



House of Commons
Defence Committee

**It is broke —
and it's time to fix it**

**The UK's defence
procurement system**

Ninth Report of Session 2022–23

*Report, together with formal minutes relating
to the report*

*Ordered by the House of Commons
to be printed 11 July 2023*

HC 1099

Published on 16 July 2023
by authority of the House of Commons

The Defence Committee

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Summary

The war in Ukraine has been a ‘game-changer’ in defence and security terms for the United Kingdom. Faced with a revanchist Russia, which is prepared to use high-tech weapons, from drones to cruise missiles, combined with barbaric methods, we can no longer take our national security for granted. For the first time since the end of the Cold War, we have to face the prospect that we could become involved in a peer conflict with Russia, with little further strategic warning or opportunity to scale up our industrial, as well as military capabilities. In this new, more challenging environment we need a defence procurement system which can not only equip our Armed Forces to fight and to win, but also sustain them over time, should any such conflict become protracted (as in Ukraine).

Against this backdrop, we established a Sub-Committee in January 2023, to take a detailed look at the principal entity for purchasing and then maintaining the UK's military equipment, Defence Equipment and Support (DE&S). However, in the course of our inquiry, which lasted some six months, it rapidly became apparent that, while there are major issues within DE&S, there are also several wider factors, across Defence as a whole, which also materially impact our ability to procure equipment successfully. We have therefore also sought to address these in our Report, to provide a coherent whole.

During our inquiry, Clive Sheldon KC published his long-awaited and forensic 167-page Review into the management of the highly-troubled Ajax Armoured Fighting Vehicle programme. This performed a valuable public service, not least in exposing the ‘inner wiring’ of the Ministry of Defence's (MoD) procurement system and its numerous weaknesses. Sheldon's Review contained 24 specific recommendations, some of which we have subsequently also sought to incorporate into our own study.

We have discovered a UK procurement system which is highly bureaucratic, overly stratified, far too ponderous, with an inconsistent approach to safety, very poor accountability and a culture which appears institutionally averse to individual responsibility. We agree with the previous conclusions of the Public Accounts Committee from November 2021 that our procurement system is indeed “broken”. We believe the system is now in need of major, comprehensive reform.

However, this Report is intended not just to prove that the system is crying out for change—which it evidently is—but also to suggest how that reform might be achieved, in order to provide a procurement system which is demonstrably ‘fit for purpose’ in the 21st century. To that end, our Report makes 22 specific recommendations, to seriously overhaul the system. At the heart of these is improving accountability and aligning it more clearly with responsibility, to actually empower those who need to deliver change to do so. As part of these multiple changes we recommend giving Senior Responsible Owners (SROs) much greater power over their programmes, with rights of direct escalation to the CEO of DE&S and then Ministers, if programmes begin to go badly wrong. We also recommend putting the CEO of DE&S back onto the Defence Board and also making them, rather than the Permanent Under-Secretary at the

MoD, the Accounting Officer for all purchasing and support of UK equipment. These changes should also materially improve accountability to Parliament, which has to vote the funding for defence programmes in the first place.

We also need a system which places a much greater value on time, promotes a sense of urgency rather than institutional lethargy, and prevents endless 'requirements creep' by our own military. This reformed system should also make much greater use of both spiral development and also Urgent Capability Requirements (UCRs) both as a procurement methodology in itself but also as a 'mindset', which stresses the imperative of delivering battle-winning equipment, in a timely manner and at an affordable cost. The Government will need to use this revised system to help our Armed Forces, in particular the Army, speedily address the serious equipment deficiencies in their current Order of Battle.

This Report also emphasises the importance of improving skills within DE&S, including a professional procurement stream within the military; extending time in post for key positions to improve continuity and giving access to specialist contract lawyers, to help write far more robust contracts. We also stress that DE&S must improve its relationships with industry, from increasing transparency about forthcoming requirements, expanding the emphasis on exportability, better defining 'social value' in competitions, through to fostering critical skills, preventing skill-fade and encouraging and developing the Defence apprentices and workforce of the future.

This is also a political imperative, as, if Defence is to acquire the increased resources which we strongly believe it really needs, including over the medium to long term—and not least from a Treasury grown weary from years of multiple, high-profile procurement failures—then the Ministry of Defence now needs to demonstrably 'put its own house in order', to make a convincing case that it really can spend money wisely. As procurement and subsequent in-service support of equipment now accounts for approaching half of the entire MoD annual budget, if this area cannot be fixed convincingly, those additional resources are unlikely ever to arrive at the scale really necessary to ensure our national security, as our century evolves.

With a war in Europe now raging on the eastern border of Europe, we can no longer afford, strategically, militarily, or financially to continue the broken procurement system which we have been operating, for decades. If we are to keep our nation safe, our adversaries deterred and our allies reassured we now urgently require full-scale reform of the way we buy and support our fighting equipment.

In short, it is broke—and it's time to fix it.

1 Introduction

1. Defence Equipment and Support (DE&S) is an arm's length body of the Ministry of Defence (MoD) and manages the majority of defence equipment and service purchases for the UK's armed forces.¹ DE&S was created in April 2007 through the merger of two MoD organisations: the Defence Procurement Agency; and the Defence Logistics Organisation.

2. We launched our inquiry into DE&S on 26 January 2023. The terms of reference welcomed written evidence on the following points:

- What are the strengths and failings of DE&S' current approach to defence procurement? Does it deliver value for money to the taxpayer?
- How effective and efficient is DE&S? What can be done to improve DE&S' overall performance?
- What has been the impact of DE&S on the effectiveness of defence operations?
- What lessons can be learned from the UK's recent history of defence procurement?
- What can the UK learn about defence procurement from international comparators? Which countries have a particularly strong model and track record and what can the UK learn from them?
- Does DE&S have the right set of skills and incentives to succeed in its tasks?

We published 33 pieces of written evidence and heard oral evidence from 15 witnesses. These included: academics, former military customers (up to 4 star level), industry, defence procurement review authors (including two former heads of Defence procurement), as well as the current CEO of DE&S, the Permanent Under Secretary at the MoD and the new Minister of State for Defence Procurement. We asked each of our witnesses the same final question, which was "If you each had 1 key suggestion to materially improve defence procurement in the UK, what would that be?". A tabulated summary of their responses is included at Annex 3.

3. During some of our oral evidence sessions, we were also joined by the Chair and the Deputy Chair of the Public Accounts Committee, given their long-standing interest and expertise in the subject matter, for which we are grateful, as indeed we are to all those who provided evidence, be it written or oral, to our inquiry.

4. We visited DE&S in April 2023 where we were briefed on a wide range of DE&S' activities. We have also sought international comparators. In May and July 2023 we received private briefings from the French and Israeli Embassies respectively, regarding their national defence procurement systems. Whilst visiting the United States in March 2023 in relation to a range of issues, we received a briefing at the Pentagon regarding the US defence procurement system.

1 Some defence equipment procurement is carried out by other defence organisations, principally the Submarine Delivery Authority and Defence Digital

5. In June 2023, we also received a detailed 'debrief' from Clive Sheldon KC, supported by his colleague, Ms Cecilia Ivimy, on his recently published Review into the highly-troubled Ajax Armoured Fighting Vehicle programme.² Some of his recommendations and subsequent insights were particularly helpful to our own study.

6. As we embarked on our inquiry, it soon became apparent that to simply focus our attention on DE&S alone would be unjust to that organisation and would be to ignore a range of key, highly inter-linked issues, which materially affect DE&S' ability to do its job. This Report, having therefore 'followed the evidence' also encompasses several other, significant, issues affecting the defence procurement system, as well as specifically within DE&S itself.

2 Ministry of Defence, [Report of the Armoured Cavalry Programme \(Ajax\) Lessons Learned Review](#), 19 May 2023

2 The Wider Context

7. The world is arguably now a more dangerous place than it has been since the Second World War. With open war on European soil, the threat to freedom and democracy is now effectively on the UK's doorstep. Indeed, in December 2022, the Secretary General of NATO, Jens Stoltenberg, cautioned that “It is also a war that can become a full-fledged war that spreads into a major war between NATO and Russia”.³

8. This reality alone should provide the imperative for the Government, MoD, DE&S, and industry to realise that defence procurement must work effectively, now more than ever.

