UK, rather than for the Department. But Sir Simon or Mr Forzani might want to give you a bit more detail on the underpinning contract.

Q54 **Sir Geoffrey Clifton-Brown:** Hang on, Mr Williams. With great respect, you are the accounting officer. You have to make the decisions on how public money is properly to be spent, according to "Managing Public Money". This is taxpayers' money. How much more money will you spend on this project before you decide to cancel it? It is a very simple question.



**David Williams:** Yes, and the simple answer is that I do not yet know. We have an approval for the programme overall, set out in the NAO Report at around £5.5 billion. We need to understand the nature of the current challenges, the route to full operating capability and the extent to which that is an issue for GD UK or where costs might fall to the Department. To the extent that there are costs that fall to the Department, there is then a choice about whether we might spend more money on this capability or manage it within the existing approval limits by varying, for example, the—

**Q55 Sir Geoffrey Clifton-Brown:** Mr Williams, with great respect, you are not answering my question at all. It is a very straightforward question. You have spent £4 billion of taxpayers' money, which presumably is irrecoverable—is it? How much more money are you going to go on spending? Presumably, from what you are saying, it could be right up to £5.5 billion, and we still will not necessarily have a vehicle that works. How much more taxpayers' money is going to be—in my words—squandered on this project before you decide to cancel it?

**David Williams:** We are not at a stage where additional money will be squandered. We are absolutely focused on how we bring this capability into service for the Army in a way that meets its requirements, based on the contract that we currently have with GD UK. It may be a simple question, but it is a hypothetical one. Of course, we keep issues like this under review, but I don't have a number in my mind so that going over that level before we take delivery of more capability drops or more vehicles would represent such bad value for money that we should cease and desist, as it were. Our judgment of value for money is going to be informed by a range of inputs that we are getting from reports over the summer, which we have touched on. Then we will need to understand the engineering and commercial options available to us.

**Q56 Sir Geoffrey Clifton-Brown:** Mr Williams, we understand all that. This is going over old ground. In order that this Committee can get some assurance from this afternoon's session about public money being protected, what are the penalties on GD UK if this vehicle is not delivered according to the timetable, or at least delivered according to the IOC, which you are now estimating as September of this year? What penalty on GD UK is built into that contract?

**David Williams:** I might ask Mr Forzani to come in on that one.

**Andrew Forzani:** I just want to give you some assurance that it is a strong contract—it is a strong contractual arrangement. I guess we have three mechanisms to try to manage GD performance. As we have said before, there are lots of milestones in the contract, and payments are dictated against them, so we are able to hold money and cash flow from the contractor for delays.

We are also able to apply liquidated damages in the contract. We are already utilising that, and we are already holding sums on liquidated damages. You might be aware that, legally, we can only hold liquidated



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damages that are a genuine estimate of what the Department's loss might be, but they would continue to stack up if there were continuing delays. In the very worst event that we were unable to ever get this capability to work, there is very strong protection, in terms of the liabilities and the money we can seek back through the contractual arrangements. I am not going to go into absolute specifics, but the Department is holding all those authorities in the contract, as you would imagine.

**Q57 Sir Geoffrey Clifton-Brown:** Right. We know that £3.167 billion has already been spent, including VAT. Mr Williams, could we see a copy of that contract on some terms? I don't mind what the terms are—whether they are Privy Council terms, whether the contract is supplied to the NAO or what. The Committee would like to see it on some terms. We have had various confidential data on reading room terms in the past and it has never leaked. May we see a copy of that contract, please?

**David Williams:** Subject to confirming that with Ministers, I am happy to come back to you on that point.

**Chair:** Thank you. We will make sure we stick to certain well-worn rules that we have for looking at Whitehall documents.

**Q58 Mr Francois:** If tomorrow we were to cancel the contract, like we did with Warrior—remember that Warrior has the same turret as Ajax—and sue General Dynamics, how much of the £3.1 billion that we have already paid them up front could we expect realistically to get back?

**Andrew Forzani:** We have absolutely got a clear provision against non-delivery to terminate and claim costs back. I am not prepared to give that figure in this session—you will see it if we are able to share the contract—but it is significant. There is a significant incentive—a significant penalty in the contract against non-delivery.

**Mr Francois:** Is it in the millions or the billions?

**Chair:** We really cannot go into that figure.

**Q59 Mr Francois:** In that case, perhaps we could summarise. Mr Williams, you told this Committee a fortnight ago, in your first run-out in your new job, that your mantra would be delivery, delivery, delivery. Do you remember saying it? I am sorry, sir, but all we have had this afternoon is evasion, evasion, evasion from you and Sir Simon. When will this vehicle enter service?

**David Williams:** There are only so many ways I can not answer the question—[*Laughter.*]

**Q60 Chair:** Mr Williams, at least you are being honest. I think what Mr Francois is driving at is that if "delivery, delivery, delivery" is your mantra, are you confident that Ajax will be delivered and will be an operational vehicle available to our armed forces?

**David Williams:** That is absolutely what we are working to achieve. Notwithstanding the commercial provisions, a decision to cancel tomorrow does not help us in the requirement that we need for the Army and Army



personnel. Ministers here are committed to that; officials are committed. It is an area of personal priority for me in terms of how I am spending my time.

**Q61 Mr Francois:** The contract was let in 2010. The initial operating capability was 2017. We have spent nearly £4 billion of British taxpayer's money. You cannot tell us when it will come into service, or even if it will come into service. You know it has a vibration problem so you stopped the trials, but you cannot tell us, despite stopping the trials because of the vibration, where that vibration comes from. Sir Simon implied at one point that it was the fault of the tank crews and not the vehicle. If someone who was not a specialist—just a taxpaying member of the public—were to tune into this programme and watch the last two hours, they would think, "These people haven't got the faintest clue what they're doing." We were laughing a minute ago, but it is not funny, is it? This is £4 billion of taxpayer's money. Do you not agree that your whole system is broken?

**Chair:** I am going to bring in David Williams, and then Sir Simon Bollom on the issue of tank crews. I think it is important that that is clarified.

**David Williams:** Down to the fundamental point about the level of upfront investment before vehicles are delivered, it is a model of defence procurement worldwide that investment in new technology and development of new capabilities and equipment are largely funded through Government rather than by private investment. The commercial model, the industrial model, if you like, is just different. We see this on fast jets and in shipbuilding. It is not an unusual—

**Q62 Chair:** I do not think for a minute that anyone is suggesting it is unusual. We just want to make sure that when the money is spent, that something is delivered for it. We have gone around the houses, but I do want to bring Sir Simon Bollom in on the issue of the physiology of tank crews and the vibrations. I want to give you the final word on that, Sir Simon, so you can be clear on the record about what you were saying.

**Sir Simon Bollom:** At no point in this discussion have I stated that this is the tank crews—absolutely emphatically. The vehicle vibrates—it has severe vibration—and that affects different people in different ways. That was my point to the question about why everybody has not experienced the same issues.

**Q63 Mr Francois:** Where does the severe vibration come from?

**Chair:** Mr Francois, we have been around that many times. I do not think we are going to get another answer.

**Sir Simon Bollom:** I think I have been very clear that it comes from the vehicles.

**Chair:** I think we need to move on, Mr Francois. Did you want to pick up more on the other points, moving on to Ajax?

**Q64 Mr Francois:** I was going to move back to Nimrod. Nimrod AEW was cancelled in the mid-1980s, with well over £1 billion wasted for nothing.



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We then had Nimrod MR4, which was to upgrade the reconnaissance version of the Nimrod, the sub hunter, to a new MR4 standard from the MR2 standard. That was cancelled in 2010. We spent well over £1 billion on that project. It was basically cancelled because, at the end of the day, it did not work, so we have had two Nimrod procurement disasters, not one. Why didn't we learn something before the second Nimrod disaster from the first, Sir Simon?

**Sir Simon Bollom:** I am bound to say that I was not involved in either of those programmes, Mr Francois.

Q65 **Chair:** Nevertheless, what lessons do you think that the Ministry of Defence has learned, Sir Simon?

**Sir Simon Bollom:** If your point is whether there are some similarities that go all the way through defence procurement, complex procurement and international procurement, absolutely there are. I come back to committing to a programme only when you understand the technical risk. In both those cases, looking back, the complexities associated with integration of complex air radars into an aircraft are significant, and they are underestimated. I am quite happy to say—you raised Crowsnest—that some of the same symptoms have carried through to Crowsnest. We have to, with our suppliers, get better at doing technical assessment, and assessment up front, before we embark on a main programme. That means doing a thorough piece of technical risk reduction. That would be my learning.

Q66 **Mr Francois:** Okay, but we have already made the point that there have been 13 formal reviews of defence procurement since learning from experience in 1986, so this has all been reviewed more than a dozen times, yet as you have just said, we have had problems on Crowsnest that are similar in some ways to problems with the two previous Nimrods, so what confidence can you give the Public Accounts Committee—the clue is in the name, sir—that you are actually learning from these endless errors that cost the taxpayer billions of pounds?

**Sir Simon Bollom:** I would point to what we have been doing, I think successfully, over the last five years since our formation as bespoke training enterprise facsimiles. A lot of this is about upskilling our people. It is about getting modern programme management systems in place, and it is about getting a more mature relationship with our key suppliers. I would say that we have improved a lot. We have to get better still at being able to specify our requirements more clearly. Those requirements should not be too ambitious. The way in which we have approached Type 31, where we had a baseline standard and a modular system with the ability to add capabilities through life, is the way to go. It is the way that we have successfully run on air programmes such as Typhoon, and that incremental spiral development, rather than a large capability—a large challenge up front—is the way to mitigate risks through life, so I think the learnings are very much there.

Q67 **Mr Francois:** Basically, you failed your Ofsted—there was talk in the weekend press about Ofsteds. The NAO spends a great deal of time going



forensically through the procurement performance of the Ministry of Defence. Year on year it produces reports like this on the equipment plan, and year on year it highlights endless delays, cost overruns and cancellations of programmes. Again, in simple terms, you fail your Ofsted year after year. If a school fails its Ofsted, someone does something about it; they say, "We can't allow kids to be poorly educated." You fail your Ofsted year after year. What happens to you, Sir Simon? What are the consequences of your failures?

**Sir Simon Bollom:** Look, we placed 798 contracts last year, and 4,000 over a five-year span. Contracts we have put in place are at between 50% and 70% confidence. Not everything will deliver on time or to cost. I would also say that, over the past five years, the actual cost of the programme that we manage down here in DE&S has reduced, so we have learned, and we have improved cost controls. I absolutely buy into the fact that we need to do better on schedule, but I have to say that some of these programmes were put on contract some time ago, and if you look at the more recent performance, I would point to the fact that it is significantly improved.

Q68 **Chair:** Thank you, Sir Simon, because that leads me neatly to some of the questions I wanted to ask about the lessons learned so far. I wonder if you or your colleagues could give some examples about how the Investment Approvals Committee is changing its approach. The NAO recommends that teams state explicitly how they have applied lessons learned from previous projects. We have gone through Ajax in great detail, and we have touched on Crowsnest and the Nimrod maritime patrol craft as examples. Can you give us some precise examples of how those putting programmes to the Investment Approvals Committee have learned lessons from those or other projects that have not gone well, and the difference that has made? Mr Williams, it looks like you will answer that. As you are fairly new back into the Department, I appreciate that you might need to refer to a colleague.

**David Williams:** I can tell you what we are doing to improve the process, but colleagues may want to come in with some specific examples. I will start with the Investment Approvals Committee, which you raised. We have now adopted—as is more standard across Government—an approach of starting off programmes with a strategic outline case, which is an opportunity for the Committee to satisfy itself that lessons have been learned from previous similar procurements.

Q69 **Chair:** Those are words, Mr Williams—a strategic outline case demonstrating that lessons have been learned. Can you be precise about what sort of things need to be in that strategic outline case to prove to the Investment Approvals Committee that lessons have been learned, maybe using one of the examples we have been talking about?

**David Williams:** We are running a set of pilots through that process at the moment. The one that I have seen since I have got back in is a case around the new medium support helicopter, which has looked at both how requirements have previously been set and previous challenges in



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procurement and manufacture. The point of the strategic outline case is to allow approvers and, indeed, Ministers to check the direction of the programme early on, to make sure that risks are appropriately bounded, and indeed that where there is relevant learning from other projects, that is coming through. I can probably—offline, in writing—give other examples.

The Investment Approvals Committee now has non-executive director presence, so it is not simply an executive grouping. We are also working through the acquisition and approvals transformation programme to streamline the approach, looking to take, on average, around two years out of our approvals processes from first approval through to entry into service.

**Q70 Chair:** That is the answer to a different question, although it is helpful that you are trying to speed that up. You mentioned non-executive directors. Can you remind me who your non-executive directors are in the Ministry of Defence?

**David Williams:** On the Investment Approvals Committee, we have a non-executive director who is also chair of the Defence Audit and Risk Committee. We then have a serving senior civil servant from a different Department from the programme delivery profession. We have a blend of non-executive experience there, or external to defence experience.

**Q71 Chair:** Experienced at delivering major projects?

**David Williams:** Yes, indeed. We have put more of our programmes on to the Government Major Projects Portfolio—over 60 of those now—which comes with the full suite of Infrastructure and Project Authority oversight and support. The governance is changing and improving.