9. Most of the UK's military capability is committed to NATO—in 2021 around 70%. But there are gaps in the capabilities the UK has pledged to NATO,⁴ notably the inability to field a full armoured division. Dr Simon Anglim told us as part of our ongoing inquiry into armed forces readiness that the UK may be able to field an “under-strength division” with just two brigades instead of the requisite three. This one, under-strength division, stands in stark contrast to the four divisions of the Polish army and the five divisions of the Turkish army.⁵

10. The Secretary of State for Defence himself has acknowledged to Parliament that the UK could not currently field a warfighting armoured division:

We have not had an armoured division that could really deploy since 1991. [...] For many decades, we have not really delivered what we said on the tin. That has been an issue. If I look on paper at the current armoured division we have, it is lacking in all sorts of areas. It is lacking in deep fires, in mediumrange air defence, in its electronic warfare and signals intelligence capability, in its modern digital and sensor-to-shooter capability. On top of that, it is probably lacking in weapons stocks.⁶

11. The ability to field a warfighting division is a key commitment to NATO. Nevertheless, successive Defence Reviews since the end of the Cold War in 1989, have led to major reductions in the UK's Armed Forces, particularly in the ‘mass’ of their fighting equipment, including surface escorts, modern armoured fighting vehicles and combat aircraft. The Secretary of State pointed to the range of capabilities that the UK is short of, many of which are still in the process of being procured. As the Secretary of State pointed out,⁷ the lack of capability is largely down to the equipment rather than personnel.⁸

3 NY Times, [NATO's secretary general warns that a 'full blown war' with Russia is 'a real possibility.'](#), December 2022

4 For further analysis of the UK and NATO, see: Defence Committee, Sixth Report of Session 2022–23, [Special Relationships? US, UK and NATO](#), HC 184

5 Oral evidence taken on 6 June 2023, HC 1317, [Q5](#)

6 Oral Evidence taken before the House of Lords International Relations and Defence Committee on 1 November 2022, HL (2022–23) 124, [Q183](#)

7 Oral Evidence taken by the House of Lords International Relations and Defence Committee on 1 November 2022, HL (2022–23) 124, [Q183](#)

8 At time of writing, we are conducting a separate inquiry into the readiness of the UK Armed Forces, which is exploring these issues further.

12. Delayed procurement brings operational consequences. New equipment is usually a replacement or enhancement of in-service equipment. As such, there is a winding down and reallocation of personnel and training as the Service prepares for the expected arrival of new equipment. Air Chief Marshal Sir Stephen Hillier, former Chief of the Air Staff, explained:

If it then happens that the new capability gets delayed, you are not going to be able to reconstitute that existing capability. You now have either a capability gap or less capability than you need. That is a serious problem, particularly when you are heavily engaged in operations at the time. It also costs, because you are running on that old equipment and all the contracts and support for it are due to run out, so you have to go back to suppliers and ask to keep it going. That results in unexpected costs along the way. At times it is not good for morale, because people want this new capability and equipment, and that causes frustration in their minds as well.⁹

13. As well as major platforms and equipment, the UK is also short of munitions. General Sir Richard Barrons, former Head of Joint Forces Command, has said that if the UK were to consume missiles at the rate that Ukraine is, “that would entirely deplete our stockpiles [...] at a rate that industry cannot keep up with.”¹⁰ Whilst data about the UK's munition stockpiles is not public knowledge, it is widely accepted that they are depleted.¹¹ We also heard in 2021, from retired US General Ben Hodges (previously head of the US Army in Europe), that during a corps level exercise “in which the 3rd (UK) Division participated, in about eight days of exercise every bit of important ammunition in the British Army's inventory was expended.”¹²

14. In addition, the UK now maintains an extremely limited reserve of fighting equipment, including warships, modern armoured vehicles or combat aircraft.¹³ This is in stark contrast to China, Russia and the United States, who operate a completely different philosophy of stockpiling equipment withdrawn from service, against a future national emergency (which Russia has since been drawing on extensively to help sustain its war in Ukraine).¹⁴ The Committee will be examining this topic in greater detail as part of its current inquiry into Armed Forces readiness.

15. However, suffice to say at this juncture that, in time of peace, capability gaps and failings in defence procurement may not seem like urgent matters to address. However, the situation in Ukraine starkly demonstrates that this is no longer the case. With a major war now raging on the eastern border of Europe, the country is, in effect, no longer in a ‘time of peace’. This means that the UK's Armed Forces and defence industry now need to deter and possibly defend against peer adversary threats—with limited further strategic warning. In short, the UK must now be prepared for what the strategists sometimes call a ‘come as you are war’ and have an effective procurement system to match. This is the crucial, wider context within which this Report has been produced.

9 [Q75](#)

10 Defence Committee, Sixth Report of Session 2022–23, [Special Relationships? US, UK and NATO](#), HC 184

11 Oral evidence taken on 18 April 2023, HC 1246, [Q7](#)

12 Oral evidence taken on 6 July 2021, HC 166, [Q290](#)

13 Oral evidence taken on 21 June 2023, HC 1317, [Q171](#)

14 The Telegraph, [Russia hauls 1950s-era tanks out of storage to join battlefield](#), 22 March 2023

3 'A broken system'

16. Defence procurement has been the subject of multiple reviews, strategies, and reports over recent decades. The subject itself is “only about 5 minutes younger than the acquisition of military equipment itself.”¹⁵ Two of the most significant reviews were conducted by Sir Bernard Gray in 2009 and Lord (Peter) Levene in 2011. Sir Bernard Gray’s ‘Review of Acquisition’ made wide-ranging recommendations with a particular emphasis on balancing the budget and the Equipment Plan. Lord Levene’s ‘Defence Reform’ report into the structure and management of the MoD contained significant recommendations that included empowering the Front Line Commands and giving them the ability to set priorities within their own budgets, including equipment programmes.

17. Decades worth of reviews of defence procurement have understandably tended to focus on areas for improvement. However, there are aspects of defence procurement that the UK does well, such as the UK’s ability to procure equipment in an emergency. Professor John Louth told us:

If we are buying something that physically already exists, either in a store room ready to be delivered or on a manufacturing line that we can add our name to, that can be delivered relatively quickly, usually to our specification. When we have bought under those terms—urgent operational requirements, for example, within theatres of the past two decades—that has gone pretty well. We have even been able to amend that engineering pipeline—that manufacturing pipeline, if you like—to certain specific qualities that we required. Afghanistan is a fantastic case in point. Buying known technology and proven capability commercially through our credit card is something that the UK can do well.¹⁶

18. DE&S has also proved that it can work flexibly where necessary, especially when addressing operational imperatives. Since the invasion of Ukraine, the UK and DE&S have been at the forefront of granting military equipment to Ukraine, as they pointed out to us:

Last year, DE&S managed over £1Bn additional expenditure supporting rapid procurements for Ukraine. It acted at pace to support operational requirements in Ukraine, including delivering over 10,000 anti-tank weapons, over 600 Air Defence Missiles, approximately 3 million rounds of small arms ammunition, over 2,000 uncrewed aerial systems, over £4m of equipment support for vehicles, 25,000 sets of extreme cold-weather clothing and 20,000 sleeping bags. Whilst details are classified, the logistics and supply chain support for Ukraine has been widely praised by Ukrainian and partner nations.¹⁷

19. When we visited DE&S in April 2023, we heard more detail on how DE&S was working to support Ukraine.¹⁸ We were impressed by DE&S’ agility and ability to work at speed, in particular the willingness to work innovatively, outside the usual process.

¹⁵ Ministry of Defence, [Review of Acquisition for the Secretary of State for Defence](#), October 2009

¹⁶ [Q6](#)

¹⁷ Ministry of Defence ([DE50034](#))

¹⁸ Due to the security classification of the briefing we are unable to provide any further details

20. It is noteworthy that these two areas of praise—meeting urgent requirements and supplying Ukraine—are characterised by a sense of urgency and curtailing bureaucracy to a minimum, to rapidly deliver the required equipment. We commend DE&S, at all levels, for their highly successful efforts to date in supporting Ukraine.

21. However, the broader procurement picture, when not driven by wartime imperatives, is, unfortunately, starkly different. It is a fascinating and repeated theme in the Civil Service that when faced with an emergency they are sometimes able to devise mechanisms for addressing the crisis. However, rather than develop these as advances to change the system and to spread best practice the tendency is to revert to the previous failed practice. However that is not just a matter for the Ministry of Defence but the wider public sector. As mentioned above, successive reviews and reports have repeatedly criticised the UK's defence procurement system. Together, they paint a picture of a system which is clearly broken.