**Q72 Chair:** That is changing, so from your point of view as permanent secretary coming back into the Department—the largest portion of your civil service career has been at the MOD, and you are now the head honcho, the accounting officer—do you think that these changes will mean that we will see fewer of the projects highlighted so ably by Mr Francois in that list of 13, half of which are very severely delayed?

**David Williams:** That clearly has to be the intent, and it is something I want to work hard to ensure is the case. Alongside the approvals processes that I have touched on, the things that are new and, I think, welcome developments—the NAO Report brings this out—since I was last in the Department include the Strategic Partnering Programme with our major suppliers.

**Chair:** I was just going to come on to that.

**David Williams:** Okay—category management, and a clear focus on skills. I think we are doing the right things; the challenge, of course, is to do the right things consistently, at scale and at pace. It is not going to be an overnight—

**Q73 Chair:** We will come on to some of those. Can I come on to the Strategic



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Partnering Programme? That was set up in 2018, of course, to work with the 19 most important suppliers. Can you give us an update about how well that is going? Can you give us an example of what appreciable difference there has been since 2018 as a result of that partnering programme?

**David Williams:** Do you mind if I bring Mr Forzani in to answer that?

**Andrew Forzani:** Yes, I am happy to. I run the programme on a day-to-day basis. We have embedded it now across 14 of those suppliers, Chair, and I will give one example, which is maritime and nuclear support with one of our major contractors. Although it uses the word “partnership”, this isn’t soft; this is about trying to have a single consistent point of contact with our biggest suppliers, because of course, our big suppliers have multiple contracts and multiple touchpoints. This is about trying to get a consistent view of performance and trying to understand, if performance isn’t good, what the reasons behind that are, and whether there are any issues we could look at across the whole portfolio and across the relationship, and then setting up interventions—workstreams, we call them—and projects to try to fix those.

I would point in particular to the way in which we are doing maritime and submarine support, and very detailed work to try to improve availability in that space. We are working collaboratively with the supplier, right down to the nuts and bolts on how the supplier, the Navy, and MOD officials actually work on the ground at the dockside to make those operations as effective as possible.

Q74 **Chair:** Can you remind us how much money you are hoping to save as a result of this work?

**Andrew Forzani:** The very early predictions are £160 million, but the intention, Chair, is that that will absolutely build. About 40 workstreams have been set up across four of our biggest suppliers, and each of those is trying to improve performance, improve output, and sometimes make an efficiency saving. As those develop, that number will absolutely grow, but it is that £160 million at the moment.

Q75 **Chair:** Have you set it deliberately low so that you can overshoot, or are those absolutely audited-down numbers that you have really bottomed out?

**Andrew Forzani:** The way that we do the efficiencies, as you are probably aware, is that we have a kind of maturity of them. That has been worked down—

Q76 **Chair:** So these are the mature figures.

**Andrew Forzani:** Yes. These are on the books. We have plans, and we are actually working them through. We would expect that £160 million to go up significantly.

Q77 **Chair:** When you say “significantly”, even doubling it is quite small fry when we are talking about billions of pounds, as we have been with regard



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to other projects. When you say “significantly”, by what order do you expect those savings to increase?

**Andrew Forzani:** We would expect the programme to be able to deliver hundreds and hundreds of millions of savings. It’s quite difficult to isolate a saving from the programme, as opposed to work you were already doing, and we don’t want to double count. There are already significant savings in Sir Simon’s DE&S efficiency programme. Some of this work enables it—makes that more likely to happen. The £160 million is stand-alone things that we are doing, initiated through the programme, and going through delivery.

Q78 **Chair:** We don’t like double counting either, but obviously this all comes out in your accounts anyway, and the NAO obviously look at this a lot. Of the 4,000 contracts delivered over the past five years, what proportion have been delivered on budget? Can you tell me, Mr Forzani, or would that be for Mr Williams?

**David Williams:** I can’t tell you, no, without going and—

Q79 **Chair:** Can anyone tell me that?

**Sir Simon Bollom:** No, sorry.

Q80 **Chair:** Well, some things will be small, off-the-shelf things. I’m sure there are lots of things that are just bought—renewed contracts. But can you give us an idea of the big-budget items delivered to budget and on time? Obviously we have the NAO’s Report on these 20, but that is a small number of the total number of contracts let. Sir Simon?

**Sir Simon Bollom:** I think we would have to come back to you on that.

Q81 **Chair:** Okay. I would have hoped, Mr Williams, that that was uppermost in your mind, as the accounting officer.

There is just one other thing. Sir Simon, you talked about software integration; I think you were referring to Ajax, and also referred to it around Crowsnest. When we have looked at rail projects, the software integration has been one of the most challenging elements—costly and one of the biggest causes of delays. So are you doing any comparison with transport? Can you expand on that software integration? Is that a new challenge, given that Mr Francois referred to something during the Falklands war, nearly 20 years ago? How are you guarding against the cost overruns that software integration can and often does cause?

**Sir Simon Bollom:** Actually, one of the non-executive directors on the DE&S board, Mr Andy Lord, is from TfL and looks after the London underground, so that’s a useful point of reference. Tony Meggs, another one of our non-executive directors, is ex-chair of the IPA and, indeed, Crossrail. Also, Nick Elliott is former commercial director at Network Rail. So, as you rightly say, there is an opportunity for some joint learning in terms of software. In terms of software design and software accreditation, it’s a skillset that we need to grow—probably not just in DE&S but across Government—and is a central part of our “DE&S 2025” strategy. I have to say that the demand for software-capable people is high; there is a very



strong marketplace in which we have to compete to get expertise. But it is very much one of the key areas that we need to grapple with increasingly.

**Q82 Chair:** Do you think that has been one of the reasons for the problems with cost for some of the projects that we are looking at today? Would you identify that as a trigger?

**Sir Simon Bollom:** If I look at Crowsnest, the scale of the task was underestimated at the front end. Again, it was a firm-price contract, but the contractor is responsible for delivering on that and, as time pressure came in, it became about mobilising or bringing in enough resource to be able to write the software, test it and correct it. So I would say—again, it follows my earlier points—this is about making sure that there’s a real good baseline of estimate, and that parametrics from other platforms, other areas, are taken into account. And then it is about having the right size of team with the capability to discharge the task.

**Chair:** I think that is an area that we will probably want to probe more. To warn you, Mr Williams, we will ask more questions about that in future hearings. Just a correction: as a Pompey girl, I remember seeing the armada off 39 years ago—it will be 40 years next year, the anniversary of the Falklands war—and, as I was only there in February last year, I apologise to my friends in the Falkland Islands for mis-speaking on that issue. It will be an important anniversary for us all.

**Q83 Mr Holden:** I have a couple of quick questions to follow up on what the Chair has asked about the reliance on temporary contractors to fill key roles. Mr Williams, given that with some of the examples—looking at figure 7 of the Report, on page 46, if you want to follow—your Department is lacking enough of the right people to manage the programmes and contracts, what are you doing with the Treasury and the Cabinet Office to get some more innovative solutions to that, rather than just spending a huge amount of public money? When we look at some of the programmes, more than 50% of the staff on them are contractors.

**David Williams:** Just to give one point of context, I think the challenge of ensuring the right skills is in not only Government but our principal suppliers as well. This is an enterprise challenge.

In terms of the approach to skills and capabilities, we have in DE&S and in the SDA, the Submarine Delivery Agency, a range of freedoms around our ability to attract and retain talent. I might in a moment bring Sir Simon in on that, but on the digital skills, which pick up on the particular programmes you highlight, we currently have, or are just finalising, a digital workforce strategy, looking at approaches to talent recruitment, to the learning and reskilling of people and to organisational design—so, what is it we want in-house, and where does it make sense, given the nature of the product and the programmes, and the skills and expertise we are after, to use contractors for bound work and projects?—as well as leading into the broader Government digital profession for wider workforce planning. The balance is not right at the moment, but in a particularly competitive market, where digital, cyber and system-integration skills are



at a premium, not only in Government but across the enterprise, you need a multi-pronged approach.

A couple of other points from me, then Sir Simon may come in on the DE&S side. We have recruited 60 new posts, largely from outside Government, to meet critical skills shortages in the digital area. We have a second phase of recruitment under way for a further 84 posts. The plan next year is to look for about a further 50 posts. That is about 200 people all told. That, coupled with our learning and development programmes and wider workforce planning, is at the heart of our digital workforce strategy.

**Q84 Mr Holden:** Thanks, Mr Williams. I think you have covered what my follow-up was going to be, which was about digital skills. One of the things, looking at that graph, that really surprised me is that the Spearfish torpedo upgrade, the fleet solid support ship and the Type 31e frigates are all bumping between one in six and one in four people who are contractors. I can understand the digital skills gap, but how are you in that situation with some of the big maritime programmes?

**David Williams:** May I pass that one to Sir Simon?

**Sir Simon Bollom:** For what you pick up, we have had to launch a number of new programmes concurrently. That places quite a pull on the skills base inside the organisation, which is where we have pulled in quite a lot of contractors. One of the things that we did a few years ago was to set up some delivery partners—for commercial, engineering and programme management—so we have framework contracts, where we can pull these skills in fairly quickly. Our intent then would be to recruit to backfill those posts as soon as possible, or to move people across the organisation from one part to the other. Clearly, the integrated review provides a particular challenge, with sunset capabilities going out. That requires work but gives you the opportunity to move people across the organisation, and also helps with the earlier point about learning from experience. It is a particular pinch point at this stage.

**Q85 Mr Holden:** I can understand about some of the pinch-point programmes, but Spearfish has been going since 2014, hasn't it? The Type 31es were there when I was at the MOD as a special adviser back in 2017 with Mr Wild—I probably should have declared that. These are not brand-new programmes that suddenly have come on stream all at the same time. Those two are three years apart; one of them started seven years ago and one of them started four years ago. It is crazy that you are still relying on contractors at this stage.

**Sir Simon Bollom:** It depends on where you are in the programme. We also recruit contractors where we need niche skills. I don't have the specifics of who we have on the Spearfish contract, but it may be that. With well-found programmes, sometimes it is better to take our experienced people from that programme, particularly on project initiation, and backfill with contracts. We are looking at a flexible model, but I can tell you, Mr Holden, that there is very much a financial and budgetary incentive for me and my senior team to drive down our dependency on



external contractors, because clearly they cost us more than if we used full-time staff. There is a clear incentive for us to do that.

**Q86 Mr Holden:** Mr Williams, maybe you could make that incentive stronger, because at the moment seven of the 19 programmes have one in six or more people who are contractors. We would like to see more action, and I am sure that will be reflected in the report.

Mr Williams, what are you doing to ensure that the SROs from these major programmes become an important part of the CV for military officers seeking to progress their careers? When we get out there and speak to military personnel, we often find things such as the vibration issue. Could that have been picked up much earlier if you had had people willing to speak up, and a more integrated programme with the soldiers on the ground?

**David Williams:** The SRO—senior responsible officer—role is an important one. With the increased role since I was last in the Department for front-line commands in setting requirements and acting as the customer for the delivery of major capabilities, getting the SRO right is important. For me, that is a combination of skills and experience, and ensuring that SROs are appropriately qualified. We have a pretty good track record of putting people through the Major Projects Leadership Academy and through the subordinate project leadership programme. To take the Army example, there are 23 graduates of the MPLA in the Army and another 38 in training at the moment.

There is something about skills; there is also something about the tenure of posts, which comes out in the NAO Report. In some critical roles we have experience with military officers of back-to-back tours, so that you get greater continuity in the SRO role, and I think that is something we have been able to look at more generally. We are also looking with the military personnel policy at the extent to which, under unified career management, we can think about project delivery, programme delivery, as a discrete trade in its own right, so that a professional career in project delivery as part of a career in the military is entirely consistent.

Finally, we need to make sure that SROs are spending a high enough proportion of their time on the projects that they are SROs for. The latest guidance from the Infrastructure and Projects Authority is that for GMPP projects—the most major projects—SROs should be spending at least 50% of their time on that programme. We need to work towards that—we are not currently there—but we absolutely need to make progress on that. So it is a combination of all those factors.

**Chair:** Thank you, I will bring you back in later, Mr Holden.

**James Wild:** I repeat the declaration that Mr Holden made for me. I was formerly a special adviser in the Ministry of Defence when Mr Williams was also in post first time around.

**Chair:** This is Mr Williams's dream Committee, with a former Defence Minister and two former special advisers.



**Q87 James Wild:** I want to come on to the value-for-money process and how, when you decide that a proposed procurement is value for money at the beginning, boundaries are set on that definition, so that you can monitor whether it remains so.

**David Williams:** This is an interesting question and a thought-provoking point from the NAO Report. It is not something that we currently do in quite the way that you suggest, unless my colleagues on the panel are going to come in and correct me. What we do is that, in advance, as we are thinking about new capability projects, we take a value-for-money judgment based on a combination of the importance of the requirement and the way in which the capability requirement is set. We look at how we decide on our commercial strategies, if it is single source, in which case you have a range of options open to you to ensure value for money there, or if it is through competitive pressure. How value for money plays out is quite central to how well we manage our contracts, both in the acquisition phase and through life.