22. The Public Accounts Committee (PAC), which examines the value for money of Government projects, programmes and service delivery supported by the National Audit Office (NAO), looked into the MoD's major defence equipment contracts in October 2021. The PAC concluded that the MoD's "system for delivering major equipment capabilities is broken and is repeatedly wasting taxpayers' money".¹⁹ The PAC also found that there was a total of 21 years expected delay across 13 programmes. The PAC went on to remark that it is "deeply concerned about departmental witnesses' inability or unwillingness to answer basic questions and give a frank assessment of the state of its major programmes".²⁰ In its response, in January 2022, the Government rejected the PAC's recommendation to review the MoD's model for delivering equipment capabilities.²¹

23. The PAC also examines the MoD's annual, rolling 10-year Equipment Plan (which now totals some £242 billion) and which now represents 46% of the Department's entire forecast budget.²² Most recently in 2022–23, the PAC found that the MoD relies on "over-optimistic assumptions about the cost of programmes".²³ In examining the details of the 10-year Plan, the PAC found "a deficit of £2.6 billion over the first seven years of the Plan" and queried the MoD's assumption of achieving a £5.2 billion surplus in the final three years of the Equipment Plan.²⁴ This casts significant doubt on the deliverability of the Equipment Plan. The PAC also came to the stark conclusion:

The Committee examines the Equipment Plan every year and sees the same problems recurring with major, often multi billion pound, defence procurement programmes. Equipment arrives into service many years late and significantly over-budget, with depressing regularity. Neither taxpayers nor our Armed Forces are being served well. There needs to be meaningful

19 Public Accounts Committee, Twenty-Second Report of Session 2021–22, [Improving the performance of major defence equipment contracts](#), HC 185

20 Public Accounts Committee, Twenty-Second Report of Session 2021–22, [Improving the performance of major defence equipment contracts](#), HC 185

21 [Government response to the Public Accounts Committee's report Improving the performance of major defence equipment contracts](#), January 2022

22 Ministry of Defence, [The Defence Equipment Plan 2022 to 2033](#), November 2022

23 Public Accounts Committee, [MoD Equipment Plan 2022–2033](#), Forty-Eighth Report of Session 2022–23, HC 731

24 Public Accounts Committee, [MoD Equipment Plan 2022–2033](#), Forty-Eighth Report of Session 2022–23, HC 731

change of this broken system. The Department needs to break from this cycle of costly delay and failure and deliver a fundamental, root and branch reform of defence procurement once and for all.²⁵

24. The NAO—Parliament's independent public spending watchdog that supports the PAC—also identified issues with the affordability of the Equipment Plan, stating that the Front Line Commands would need to find further cost reductions of £3.7 billion over 10 years, including “choices between project options or reductions in project requirements.”²⁶

25. We carried out our own detailed study into the UK's armoured capability and programmes in March 2021. This revealed that the British Army had not brought a new major armoured fighting vehicle into service successfully for over 20 years. We came to uncover:

A woeful story of bureaucratic procrastination, military indecision, financial mismanagement and general ineptitude, which have continually bedevilled attempts to properly re-equip the British Army over the last two decades.²⁷

We also found that in a fight against an adversary the state of armoured capability, both current and projected, would “disgracefully” let down the British Army.²⁸

26. In its response in May 2021 the Government admitted that “there is some truth” that there has been a lack of emphasis on the armoured fighting vehicle programme. The Government also agreed and acknowledged that the UK's advantage over potential adversaries had diminished.²⁹

27. More recently, there appears to be a greater acceptance within Government circles that the current state of defence procurement in the UK is not good enough. In February 2023, the incoming Chief Executive of DE&S, Andy Start, admitted to the Committee that “[the] premise, that we have some really horrible, broken programmes that aren't good enough, is correct.”³⁰ It is highly unusual for the Government to admit that certain procurement programmes are “broken”. Indeed, the Secretary of State for Defence has recently gone further on the floor of the House and acknowledged: “how woeful our Army's equipment programmes have been in the past and how behind and out of date they have been”³¹ also implying that the British Army could not stand shoulder to shoulder with its peers, “never mind its enemy”.³²

28. At the RUSI Land Warfare Conference, in June 2023, the Chief of the General Staff, General Sir Patrick Sanders, was explicit about the Army's record in saying “[...] we must accept that our procurement record has been poor and our land industrial base has withered.”³³

25 Public Accounts Committee, [MoD Equipment Plan 2022–2023](#), Forty-Eighth Report of Session 2022–23, HC 731

26 National Audit Office, [The Equipment Plan 2022 to 2023](#), November 2022

27 Defence Committee, [Obsolescent and Outgunned: the British Army's armoured vehicle capability](#), Fifth Report of Session 2019–21, HC 659

28 Defence Committee, [Obsolescent and Outgunned: the British Army's armoured vehicle capability](#), Fifth Report of Session 2019–21, HC 659

29 Government response to the Defence Committee's report [Obsolescent and Outgunned: the British Army's armoured vehicle capability](#), May 2021

30 Oral evidence taken on 21 February 2023, HC 1119, [Q110](#)

31 HC Deb, 16 January 2023, [col 39](#) [Commons Chamber]

32 HC Deb, 16 January 2023, [col 40](#) [Commons Chamber]

33 Ministry of Defence, [Chief of the General Staff's RUSI speech](#), June 2023

29. The Government's Infrastructure and Projects Authority (IPA) assesses and reports on the Government's delivery of infrastructure and major projects, including MoD projects. The IPA's annual report gives each project a colour rating (green, amber or red), which corresponds to the likelihood of successful delivery on time and budget. In its Annual Report on Major Projects 2021–22, the IPA assessed 52 MoD programmes. Only three (6%) were rated 'green'.³⁴ 'Green' is defined as "successful delivery of the project on time, budget and quality appears highly likely [...]".³⁵ The vast majority of the programmes were rated 'amber' (although some marginal improvements are anticipated in the IPA's next annual review). 'Amber' is defined as "successful delivery appears feasible but significant issues already exist, requiring management attention [...]".³⁶

30. Finally, in June 2023, Clive Sheldon KC published his long-awaited but exceptionally detailed Review into the highly criticised Ajax Armoured Fighting Vehicle programme (see the next chapter for more details).³⁷ The Report, whilst not blaming any one individual for the programme's multiple failings, does expose, in forensic detail (down to the level of which individuals were, or were not, copied into crucial emails), the 'inner wiring' of the MoD's highly bureaucratic procurement system in action—or rather often inaction. As Sheldon states powerfully:

the reporting on the programme to MOD Head Office and to Ministers was unduly optimistic. The quarterly Portfolio Management Reporting System ("PMRS") reports, the Information Notes to the Investment Approvals Committee, and submissions to Ministers frequently put a positive spin on progress and did not make some of the problems explicit. Nor did they reflect dissenting voices, such as that of the Programme Director whose view on the achievability of the Initial Operating Capability date was significantly more pessimistic, and more realistic, than that of the SRO. The same "glossing" and optimism were seen in evidence to Parliamentary Select Committees. The Review identified a need for reporting to present a balanced, "warts and all", account and for dissenting voices to be included.³⁸

31. Having ourselves arguably been 'glossed' on several occasions regarding the Ajax programme, we defy anyone who has read through the 167 highly detailed pages of the Sheldon Review to argue that the UK's defence procurement programme is not in need of fundamental, wholesale reform. Sheldon makes 24 recommendations, many of them highly specific about how to achieve this—some of which have been incorporated into this Report.

32. We acknowledge that there is now a Review underway of the Department's wider Defence Operating Model and that DE&S is now conducting its own exercise into updating its methods and working practices, which it hopes to complete over the next 12 to 18 months.³⁹ Nevertheless, with Parliamentary Committees repeatedly casting doubt over

34 [IPA 2021–22](#); the IPA's annual report comes out in July, which coincides with the timing of this report. It may be that updated figures are available in the IPA's latest report. However, in the IPA's 2020–21 report, none of the MoD's projects were rated 'green', and only four were rated 'Amber/Green'. In the IPA's 2019–20 report, only one project was rated 'green', and two were rated 'Amber/Green'. This establishes a pattern.

35 [IPA 2021–22](#)

36 [IPA 2021–22](#)

37 Ministry of Defence, [Report of the Armoured Cavalry Programme \(Ajax\) Lessons Learned Review](#), 19 May 2023

38 Ministry of Defence, [Report of the Armoured Cavalry Programme \(Ajax\) Lessons Learned Review](#), 19 May 2023, paragraph 2.3.14

39 [Qq188–190](#)

the effectiveness of the procurement system; with Government Ministers and even the head of DE&S admitting serious failings in a number of major programmes, we concur with the conclusions of the Public Accounts Committee that our defence procurement system is, indeed, 'broken' and accordingly in need of fundamental reform.

33. The Ministry of Defence must finally admit, once and for all, that there is a real problem across UK defence procurement: the current system is indeed broken and multiple, successive reviews have not yet fixed it. With a major war now under way in Ukraine, now is the time to act.

34. The remainder of this report, in chapters 4 to 7, is therefore devoted to practical recommendations on how this might best be achieved.

4 Case studies

35. There are multiple troubled programmes across the MoD's portfolio. Below, we set out just three case studies, one from each of the Services, to illustrate the broken system. These case studies are not intended to be an in-depth study of each programme, but as illustrations of some of the issues within the system. Many of the issues described here are expanded upon further in chapters 5 and 6.