We routinely have touchpoints through a capability's life, because we look at in-service support arrangements, how to improve availability, maybe how to extend the life of a platform, mid-life capability upgrades and so on. Each of those gives you an opportunity to go back and check the value for money of the capability and the proposed changes to it. But do we step back and say, "With hindsight, Type 45—was that worth it?" That is not a formal part of the VFM process that goes through the Investment Approvals Committee, although it may well come up in some of the individual learning-from-experience exercises. The short answer is that I don't think we do it in quite the way that you say. Having thought about it, I am not immediately sure how we would do it, but it is certainly worth thinking through.

**Q88 James Wild:** I appreciate that candid answer. It may well be that our report has some thoughts on that. The Treasury advice to accounting officers, as the Report says in paragraph 5.11, is: "accounting officers should confirm to Parliament that procurements remain VFM where there are significant changes to cost and time parameters." But that hasn't happened with many of the projects.

I was struck by one of the points you made in the context of the Ajax conversation: that cancellation doesn't help us to get the capability the Army needs. Is it the case that, once you have started, you will finish a project, regardless of how long it takes and how much it costs, rather than draw stumps at some point?

**David Williams:** Not always the case. But decisions to forego a capability or take a capability gap while you regroup and think about what you might do next—starting again, as it were—are not taken lightly and often would be brigaded with other capability choices in a periodic defence review.

I guess the Nimrod MRA4 is an example of that. I think the lesson we learned from that last experience is that we have bought a mature capability developed for the US Navy, in the Boeing P-8 Poseidon,



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effectively off the shelf as a sole-source deal. So we can learn from one generation of a programme to another. It can happen, but sometimes it will be a combination of progress on the project itself set against wider capability considerations.

**Q89 James Wild:** There is a world in which you took a two-year delay on Protector, for example, which I think increased the cost by £326 million. Is it because that capability is so important and impressive that essentially any form of delay and cost would still make it—I guess we are talking about best value for money rather than necessarily value for money in the strict sense?

**David Williams:** Yes, and in that example, although I wasn't here for the specific decision that you mention, my understanding is that—this is something that we see quite often—there is a tension between best value for money and the need to manage both our overall equipment spend and individual projects within the annual capital budgets, which we have set for us through the spending review by the Treasury, voted for by Parliament.

There has been a tendency, when money is tight, that short-term affordability leads you to decisions around deferral or descoping that are sub-optimal in a value-for-money sense in comparison with getting on with it, which nevertheless gives you a capability at an acceptable cost that is worth having. That calculation of how you balance value for money, cost impact and time impact against the annual affordability challenge is an important one.

Obviously, a particularly helpful context for our ability to make progress in new projects over the next few years is that, with our spending review settlement, we have dealt with pressure in the previous equipment plan, and we have headroom for investment in new programmes, and indeed headroom for risk provision, and some contingency and headroom for further capability choices in the second half of our 10-year planning horizon.

You would hope that the short-term affordability pressure will be less of a driver for decision making over the next few years, although—as ever in defence procurement, and not just in the UK—things happen.

**Q90 James Wild:** Yes, I think that is the dream we all hold on to and hope it comes true.

Actually, I wondered whether, if you had a more rigorous approach to keeping an eye on value for money through the whole life of a project, that might strengthen the MOD's arm with Treasury and No. 10 in terms of projects, because otherwise projects could be required to be cancelled more readily. If you had that value-for-money assessment rather than, as you sort of said, we needed that Protector capability and there were short-term pressures saying that the logical thing to do was to delay it, even though it was going to cost extra money, because in the long run we have had that capability.



**David Williams:** Yes, possibly. I think the Treasury's view now is that it is our job to make sure that we are delivering the capability required in a value-for-money way within the money that they have set out.

However, it does also play—and there are some lessons here, even in the armoured vehicle programme, about thinking about platforms that have capability growth in them and thinking about modular capabilities, so that, rather than simply being a one-size-fits-all platform with maybe one major midlife upgrade, you can think about how you develop capability over time, with a value-for-money judgment each time you are looking at that.

**Q91 James Wild:** Can I come on to the Department's approach to competition? There has been a bit of a yo-yo in terms of favouring competition, then having more of a sort of UK-first, industrial sovereign capability.

In the Defence and Security Industrial Strategy, the approach is to now move away from competition by default. What impact will that have on delivering value for money for the taxpayer?

**David Williams:** Let me give you some headline views, and then I might ask Mr Forzani to come in, in particular on single-source procurement.

We are not moving from all competition to all direct procurement. As the NAO Report says, even in a period where we have been particularly attracted to competition as a way of demonstrating and delivering value for money, a lot of our contracts get placed directly—sometimes for national security reasons, sometimes for UK industrial reasons, often because in a complex defence industrial environment, there actually aren't that many people to choose from at the prime level that have the skills and expertise that we need.

The single source regulations that we have give us a wealth of information, in terms of the transparency of data, industry cost bases, overheads and so on. I think we have quite good experience, but Mr Forzani may want to come and give you some examples of using those approaches to deliver good value for money.

**Q92 James Wild:** Before he does that, in this new framework, how are you going to take account of the creation of skilled jobs and proving that they are additional to what would have happened to otherwise highly skilled people who are in much demand across many of the sectors that you will be focused on?

**David Williams:** We have set out some policy guidance on how we plan to take social value into account, and that has recently stepped into the defence and security contract and procurement regulations.

The areas we are mainly focused on—this is a set of ways set out by central Government for us to draw on—are around tackling economic inequality, which is your skilled jobs point, looking at impact on climate change, and equal opportunities.



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Guidance is out there. I think we will need to iterate this with industry, so that as we are coming out for programmes, we understand what good looks like. We have been having a range of conversations with industrial partners on how this might work. Andrew might touch a bit on that as well.

**Andrew Forzani:** We have the ability for competitions to allocate at least 10% of the marks that we would award when we do a supplier evaluation to social value principles. As David has said, we have chosen three areas from the Cabinet Office guidance and it will be up to project and programme teams, as part of that early investment decision and that strategy, to decide which ones are particularly important for that competition and that approach to market, and to then build that into the way the procurement is done.

I think it will be quite a big shift, actually. Industry has taken notice of it and the fact that it is coming on board this summer. If we really want to drive significant policy outcomes in any of those areas, on a competition a 10% shift could be quite significant, so it will be interesting to see how industry reacts to that.

On the single source regulations, in terms of what we have put down in DSIS, we will have sector-specific kinds of approaches to competition or not competition. We feel confident that the single source regulations are working well. They had been embedded for six years now. We've got well over 300 contracts under the regime, with about £45 billion-worth of spend under them.

One of the strongest powers it gives us is that access to all of that cost information. There are those three tests in the regulations around whether it is appropriate, attributable and reasonable. We have many examples of where we are able to use that authority and that power to knock out tens of millions of pounds on supply contracts through that very detailed cost analysis. Of course, it also sets a kind of annual profit level against a set of benchmarks. We feel confident that that regulation regime is working well. If we do see more single-source, if that is what it means, I think we are confident that there is a framework that supports value for money in the single-source space.