Royal Navy - Type 26

36. The Royal Navy has ordered eight highly specialised anti-submarine Type 26 frigates, from BAE Systems. The programme began in 1994 as the Future Surface Combatant, designed to replace the Royal Navy's Type 22 and Type 23 frigates. In March 2010, the MoD awarded the contract to develop a design to BAE Systems.⁴⁰ Following the design and awarding of the build contract, BAE Systems first cut steel in 2017. Since then, variants of the Type 26 design have been successfully sold to both Australia and Canada.⁴¹

37. Nevertheless, in November 2022, the MoD announced that the Initial Operating Capability (IOC) date had slipped from October 2027 to October 2028—making it 11 years from first steel cut to IOC.⁴²

38. In setting out the reasons for the delay, the MoD cited the impact of Covid-19 and challenges typical of those experienced with the first of class ship.⁴³ However, Japan, which also suffered from Covid-19, has recently brought equally complex warships into service in a third of the time.⁴⁴ When asked about the delays, Commodore Stephen Roberts, SRO for Type 26, told us:

The forecast that it took us to complete the engineering design for this complex ship was optimistic at the time. It has certainly taken us as an enterprise longer than we forecasted to integrate quite a wide variety of combat systems. The big novel bits for us were ensuring that the underwater radiated noise signature of the ship is maintained.⁴⁵

It was also reported that the gearbox was delivered severely late, which meant that it could not be placed into the hull sections before the compartments were sealed. Therefore, the first ship, *HMS Glasgow*, had to be cut open and the gearbox skidded into position, an extremely unsatisfactory state of affairs.⁴⁶

39. The delay in the Type 26 programme comes at a cost of £233 million—close to a quarter of a billion pounds, thus placing further pressure on an already highly-stretched naval budget.⁴⁷ The issues in producing the Type 26 illustrate the problems that defence

40 BBC, [BAE signs £127m contract to design Navy warship](#), 25 March 2010

41 Naval Today, [Two countries will build frigates based on UK's Type 26 design](#), 28 December 2021

42 HC Deb, 2 November 2022, [col 352WS](#)

43 HC Deb, 2 November 2022, [col 352WS](#)

44 Imdex Asia, [Japan commissions latest Mogami-class frigate](#), 10 March 2023

45 Oral evidence taken on 31 January 2023, HC1108, [Q75](#)

46 Navy Lookout, [In focus: delivering the Type 26 Frigates](#), December 2022

47 HC Deb, 2 November 2022, [col 352WS](#)

procurement has with its industrial skills, in particular the engineering workforce. Vice Admiral Paul Marshall, Director General Ships at DE&S, told the Committee that mobilising a skilled engineering workforce is a risk to other shipbuilding programmes.⁴⁸

40. DE&S is now in dispute (but not yet formal legal action) with Babcock, the manufacturer of the Type 31 frigate, regarding the spiralling costs of that programme.⁴⁹ In addition, the delays to the Type 26 have resulted in the Type 23 frigates remaining in service for much longer than anticipated. This has required a separate and highly expensive Type 23 life extension programme which will see the Type 23 still in use until circa 2035, by which time some of the class will be around 40 years old. In our December 2021 Report 'We're going to need a bigger Navy', we warned that delays to the Royal Navy's shipbuilding schedule (and to "a steady pipeline of work for British shipyards") would lead to capability gaps and the security of the UK would be adversely affected as a result.⁵⁰ Many of the concerns we expressed then have since come to fruition. For instance, when that Report was published, the Royal Navy had 19 major surface escorts; it now has only 17 (and there are suggestions that number could fall even further),⁵¹ before both the Type 31 and Type 26 enter service, in 2027 and 2028 respectively.

41. Moreover, DE&S' poor oversight of the Type 26 programme, coupled with its highly unenviable track-record of managing ship refits (some of which have run years late),⁵² added to propulsion problems with the Royal Navy's Type 45 destroyers,⁵³ has led to a "perfect storm", whereby barely half of the surface escort fleet—itsself much reduced—is operationally available at any one time.⁵⁴ In short, DE&S' distinctly sub-optimal management of surface ship refitting and new build programmes has become wholly unacceptable and is now crying out for fundamental reform.

48 Oral evidence taken on 31 January 2023, HC 1108, [Q182](#)

49 Naval Technology, [UK MoD and Babcock in dispute with Type 31 frigate programme in the red](#), 28 April 2023

50 Defence Committee, [Third Report of Session 2021–22, 'We're going to need a bigger Navy'](#), HC 168, paragraph 152

51 Navy Lookout, [Snapshot: The Royal Navy escort fleet in March 2023](#), March 2023

52 The Telegraph, [How the Royal Navy's new warships ended up delayed and over budget – again](#), 20 November 2022

53 Defence Committee, [Third Report of Session 2021–22, 'We're going to need a bigger Navy'](#), HC 168, paragraph 123–129

54 Navy Lookout, [Royal Navy surface escorts](#), 5 July 2023



Figure 1: Type 26 - UK MOD © Crown copyright 2023

Royal Air Force - E-7 Wedgetail

42. The E-7 Wedgetail Airborne Early Warning and Control platform is produced by Boeing. In March 2019 the MoD signed a contract to purchase five E-7 Wedgetails.⁵⁵ At the time, the E-7 was already in service with the Royal Australian Airforce and had been used during operations in Iraq and Syria.⁵⁶ It is a proven capability, which is also likely to be procured, in time, by the US Air Force.⁵⁷

43. The UK's initial order for five E-7s was reduced to three in the Defence Command Paper of 2021.⁵⁸ The Committee's forthcoming report into Aviation Procurement will likely examine the operational impact and alleged life-cycle savings resulting from this reduction. The reduction in fleet size, which was a ministerial decision, was likely related to cost.⁵⁹ However, the original order of five E-7s was estimated to cost £2.1 billion, while the three E-7s will cost £1.89 billion (partly because the MoD is contractually obligated to buy five associated airborne radars, regardless).⁶⁰ Even basic arithmetic would suggest that ordering three E-7s rather than five (at some 90% of the original acquisition cost) represents extremely poor value for money.

55 RAF, [Wedgetail to be RAF's new early warning radar aircraft](#), 22 March 2019

56 DE&S, [E-7 Wedgetail](#)

57 Defense News, ['The ability to stare': Why the US Air Force is eager to get the E-7](#), March 2023

58 Ministry of Defence, [Defence in a competitive age](#), March 2021, paragraph 7.45

59 Oral evidence taken on 17 May 2023, HC 178, [Q378](#)

60 HC Deb, 13 December 2022, [col 102821W](#) [Commons written answer]

44. In September 2022, the IOC for the E-7 Wedgetail slipped from 2023 to 2024 but even this date remains subject to still outstanding confirmation of the Full Business Case (FBC).⁶¹ The IOC may now slip into 2025, if the MoD receives its first E-7 in late 2024.⁶² Boeing has put the delay down to supply chain issues related to Covid-19 and related workforce issues.⁶³ However, DE&S are still negotiating an FBC and associated in-service support contract with Boeing, which should already have been successfully finalised long ago.

45. This situation is exacerbated by the fact that the Boeing E-3 Sentry AWACS aircraft, which E-7 is destined to replace, was withdrawn from service shortly after the publication of the original Integrated Review in 2021.⁶⁴ This has created an important capability gap, especially in view of the war in Ukraine. Moreover, the three E-7 Wedgetails which the RAF still intends to buy will be absolutely “prize targets” for the air force of any potential adversary. This makes the reduction in planned airframes from five to three appear an even greater false economy, indeed an absolute folly, not just in financial but also in operational terms as well.



Figure 2: E-7 Wedgetail - UK MOD © Crown copyright 2021

British Army - Ajax

46. In 2010 the MoD awarded a demonstration contract to General Dynamics Land Systems UK (GDLS-UK) to develop a fleet of armoured vehicles for the British Army's Armoured Cavalry Programme. This came to be known as Ajax. The Main Gate 2 business

61 HC Deb, 6 September 2022, [col 48268W](#) [Commons written answer]

62 HC Deb, 7 March 2023, [col 156935W](#) [Commons written answer]

63 Oral evidence taken on 29 November 2022, HC 178, [Q205](#)

64 Ministry of Defence, [Defence in a competitive age](#), March 2021, paragraph 7.45

case for Ajax was approved in June 2014.⁶⁵ In September 2014, the MoD awarded GDLS-UK a contract for 589 Ajax vehicles in six variants, now to be assembled in Wales, rather than abroad as originally envisaged:

- AJAX variant - 245 vehicles. A turreted version of the vehicle with a 40mm cannon.
- APOLLO variant - 50 vehicles. The repair version of the vehicles to be used for towing damaged vehicles and lifting heavy parts.
- ARES variant - 93 vehicles. The base version of the vehicles to be used as an armoured personnel carrier.
- ARGUS variant - 52 vehicles. This will be used for engineer reconnaissance.
- ATHENA variant - 112 vehicles. This is the command and control version of the vehicle.
- ATLAS variant - 38 vehicles. This will be used as a recovery vehicle.⁶⁶

47. When the programme began in 2010, the initial expectation was for Ajax to enter service in 2017. When the Main Gate 2 business case was approved the IOC was July 2020, with the first vehicles to be received in 2017. The contract was also a 'firm' price contract, meaning that risk of inflationary cost growth from future delays lay with GDLS-UK.⁶⁷ In order to speed up the programme, the Department agreed to a highly unusual 40-month overlap of the programme's demonstration and manufacture stages. Although the design was based on an existing 'off-the-shelf' platform (known as ASCOD), there were an additional 1,200 capability requirements for the six vehicles, making it a highly bespoke system.⁶⁸ The cannon and turret have also caused several issues. The requirements for the Ajax programme included a 40mm cannon that was technically highly challenging to integrate into the original vehicle, which was designed with a different weapon.⁶⁹