**Chair:** Let us go back to the other half of the former-Spad dream team, Mr Richard Holden MP.

Q93 **Mr Holden:** Thank you very much indeed, Chair. I just want to touch on one of the things that we are looking at, which is value for money in terms of what is going forward. Mr Williams, one of the things I have just been casting my eye over is why we are going down the track of trying to develop an entirely new programme with Ajax at huge cost—£4 billion so far, and it will be another £2 billion before it even gets sorted, if that happens, for fewer than 600 vehicles. That is more than £10 million a vehicle. In combat operations when we were in Afghanistan and Iraq, we were buying off-the-shelf Mastiffs or other vehicles, such as Panthers. They had 10-year lifecycles. We were spending basically £1 million a



vehicle. The upgrade programme for these in 10 years' time will be £1 million a vehicle. Why are we not just buying off the shelf, Mr Williams?

**David Williams:** It is a good question. If we think about requirements, we do look at what is available in service with other partners and allies. Indeed, for some smaller-scale requirements, the ability to make progress in timelines that are not too dissimilar to urgent operational requirements is kind of there. Most of the armoured vehicles that you talk about for Afghanistan would be, I guess, at most by our standards, a category B programme, as it were, so relatively low-risk and low-spend. There is absolutely a role for those vehicles. Indeed, we have been through a process of bringing a range of those vehicles into service over the last decade.

For the most major programmes, of which Ajax is an example, actually having a planned capability through life represents to us the best balance between cost and capability growth in particular. It is a perfectly valid point for us to look at as we are thinking about the requirements. The very front end of our process, modelled on a US process known as the JROC, absolutely looks at what we are specifying. One of the issues for us is whether the requirements being set drive you to a multi-year development programme because there is nothing like that currently in service, or whether, by changing requirements here and here, perhaps with a bit of upgrade, you could get something off the shelf and into service more quickly.

When you are thinking about the future combat air end of the spectrum—uncrewed, fifth-generation fighters—spending money on science and technology and research and development is fine. There will be capabilities where it makes perfect sense to try to go for an off-the-shelf procurement. The lesson that we need to learn from some of our previous experience is that off-the-shelf with UK-specific modifications may be better than a full development programme, but we should not underestimate the technical complexity and risk in that kind of integration.

Q94 **Mr Holden:** I understand that. It brings me to the bigger picture. One of the things that has been trumpeted recently is the extra £16.5 billion-worth of funding coming into the MOD over the next few years. I suppose the big question is: what new capabilities will we get for the extra £16.5 billion that you guys are getting?

**David Williams:** I have set out in a recent letter to the Committee a number of projects that we are funding through the additional money. It is not quite a direct one-to-one relationship because, as you know, there is some pressure in the previous equipment plan that we have had to buy out, as well as some savings from decisions that we have taken about retiring existing capabilities.

To me, the headlines are investment in the concept and assessment phase of the future combat air system; investment in our share of the national shipbuilding strategy, including warships and support vessels; investment in novel technologies; and investment in the nuclear enterprise, as well as



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taking forward the Challenger 3 upgrade, the new medium-lift helicopter and the new ground-based air defence as Army programmes.

I wrote to the Committee on 22 June setting out some of that. We are putting more detail into the material that we have shared with the National Audit Office, which they are currently working through, for a publication, as usual, jointly by the Department and the NAO in the autumn.

**Q95 Mr Holden:** I just want to be clear: you are telling me that if you hadn't had this uplift we wouldn't be getting the Challenger tank upgrade, the national shipbuilding strategy or the future combat air systems. Is that what you are telling me?

**David Williams:** Without substantial investment in the equipment plan—

**Q96 Mr Holden:** We understand that, but are you telling me that if I look back to see what was promised at earlier stages, I will be absolutely certain to see that all this money was not going to these projects in the past, and that the £16.5 billion is definitely for these extra new projects? Yes?

**David Williams:** Yes, I think so. What I can't say is what decisions Ministers would have taken about the position of the programme if we had not got that money.

**Sir Geoffrey Clifton-Brown:** Ah!

**Q97 Mr Holden:** I hear Sir Geoffrey in the background there. That is all very interesting. I want to nail you down a little bit further. What new capabilities, rather than programmes, are going to be delivered by the extra money that taxpayers are investing in defence?

**David Williams:** I think, having asked the Committee's indulgence for Air Marshal Richard Knighton not to attend today, I should compare notes with him and give you a follow-up to my letter of 22 June that answers that specific question.

**Mr Holden:** That would be very kind. Nobody is against Defence getting extra cash if it is going to projects, but if it is just going to fill holes then that needs to be explained and we need to hold the Department to account for that. Chair, I think that is it from me on this section.

**Chair:** Thank you, Mr Holden. Mr Williams, we are keeping a little track record of each of your officials that comes in front of us and tells us how much of the £16.5 billion is going to sort out the problem in their project, so I am sure you are doing the same. On which point, I will refer to the fourth of your favourite people on this Committee, Sir Geoffrey Clifton-Brown, and his 20 years' experience on these subjects.

**Q98 Sir Geoffrey Clifton-Brown:** David, in your letter to us of 22 June you say, "This is a cash increase of more than £24 billion over four years compared to last year's budget and average growth of 1.8% above inflation between 2019-20 and 2024-25." You then go on to say, "Over 10 years we have funded £237 billion, compared to £190 billion". Are you



extrapolating that 1.8% above inflation for the next 10 years? I don't think that has yet been announced, has it?

**David Williams:** There are two things at play here. First—which I think is convention—is the way in which we present equipment plans to the Committee. The 10-year view at £190 billion and the 10-year view at £237 billion are obviously not the same 10 years. There are nine common years, but you drop off the first year and add one on at the end, which just with inflation assumptions has the effect of making the budget larger.

We have agreed some assumptions that we can use for forward planning. What I cannot tell you off the top of my head is whether that is a straight extrapolation of the first four years, or a different assumption, but I would be happy to confirm that to the Committee—subject to confirmation of whether we have announced it. That is something I expect to be absolutely clear in the equipment plan that we are publishing and the NAO review of that for you. That will be a plan over 10 years, not a plan over four. Our assumptions about the budget are clearly an important part of our view of the affordability of that programme.

**Q99 Sir Geoffrey Clifton-Brown:** You have used these large figures in your letter. It is important that we know what has and has not been announced, and what assumptions you are making. If you can write to the Committee and give us a clarification on that, it would be helpful.