48. Between 2014–2017, the programme encountered delays and missed milestones. There were delays in design, demonstration and trials, and vehicles had not been delivered to schedule.⁷⁰ The MoD/DE&S agreed to a contract reset to address the issues. The contract reset introduced a new feature of developing the vehicle in five stages known as 'capability drops' numbered from 0 to 4. Drop 0 was the prototype. Drop 1 vehicles were intended to be for training purposes. Drop 2 was intended to maintain stability in the supply chain and production. Drop 3 vehicles were to be the first deployable vehicles. Drop 4 vehicles were to meet the final vehicle standards. The preceding vehicles would then be retrofitted to meet the final standard.⁷¹

65 Gov.uk, [Ajax Noise and Vibration Review](#), 15 December 2021

66 Ministry of Defence, [Report of the Armoured Cavalry Programme \(Ajax\) Lessons Learned Review](#), 19 May 2023

67 National Audit Office, [The Ajax Programme](#), March 2022

68 National Audit Office, [The Ajax Programme](#), March 2022

69 House of Commons Library, [Ajax; The British Army's troubled armoured vehicle programme](#), March 2023

70 Ministry of Defence, [Report of the Armoured Cavalry Programme \(Ajax\) Lessons Learned Review](#), 19 May 2023, paragraph 6.3.1.1

71 Ministry of Defence, [Report of the Armoured Cavalry Programme \(Ajax\) Lessons Learned Review](#), 19 May 2023; National Audit Office, [The Ajax Programme](#), March 2022

49. The contract reset also amended the definition of the IOC without changing the date of the IOC (July 2020). Rather than the original IOC definition of 45 vehicles of six types, the IOC was now defined as delivery of 27 vehicles (12 Ajax, 8 ARES, 3 Apollo, 2 Atlas, 2 Athena).⁷² The IOC date was nonetheless missed. In addition, from around 2014 onwards, concerns began to be expressed about potential safety issues relating to noise.⁷³

50. In April 2018, Defence Science and Technology Laboratory (Dstl) wrote to DE&S stating that the current Safety Case report was unsound, adding “if correct, any trial being conducted would potentially be unsafe, with a high risk of a near miss or accident”.⁷⁴ In December 2018, DE&S issued a formal safety notice relating to high levels of vibration. In January 2020, Dstl raised concerns to DE&S that there was a risk that the industry-supplied noise and vibration calculator being used was underestimating the actual levels. In November 2020, the Minister for Defence Procurement was informed that trials had been suspended due to concerns related to excessive noise. Trials were recommenced in February 2021. In June 2021, DE&S issued another notice mandating an urgent STOP to all vehicle use.⁷⁵ In May 2022, user validation trials by Army personnel restarted following further work.⁷⁶ As of 9 December 2021, 310 individuals were exposed to noise and vibration from Ajax vehicles. Four individuals were medically discharged from Service, and eleven were recommended for long-term restrictions on noise exposure (thereby limiting their military duties).⁷⁷

51. In May 2022, the Secretary of State for Defence asked Clive Sheldon KC to conduct a review into the Armoured Cavalry Programme. The Sheldon Review was first submitted to the MoD in early 2023 and was eventually published in June 2023.⁷⁸ The Sheldon Review made particularly pertinent points about the Ajax programme and exposed the ‘inner wiring’ of DE&S and the wider procurement system. However, the Committee notes, including with an eye to the future, that no individuals are specifically named in the report, which may enable some underperforming people to avoid scrutiny and responsibility.

52. In March 2023, the Government announced a new IOC date for Ajax of between July and December 2025, with FOC scheduled to be achieved between October 2028 and September 2029, both years later than originally envisaged.⁷⁹

53. Ajax is meant to be a primarily reconnaissance vehicle. Once Ajax is in service, it is expected to be upgraded to the new ‘Morpheus’ communication system. Morpheus is intended to deliver the next generation of tactical communication and information systems. However, the Morpheus programme itself now appears to be in serious trouble, with the original IOC of 2025 expected to be materially delayed, into the next decade.⁸⁰

72 Ministry of Defence, [Report of the Armoured Cavalry Programme \(Ajax\) Lessons Learned Review](#), 19 May 2023, paragraph 2.2.5.4; paragraph 6.3.3.5

73 Gov.uk, [Ajax Noise and Vibration Review](#), 15 December 2021, paragraph 37

74 Ministry of Defence, [Report of the Armoured Cavalry Programme \(Ajax\) Lessons Learned Review](#), 19 May 2023, paragraph 6.3.2.5

75 Gov.uk, [Ajax Noise and Vibration Review](#), 15 December 2021

76 HC Deb, 19 May 2022, [col 42W](#) [Commons written ministerial statement]

77 Gov.uk, [Ajax Noise and Vibration Review](#), 15 December 2021

78 Ministry of Defence, [Report of the Armoured Cavalry Programme \(Ajax\) Lessons Learned Review](#), 19 May 2023

79 HC Deb, 20 March 2023, [col 652WS](#) [Commons written ministerial statement]

80 HC Deb, 20 June 2023, [col 188872W](#) [Commons written answer]

54. Ajax represents the worst of UK procurement. The programme illustrates a range of issues. To begin with, setting approximately 1,200 requirements on a vehicle that was based on an existing design led to delay and complication. This demonstrates the adverse impact of setting so many requirements. Some of the issues were also created within the contract, such as the overlap between demonstration and manufacturing, the phased 'drops', and the changing definitions of IOC. These issues would suggest that there is a lack of contracting and commercial skillset within DE&S.

55. As the Sheldon Review lays bare, the Ajax programme also suffered from a variety of other issues, including but not limited to: repeated high turnover of personnel in key positions, thus materially damaging the continuity of the programme; continued, repeated 'optimism bias' in the preparation of reports to superiors, including up to and including Parliamentary Committees and MoD Ministers; lack of accountability across the programme; repeated tensions between the SRO and DE&S and even within DE&S itself, including over the vexed issue of 'discretionary payments' to General Dynamics Land Systems UK; massive pressure from the Army leadership to try and keep the programme to time and increasingly acrimonious disputes, stretching back as far as 2014, between Dstl and DE&S about the safety of the Ajax vehicles and the risks to crews involved in vehicle trials.

56. In short, in our view, the Sheldon Review portrays a highly bureaucratic, complex and controversial £5.5 billion programme, which was in many ways 'too big to fail' and in which, as it became apparent when serious injuries occurred to crew members, no one was in control, especially regarding safety.

57. As well as the damage to the Army's, DE&S' and the wider MoD's reputation from the Ajax debacle, the severe delays to Ajax have also had major operational ramifications. The British Army is currently operating a fleet of tracked reconnaissance vehicles which are some 50 years old and that suffer from capability and obsolescence issues.⁸¹ As referenced in paragraphs 10–11 above, the UK's ability to field an armoured warfighting division is severely hampered by this capability gap and is now likely to remain so until at least the end of this decade, when the Ajax family of vehicles finally achieves FOC.

58. Moreover, the severe delay to the associated 'Morpheus' tactical communications system,⁸² means that Ajax's potential as a highly digitised vehicle is highly unlikely to be fully realised until well into the next decade, if ever—thus compounding one major multi-billion pound procurement failure with what is rapidly turning into another.

59. Finally, the Sheldon Review is highly critical of the Army's safety system, which palpably failed to prevent serious injuries to crews during the trials process. This is in stark contrast to the RAF's safety culture, following on from the 'Haddon-Cave Report' of 2009, regarding the circumstances which led to the tragic loss of a Nimrod aircraft in Afghanistan, during Operation Herrick.⁸³

81 Defence Committee, [Obsolescent and Outgunned: the British Army's armoured vehicle capability](#), Fifth Report of Session 2019–21, HC 659

82 HC Deb, 20 June 2023, [col 188872W](#) [Commons written answer]; Morpheus is being procured via Defence Digital rather than DE&S

83 Ministry of Defence, [The Nimrod Review: an independent review into the broader issues surrounding the loss of the RAF Nimrod MR2 aircraft XV230 in Afghanistan in 2006 report](#), October 2009

60. The Sheldon Review recommended that:

All personnel working on a programme should escalate safety concerns where there are 'seeds of doubt' about a matter, even if not fully evidenced, through relevant reporting lines including as appropriate within Army Programmes, DE&S, Dstl and with the Duty Holding Construct.⁸⁴

We agree with Clive Sheldon KC that all personnel working on a programme should escalate safety concerns where there are 'seeds of doubt' about a matter, even if not fully evidenced, but would go further. We recommend that the Army's safety system should now be subject to a rigorous overhaul, incorporating the detailed lessons already learned and evidenced within the Sheldon Review, with the aim of redesigning the Army's safety system in a timely manner, into one which is genuinely fit for purpose in the 21st century.