**David Williams:** I am happy to do that.

**Q100 Sir Geoffrey Clifton-Brown:** Sir Simon, there was clearly a gap in our anti-sub capability. It is probably not appropriate to discuss that in open Committee this afternoon, but I wonder whether you will send the Committee a note on all the contracts for Type 26, the Poseidon and everything else to do with our anti-submarine capability, on exactly what state those contracts are in, and on their readiness and operability. That would be really helpful, if you agree to do that.

**Sir Simon Bollom:** Yes, that is fine.

**Q101 Sir Geoffrey Clifton-Brown:** Thank you very much for that.

May I slightly, Mr Williams, go over the SRO questions that I think James Wild asked you, to extract a little more information about them? It is the people in your Department. After all, the NAO in a concluding paragraph—in figure 9, on page 58—said that this is to do with “effectively managing” major equipment contracts: “These stem from supplier under-performance; weaknesses in departmental contract management;” and, “the Department and suppliers underestimating the scope and technical complexity”. To deal with that, from the Department’s point of view, you need the right people in the right places at the right time.

On SROs, therefore, there are two types—military and civilian. On civilian, you were saying that you have sent most of them through the Major Projects Leadership Academy. You are not aiming to recruit—you have told us that—but retention is much more important than the recruitment. If you recruit the right people, you need to retain them. What are you doing



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to give them fixed-term contracts, so that they are locked in to managing the project to which you appoint them, rather than being poached by the private sector halfway through, with you losing that corporate knowledge and ability to manage these very large contracts?

**David Williams:** Sorry, just for clarification, both military and civilian SROs go through the Cabinet Office accredited training, the Major Projects Leadership Academy or the major project leadership programme; it is not just for civil servants.

You are right, recruitment and attraction are part of the equation, but we need to hang on to people and, indeed, do better than I think we have managed previously to tie their turnover to key milestones in the programme itself, so that we get continuity in role. Fixed-term appointments are part of the armoury, clearly for the civil service or civilian appointments. We also use pivotal role allowances. We have a limited number of those available to us to help protect against flight risk for individuals in particularly important roles.

There is also something for me about demonstrating, as increasingly we are, that the project delivery profession within the Department is a really good career pathway, whether you are working in head office, frontline commands or out in DE&S and other delivery organisations.

Q102 **Sir Geoffrey Clifton-Brown:** Can you keep the answers fairly short if you can?

**David Williams:** Okay. There is a range of techniques, but you are right that retention is as important.

Q103 **Sir Geoffrey Clifton-Brown:** On those techniques, can you assure us that, if necessary, the civil service pay band is not a limiting factor to keep these very key people in place?

**David Williams:** When you are going out to market for fixed-term appointments, you have some flexibility on pay rates. Where it is civil servants progressing into these roles, there is less flexibility, but you can make a case for higher starting pay—

Q104 **Sir Geoffrey Clifton-Brown:** Is that part of the problem—because you are not able to pay them enough, they get poached by the private sector more easily?

**David Williams:** In some areas I think the challenge is that they are quite scarce in the private sector as well. I actually don't mind the model in which we get in good people, train them and they go on to work in our hinterland, in the same way as we bring good people in from industry to work for us as well. Professional pay is a broader issue, but one in which, as you will have seen from the recent announcement about the government reform programme, functional pay in particular is a current live topic. I suspect that that will be as relevant to project delivery as it is to digital skills and commercial skills and so on.

Q105 **Sir Geoffrey Clifton-Brown:** I am slightly surprised by that answer



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because I would not have thought you would want them to be poached by the private sector and go off, as you say, into the “hinterland”, which presumably means into the private sector in the middle of managing a very important project.

**David Williams:** No, absolutely. Losing people midway through a tour you want to absolutely try and mitigate. What I meant was moving away from the view that you join the MoD, as I did as a 21-year-old, and you are still here in your 50s. Having a career in which people move in and out of the Department and other sectors—

Q106 **Sir Geoffrey Clifton-Brown:** Okay. I have quite a bit to get through—

**David Williams:** Okay, I will be quick.

Q107 **Sir Geoffrey Clifton-Brown:** I just want some fairly brief answers.

On the military SROs, is there any thought to moving towards the American model whereby they stay in post throughout the term of that particular contract and their promotion is dependent on the successful delivery of that contract?

**David Williams:** I am not sure specifically that, but certainly we have experience of double-touring people to get longer time in office. I can already think of a couple of military SROs where I would be quite happy to see them promoted in-role as we move from one phase of a programme to another. We are having a range of conversations around unified career management and what that might mean. On linking performance to promotion, I would need to come back to you on that.

Q108 **Sir Geoffrey Clifton-Brown:** On specific timetables, if we get you back before this Committee, by when can we expect your commercial management team to be strengthened? We have discussed a number of things this afternoon, not least in these last few questions. When can we see positive results? I will come on to contracts in a minute, and the only way you can manage a contract is by having the right people to be able to manage them, so when can we expect—

**David Williams:** I gave you a sense of the digital skills earlier and a first phase is now complete. The second phase is under way, and there will be a third phase next year.

We don't have that granularity for all of the skills shortages and pinch points that we want to fill, but across a range of them, bringing in evidence from DE&S and SDA, I can give you a fuller note on that.

Without wishing to sound glib, a first start is that Mr Forzani, from the end of the month, is taking up a new role combining the head office commercial function—commercial capability responsibilities—with the senior DE&S commercial role. So that is the first step there if you like.

Q109 **Sir Geoffrey Clifton-Brown:** Congratulations, obviously, to Mr Forzani.

Our rail experience tells us that two of the most important skills are those of systems integrators and project managers. In addition to IT shortages,



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I guess there will be shortages of those other two as well. When do you expect to be able to recruit enough people to fill those roles?

**David Williams:** I wonder whether I could ask Sir Simon to give you an update on where we are through the DE&S lens, which is the largest part of this.

**Sir Simon Bollom:** Thank you, Sir Geoffrey. Your point is well made: commercial skills are just one element of it. Programme management, programme controls, finance and engineering are key aspects.

In terms of skills on the commercial side, we are doing pretty well. We have 1,100 commercial staff, 90% of whom are CIPS qualified or working towards it. I am delighted that Andrew Forzani is coming in as the unifying force here; we can really create some opportunities to build and retain our commercial staff, not just in stovepipes but across defence.

Programme management and project controls are key areas where we find that we end up having to bring in people from manpower suppliers, from our framework contracts. Here, money is an issue. One of the opportunities that we have in DE&S, and that we are using, is to pitch a market rate. That has been very successful in attracting people in from the private sector. Two thirds of our recruits so far this year have been from the private sector. We are very competitive.

Q110 **Sir Geoffrey Clifton-Brown:** Can I try to extract the undertaking that I was trying to extract from David Williams? What timescale do you expect you are going to need to fill the vacancies in these vital areas?