Figure 3: Ajax vehicle - UK MOD © Crown copyright 2021

84 Ministry of Defence, [Report of the Armoured Cavalry Programme \(Ajax\) Lessons Learned Review](#), 19 May 2023, recommendation 20

5 International comparators

61. As part of our inquiry we looked at a number of international comparators to see what could be learned from international practice. Whilst visiting the US in March 2023 in relation to a separate inquiry, we received a detailed briefing at the Pentagon on the evolving US defence procurement model. In May 2023 we also received a briefing from the Defence Attaché and the Defence Equipment Attaché from the French Embassy in London. In July 2023 we received a briefing from Israeli officials on the Israeli procurement method. Together, the three different systems enabled us to draw valuable comparisons and lessons for the UK's system.

France

62. The French equivalent to DE&S, the Direction générale de l'armement (Directorate General of Armament, or DGA), holds a very different position within the French system from DE&S. We were told that the French Services generate their requests and requirements, which are given to the Joint Staff for the Armed Forces (the French equivalent to the UK's Chief of Defence Staff, or Chef d'État-Major des Armées (CEMA)). The CEMA then sifts and prioritises those requests and engages in a process with the DGA. At this early stage, the DGA is already involved in defining the required capabilities.

63. The DGA's involvement in requirement setting illustrates how it is more powerful within the French system than DE&S is within the UK system. The DGA's priorities are also different to those of DE&S. Both the French embassy and Sir Bernard Gray told us that in France sustaining the industrial base and exportability of equipment often take precedent over the requests of the Services.⁸⁵

64. The DGA's focus on the maintenance of the industrial base, the skills base and the workforce are also lacking in DE&S, which is symptomatic of a major difference between the public sectors in our two countries. We were told that the DGA considers skills and workforce as a capability in and of itself. Therefore, in managing a contract, the DGA does not limit itself to engaging with the prime only. Instead, the DGA manages and engages with the supply chain all the way down to tier 4 suppliers. In doing so, skills are managed and maintained.

65. Another key difference between DE&S and the DGA is that in France altering the original requirements and reopening a contract is a significant undertaking that is not embarked upon lightly. In the French system, materially amending the original requirement necessitates specific ministerial approval. Conversely, in the UK, making changes to requirements (and thus to contracts) is often regarded as an expected part of the process.

66. However, it is noteworthy that French defence industry is characterised by a degree of state ownership in a way that the UK's defence industry is not. As such, the incentives, priorities and maintenance of the industrial base hold a different position within the French political and defence system.

United States

67. The US acquisition process is run by officials (both civilian and military). The process only begins once a requirement for a capability has been agreed following advice prepared by the Joint Requirements Oversight Council and presented by the Chairman of the Joint Chiefs of Staff to the Secretary of Defense. Once a budget is agreed, the programme to acquire the capability moves into the Defense Acquisition System (DAS). As a result of the adoption of an 'adaptive acquisition framework', the DoD has different acquisition approaches for different types of capability (Urgent Capability Acquisition; Major Capability Acquisition; Middle Tier Acquisition; Software Acquisition; Defense Business Systems (DBS) Acquisition; and Defense Acquisition of Services).⁸⁶

68. Unlike the UK, the Acquisition and Sustainment section is involved in wider policy work. While we were in Washington in March 2023, we were told that Congress had recently directed that Acquisition and Sustainment elevate the importance of the Industrial Base within its policy making. In February 2022, it had already published a public Report on the vulnerabilities in the US Industrial Base which found gaps in:

- Kinetics (ammunition and hypersonics)
- Castings and forgings
- Micro electronics
- Energy storage
- Critical and strategic minerals.⁸⁷

The report contained 64 recommendations which are internal; inter-agency; and international, many of which are in the process of being implemented. It is significant that they include not only advanced technology but also vital engineering capacity including metal fabrication.

69. We also heard from the US Administration, industry and commentators that there were a number of bottlenecks within the US industrial base limiting the extent to which it could ramp up production, following the transfer of significant amounts of US stockpiles to Ukraine. These included:

- A lack of excess capacity in defence Primes;
- Companies lower down the supply chain (particularly Tier 3 or 4, single source suppliers) unable to expand production;
- A high attrition rate of the workforce, which is also aging (estimated to be twice that in the Defence Industry prior to COVID); and
- A lack of notice of new Government contracts making it difficult to plan how best to increase production capacity.

86 US Department of Defense, [Operation of the Adaptive Acquisition Framework](#), January 2020

87 US Department of Defense, [Securing Defense-Critical Supply Chains](#), February 2022

70. However, we also heard positive messages from industry about how they were intending to increase production capacity for key capabilities and that some companies are considering creating their own stockpiles of munitions and equipment in order to smooth out the peaks and troughs caused by the 'feast and famine' procurement approach, including in an attempt to retain skilled staff. We heard that consideration was being given to the adoption of multi-year procurements to avoid creating such peaks and troughs. Furthermore, there appeared to be a real acknowledgement of the importance of working with Allies and partners to create greater resilience within the supply chain.

71. Perhaps the most stark example of urgency we encountered is that in February 2023, the head of the USAF's Air Mobility Command, General Michael Minihan, instructed his personnel to prepare for combat as "my gut tells me we will fight in 2025" (although in this case, he was speaking more in relation to a potential conflict over Taiwan rather than Ukraine).⁸⁸

Israel

72. Defence procurement is carried out by the Production and Procurement Directorate (DOPP) within the Israeli Ministry of Defense.

73. The Israeli procurement philosophy is different again, partly influenced by their own national characteristics, including, as a nation of some 9 million people (far less than the US, France or the UK) and one which has been invaded by its neighbours, some of them on multiple occasions, since the State of Israel was officially created in 1948. With multiple threats, far closer to home, the Israeli system is characterised by an even greater sense of operational urgency than in the United States with a premium on efficiency, both military and bureaucratic.

74. Specifically, the Israeli Ministry of Defence (as opposed to the Israeli Defence Forces themselves) employs only several thousand people, mostly civil servants but with a number of military officers as well. Within the Israeli MoD, the DOPP, employs only some 300 people, all of whom are civilians (although many of them will have completed Israeli military service in their youth). DOPP also has a sister Directorate, which is involved in the manufacture of certain elements of military kit, usually in association with their indigenous defence companies but again this Directorate only employs several hundred people as well. DOPP procures military equipment specifically for the IDF, including support and through-life contracts, which it oversees but does not participate in directly itself. Equipment maintenance and support for the IDF is carried out by prime and/or associated sub-contractors or by the Israeli military themselves—in stark contrast to DE&S, which was keen to stress to us that many, indeed thousands, of their personnel are involved in the 'S' element of DE&S i.e. "support."

75. In the Israeli system, DOPP does play a role in setting military requirements but, unlike the French DGA, this is largely 'informal', by way of frequent contact between DOPP staff and their military requirements "customers". We were told that, in the event of a disagreement between "what the military want and what they actually need" the military view generally prevails. Nevertheless, DOPP is still more actively involved in helping to shape military requirements—although perhaps without the formal authority of their French counterparts in the DGA.

88 Air & Space Forces, [Read for Yourself: The Full Memo from AMC Gen. Mike Minihan](#), 30 January 2023

Lessons

76. Overall, we see that procurement can be done differently and successfully. The French model illustrates the value of having the procurement agency involved much earlier in agreeing operational requirements. By doing that, France is often able to procure more quickly and efficiently. The French system also places much greater value on exportability of domestic equipment than its UK counterpart.

77. The United States is perhaps less directly comparable to the UK given the vastly superior size and budget of its armed forces. However, the growing sense of urgency, in reacting industrially to a worsening international security situation, from our traditionally closest ally, is one that should be recognised and which the UK could surely learn from.

78. The key takeaway from the Israeli procurement method is the value that it extracts from its personnel. Israel procures defence equipment with far fewer people than DE&S does. The Israeli system, which places a premium on efficient use of manpower, by effective use of contractors, manages to achieve similar outcomes to the UK's DE&S, but with far fewer people.

6 Key problems within DE&S

79. In this chapter we examine some of the issues that we found within DE&S. As we set out in our introduction, many of the issues that we heard about extend beyond DE&S' remit. We address those in the subsequent chapter.