**Sir Simon Bollom:** We are 94% filled at the moment, which is pretty good. What we need to do is enrichment, which is why I talk about training and development. It is pretty stable.

It is a journey. There is a constantly changing demand, so it is difficult to be really precise about being 100% manned. I feel that we are slightly down at the moment; it feels to me as though it will take another couple of years really to build up the capability that I need to manage these programmes effectively.

Q111 **Sir Geoffrey Clifton-Brown:** Okay, so if you come before this Committee in a couple of years, we will have ironed out some of the worst excesses of contracts running over budget.

**Sir Simon Bollom:** I hope I will be able to show you an improvement by next year.

Q112 **Sir Geoffrey Clifton-Brown:** All right. I am anxious to move on.

David, could I ask you about contracts? I do not want to keep harking back to Ajax, but £4 billion is one hell of an experiment to see whether you are going to get a vehicle that works. When can we expect a real, hard look at the type of contracts that you have? After all, you are dealing with monopoly suppliers, so it is only reasonable that you should have pretty tough contracts with them: things like fixed prices, more



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competition, more payments on results when you get in-service equipment delivered and more back-end payments when you actually get that equipment, rather than paying a huge amount up front.

When can we expect contracts with some real teeth that you in the Department are able to manage, so that we do not constantly have taxpayers' money being put at risk on equipment that may or may not be satisfactory in the final outcome?

**David Williams:** I think we already have a range of contracts with real teeth, and I will defer to Mr Forzani briefly to pick up on that point.

There is a point around the up-front investment in the development of new equipment. Unless shareholders in our major suppliers are willing to put their money up to take the risk on something working and then being bought by Government, we are always going to be in a world where we are investing in future technology. The challenge for us is to make sure that we invest in sensible bets, managed well, to deliver more often than not, but let me just cue in Mr Forzani on contracts with teeth.

**Andrew Forzani:** Certainly where we are doing competition the vast majority are fixed-price contracts. The Ajax contract, which we have been talking about a lot today, is a fixed price, as we have said, so delays absolutely hurt the supplier that we talked about earlier. We are absolutely trying to move, particularly in the single source environment, away from cost-plus.

While I have talked about the single source regulations, which I believe are helping us to ensure that we have value for money, you can argue that there is not enough incentivisation for suppliers, so we are absolutely moving many of those single source contracts on to either fixed price where we can, or more risk-bearing arrangements.

Target cost with incentives are starting to become more commonplace. If I take the Dreadnought programme as an example, the early years of the contract, where I guess the design was much more immature, were very much on a cost-plus basis. The last major build contract had elements of incentivisation in it, but the majority was still fixed price.

For the next contract, which will be early next year, the intention is absolutely to move as much of that on an incentivised basis, so we fix a price and then, if we get in front of that or if there is delay, there is pain and gain share between the supplier and the authority. That is absolutely what we are moving towards as far as possible across the Department, and we have quite a lot of that already in the support area in terms of link to availability.

Q113 **Sir Geoffrey Clifton-Brown:** Mr Williams, can I just put it to you that your last answer was very unambitious? In a normal private sector procurement, if you wanted to procure a new train you wouldn't expect to pay for the research costs upfront; you would expect the train supplier to supply you with that train according to a specification, and then you would pay them when they delivered it.



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Why is that not true in the defence industry? After all, the Government is about as prime a purchaser as you could possibly wish to be. The Government are going to pay on delivery of the equipment. Why can't we be more ambitious about getting what are, after all, monopoly suppliers to put shareholders' money into the research to deliver a piece of equipment according to a specification, and then pay for it when it is delivered?

**David Williams:** It is clearly not one size fits all. For lower-risk programmes, that is more of the case, where you will see companies coming into a competition with an offering, but for the most complex, most advanced military programmes I think it is inevitable that there will be substantial Government investment in that development phase.

That is not to say that we should not encourage and expect industrial partners to contribute to that phase with their own investment, and indeed they do, but I think realistically we are in a world where Government investment in the highest-risk new technologies, whether that is through our research and development programmes or the early development phases of specific projects, is likely to remain a feature.

**Andrew Forzani:** May I just give an example of where we have made some progress? In the Tempest technology programme, which is supporting the future combat air programme, we have been able to secure 50:50 funding between industry and the Department, so there is a model there that we are trying to build on.

**Sir Geoffrey Clifton-Brown:** That is very helpful—thank you.

**Chair:** It is a model that we will keep an eye on.

Q114 **Mr Francois:** Mr Williams, perhaps to wrap up, you told us again that your mantra was "Delivery, delivery, delivery." People who have been watching this for nearly three hours now can take a view on that. I don't know whether you ever watched "Yes, Minister" but, if you didn't, you missed your vocation, David.

In all seriousness though, I put it to you that you are like a school that has failed its Ofsted year on year for many years. Do you not accept that at some point you have to come out of denial, which is what I think you are, and put the school into special measures?

**David Williams:** I don't think that we are in denial. The NAO Report is a report that we have signed off for factual accuracy. We absolutely recognise the challenges and difficulties faced in our major equipment programmes.

A number of the cases that we have talked about in detail today have a long history. In coming back into the Department, I am positive about some of the developments that we have also talked about today since I was last here. Does that mean that I am complacent about our ability to deliver a step change in performance against delivery of the equipment plan? Absolutely not. This is really hard stuff, and it is absolutely right that the Committee and others hold us to account for it.

Q115 **Mr Francois:** Just to finish, others can judge whether in your and Sir Simon's answers on Ajax you were in denial or not. I will leave that to others to judge, but I humbly suggest that you were. This is like a sort of annual ritual. It is like trooping the colour or swan upping on the Thames or something. When you come here in a year's time to go through this rigmarole again, can you promise us, David, that it is going to be better than this year, please?

**David Williams:** We can certainly try, but what I can't promise you is that I will be able to tell you what decisions I am going to make on information that I haven't yet got.

**Chair:** Fair point. We will count that as a score draw, or no penalties yet, though we will bring you back for the penalty shoot-out at a later date.

**David Williams:** No penalties, please.

**Chair:** No, that is probably stretching it too far. I thank our witnesses very much indeed. As others have said, it does feel a bit like groundhog day. Every time we discuss big defence projects—this is probably our third time this year alone—obviously we as a Committee along with our sister Committee, the Defence Committee, are very concerned that we deliver on our defence procurement but we are also watching taxpayers' money very closely.

I thank our witnesses: David Williams, the permanent secretary; Sir Simon Bollom, the director of Defence Equipment and Support; and Andrew Forzani, the chief commercial officer at the Ministry of Defence. The transcript of this session will be up on the website uncorrected in the next couple of days, and we will be producing a report that will be published in the autumn at some point. Of course, we will let you know when that is. Thank you very much indeed.