Requirement setting

80. The requirements for a specific piece of equipment are set by the Front Line Commands i.e. military personnel. Air Chief Marshal Sir Stephen Hillier, former Chief of the Air Staff, explained that the factors in setting requirements included how to continue current capability, the evolving threat from potential adversaries, and what equipment allies are working on. ACM Hillier went on to say:

At that point, you reach the critical phase. When you start to say, “I want to go this fast, I want to go this distance, I want to carry this weapon load and I want this level of technical capability,” that is the key decision making point. You can go for the top end, and sometimes that will be required, but you need to do that knowingly and have the data to support the risks that you are now taking on.⁸⁹

81. The Front Line Commands—as military personnel—are less likely to know what industry is capable of and to what timescales. We heard from Professor John Louth that, at times, the requirements set by the Front Line Command were “can you please break the laws of physics”.⁹⁰ DE&S is designed to interact with industry and as such, has valuable practical knowledge and experience regarding requirements and their feasibility. Andy Start, CEO of DE&S, told us that DE&S has provided advice on requirements “when we have been asked”. When pressed, Mr Start confirmed that DE&S is not part of the formal process of requirements setting.⁹¹

Cost and schedule

82. The two perennial performance measures that challenge every procurement programme are cost and schedule. The two are naturally linked, as a programme that significantly overruns its schedule will almost invariably cost more than initially planned. Sometimes, these situations are provided for in the contracts between DE&S and industry. However, we were told that a major flaw in DE&S' contracting approach, historically at least, was the profusion of ‘cost plus contracts’.⁹² Cost plus contracts allow for the supplier to be paid all of their costs plus a fixed profit.

83. DE&S now makes much greater use of ‘fixed-price contracts’ (which can alter e.g. for inflation) and ‘firm-price contracts’, (which are for an agreed price, even over time). Nevertheless, DE&S contracts are still often subject to weaknesses (see below).

89 [Q65](#)

90 [Q6](#)

91 [Qq229–230](#)

92 Lord Peter Levene ([DE50033](#))

84. DE&S stressed that it is better on cost than it is on schedule. DE&S told us that since the 2009 Gray report, it had improved in both cost and schedule, but accepted that schedule remained the greater challenge. “Of DE&S’ 44 largest completed acquisition programmes which achieved an In-Service Date since 2017” 73% of them met their P50 estimate on cost, whilst only 52% met their P50 estimate regarding schedule.⁹³

85. P50 represents the estimate of cost or schedule such that there is a 50% probability of the programme being delivered within that cost or schedule.

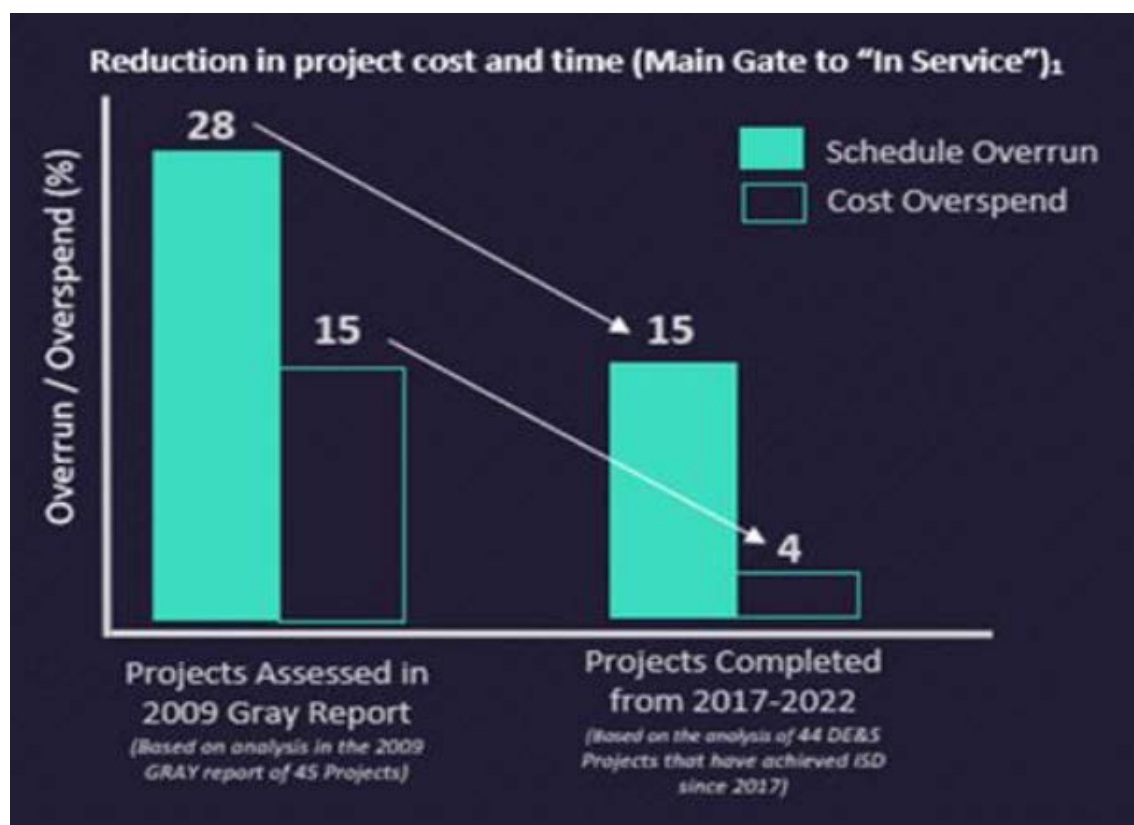


Figure 4: DE&S written evidence to the Sub-Committee on cost and schedule performance⁹⁴

86. Whilst DE&S claim to have a better grip on cost than schedule, there are still significant challenges in that area. Lord Levene pointed us to historic video footage of Sir Raymond Lygo, then CEO of BAE Systems, who publicly admitted that industry works out what the MoD’s budget for the programme is and bids to that amount, with the intention of making profit as the programme progresses.⁹⁵ Francis Tusa, editor of Defence Analysis, gave us another example:

I remember very clearly a meeting with BAE Systems back in 2000, a briefing on the carrier before everything had been sorted out: “Yes, we are going to build two carriers for £2.8 billion”. Someone asked the question, “Can you actually do that?” The brief said, “No, that is absolutely impossible”. “What have you told MoD?” “We have told them that we can build it, because that is what the customer wants to hear”. That is not uncommon.⁹⁶

⁹³ Ministry of Defence ([DE50034](#))

⁹⁴ Ministry of Defence ([DE50034](#))

⁹⁵ [Q124](#)

⁹⁶ [Q144](#)

87. Alan Blackwell, a retired Army Colonel, who served as a Programme Manager within DE&S, told us in written evidence:

Industry wants to sell its products and services, and make a profit. It knows that MoD will appear to change its mind through the project life-cycle, so can safely rely on invoicing some expensive 'change-requests' later to cover these costs. Winning the contract is key (often known as 'entryism'); problems with the realities of promises made to secure the work can be resolved later; industry want to supply (and thus showcase globally) top-tier products but understand that initially they must appear low-risk and relatively cheap—but costs will be recovered later.⁹⁷

88. When we asked industry representatives whether they still engage in this type of practice today, Lockheed Martin UK's Paul Livingston told us that he "would be fired for that" and that their processes do not allow for such a practice. Herman Claesen of BAE Systems also denied that such practice took place and emphasised that it is not in the interests of industry as DE&S and the MoD are partners in their success.⁹⁸ Nevertheless, even today, controlling cost escalation in contracts remains a challenge (as recently evidenced on both the Type 26 and Type 31 programmes—see chapter 4).

89. The other element, schedule, is one that DE&S recognised it needs to work on further. By DE&S' own figures, only 52% of programmes meet their P50 estimate on schedule.⁹⁹ The use of P50 is symptomatic of the "conspiracy of optimism" that we heard much about.¹⁰⁰ David Williams, Permanent Secretary at the Ministry of Defence, told us:

Some of the challenge with optimism bias is that our expectations on what is doable and industry's are not aligned. As I think you heard from your evidence session with Mr Livingston from Lockheed Martin, industry can also sometimes be optimistic about the level of technical risk in projects that it takes on.¹⁰¹

The Sheldon Review also found repeated evidence of "optimism bias" influenced by reliance on P50 estimates, that often prevented issues within the Ajax programme being appropriately escalated.¹⁰² As Sheldon puts it:

It seems to the Review that the negative effects of the focus on the IOC date were exacerbated by the fact that the July 2020 date was set with a 50% confidence level. In other words, there was just as much chance that that date would be missed as that it would be met.¹⁰³

97 Mr Alan Blackwell (Director at ABAL Insight Ltd) ([DE50005](#))

98 [Q115](#)

99 Ministry of Defence ([DE50034](#))

100 [Q133](#)

101 [Q213](#)

102 Ministry of Defence, [Report of the Armoured Cavalry Programme \(Ajax\) Lessons Learned Review](#), 19 May 2023, paragraph 7.8.9.8

103 Ministry of Defence, [Report of the Armoured Cavalry Programme \(Ajax\) Lessons Learned Review](#), 19 May 2023, paragraph 7.9.10

90. The culture within the Ministry of Defence, Defence Equipment and Support (DE&S), and the Front Line Commands is often one of misplaced optimism when assessing project cost and schedule. The current standard confidence measure used throughout DE&S is P50, meaning that an estimate of cost or schedule is as equally likely to be wrong as it is right. *DE&S should move from P50 confidence measures to P75, thereby ensuring much greater realism in project forecasting, at all levels.*

91. By increasing P50 to P75, the procurement system would switch to estimates which are three times less likely to be exceeded than not—as opposed to equally likely to be exceeded as not, at present.

92. *It would however be iniquitous to impose this much greater discipline in forecasting for equipment procurement just on DE&S. The new P75 benchmark for both cost and schedule estimates should also be extended across the wider procurement system, including the Front Line Commands (FLCs); the Joint Requirements Oversight Committee (JROC); the Investment Approvals Committee (IAC); and the Performance Management Reporting System (PMRS) which provides regular briefings to Ministers.*

Personnel and skills

93. The contracting and commercial skills required at DE&S are highly marketable, and DE&S rates of pay for lawyers and its commercial team compare unfavourably with the private sector.¹⁰⁴ This arguably leads to experienced and talented people leaving DE&S to work in the private sector for more money. Staff turnover at DE&S was 10.7% in 2021–22 and previous Annual Reports have noted challenges around high staff turnover.¹⁰⁵ In Sir Bernard Gray's words "the public sector can be outspent by the private sector in contract terms."¹⁰⁶ Sir Bernard also pointed to some of the petty bureaucracy that exists within DE&S' contracting team:

If you are a contract person halfway up a tier in Abbey Wood, even before you have put the contract to bed on the original purchase order, you have one person or another saying "Can you reprofile the cash flow? Can you change it from green to blue?" There is constant change even prior to writing a contract.¹⁰⁷

94. When we asked Andy Start about DE&S' legal and commercial capability he told us:

Do I think we are up to a match? Yes, when I have looked at the negotiation. Would I like to see more of that competence that I see at the top proliferating right through the organisation? Yes.¹⁰⁸

It would appear that some of the issues described by Sir Bernard Gray at the mid-to-lower levels of DE&S are also recognised by the CEO of DE&S himself.

104 [Q43](#)

105 DE&S, [Annual Report and Accounts 2021–22](#), July 2022; DE&S, [Annual Report and Accounts 2018–19](#), January 2020 p. 47

106 [Q43](#)

107 [Q43](#)

108 [Q241](#)

95. Hiring experienced talented staff in a competitive market can be challenging. Financial incentives are one of the levers in attracting and retaining those people. As Andy Start pointed out, it is not enough to have talented staff at the top level. However, it is sometimes the case that financial remuneration is granted to those who may not be as deserving. It is well documented that the former CEO of DE&S from 2018–2022, Sir Simon Bollom, was awarded a bonus of between £95,000 and £100,000, despite extensive issues with programmes.¹⁰⁹

96. **DE&S does not allocate enough resource to legal and commercial talent. *DE&S should have a greater appetite for, and access to, use of external specialist contract lawyers to support its work. We believe this would be money well spent to ensure that costly programmes (especially category A programmes) do not experience costly contractual disputes later in their life, to the taxpayer's disadvantage.***

109 The Times, [Defence chief behind failing quango given £100k bonus](#), 26 July 2022

7 Wider problems beyond DE&S

97. Whilst there are significant issues within DE&S, they cannot be viewed in isolation. DE&S is one part of a wider and complex system, and it sometimes bears the consequences of decisions taken elsewhere. In this chapter we set out some of the issues that exist in the wider system. Colonel Alan Blackwell provides a good introduction to these wider challenges, in the following terms:

The conditions for disappointment or failure of a programme are usually laid, and culturally embedded, long before any contract is ever signed. A report that only looks at how to 'improve the performance of major defence equipment contracts' has already missed the problem.¹¹⁰

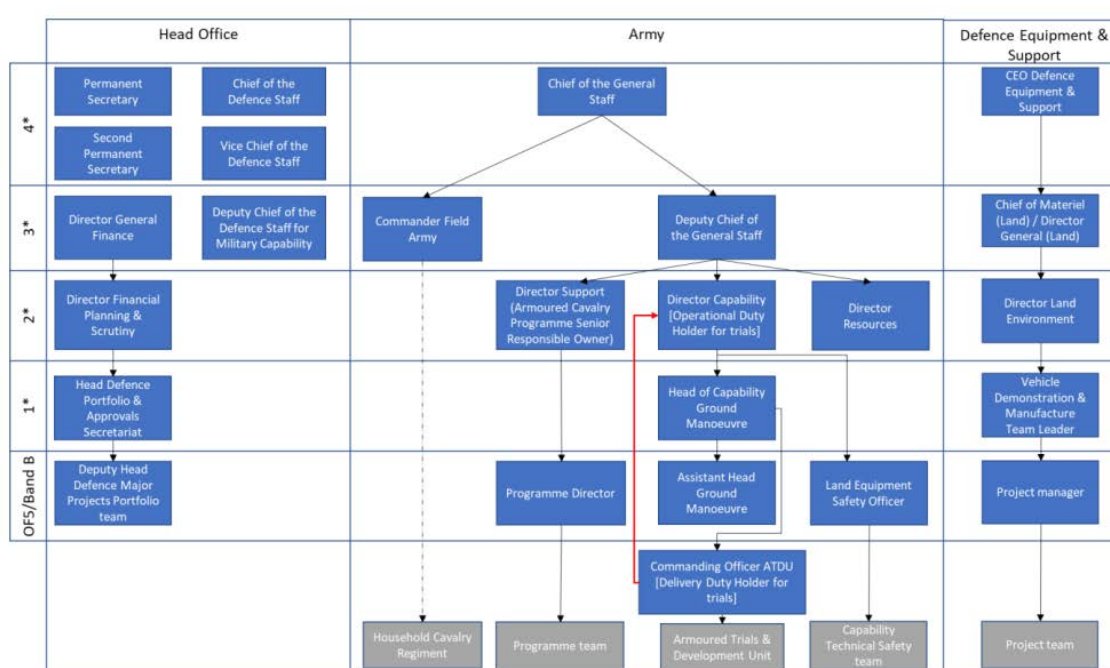


Figure 5: Army organisation chart taken from the Sheldon Review¹¹¹

Strategy

98. Strategic direction and funding for the purchasing of defence equipment are set by the Government as a whole, but by the MoD in particular in consultation with the Treasury. Day-to-day accountability for defence procurement within the MoD sits with the Minister for Defence Procurement (MinDP). By their very nature, some defence procurement projects take years at best, decades at worst. However, there have been nine different Ministers for Defence Procurement since July 2016,¹¹² making for an average tenure of just nine months (see annex 2). The high level of turnover at Ministerial level exacerbates the problems within the system, as there has been a lack of a continuous presence, accountability, and strategy from the top.

110 Mr Alan Blackwell (Director at ABAL Insight Ltd) (DE50005)

111 Whilst this organisation chart illustrates the Army's structure, a similar organisational pattern is followed across the three Services

112 Figure is accurate as at time of publication

99. Despite the level of ministerial turnover, Sir Bernard Gray argued that politicians, for the most part, have been “pretty disciplined”.¹¹³ However, there are important areas where political direction has been missing, in particular the UK's defence industrial base.¹¹⁴ The Government published the Defence and Security Industrial Strategy (DSIS) in March 2021, setting out its new strategic approach to the UK's defence and security industrial sectors. The DSIS announced a clear policy change on competition in procurement, saying:

the ‘global competition by default’ policy will now be replaced with a much more sophisticated and nuanced approach based on understanding the markets concerned, the technology we are seeking, our national security requirements, the opportunities to work with international partners and the prosperity opportunities, before deciding the correct approach to through-life acquisition of a given capability.¹¹⁵

100. The departure from the stated default of global competition was partly because many of the programmes involving national security are complex and only within the scope of a very limited number of major companies. Therefore, global competition is often not possible or appropriate, as there are too few companies able to actually deliver the requirements (in what is now a highly oligopolistic market, especially for larger programmes).¹¹⁶

101. Despite there being a Defence and Security Industrial Strategy, there appears to be ongoing confusion about the Government's policy towards the UK's industrial base.¹¹⁷ There is a perhaps understandable natural imperative to want to place large defence contracts within the UK, in order to maintain industrial capacity, a trained workforce and resilience as well as reinforcing support in the community for the wider defence programme. This applies not only to prime contractors but possibly even more importantly their supply chain. But this must also be balanced with buying some specific equipment ‘off-the-shelf’, which may mean buying from other countries, but in that case, we should be seeking reciprocal arrangements. Sir Bernard Gray set out his view of how this trade-off should be approached:

it is worth the UK specialising in areas where we can have competitive advantage, and that we should buy off the shelf in certain circumstances. For example, if we only want 10 P8 Poseidon anti-submarine warfare aircraft, spending £3 billion on developing the aircraft for a run of 10 in the UK, so that we have a unique aircraft, does not seem to me a very sensible thing to do, whereas if we are buying 10 off the shelf from Boeing via the Pentagon, and Norway and other NATO countries are buying some, we end up with a common fleet, and we have saved money that we can add to, for argument's sake, Tempest, or some other activity.¹¹⁸

102. There is a need for greater continuity in the critical portfolio of Minister for Defence Procurement (MinDP) who is now in day to day charge of an equipment budget totalling almost a quarter of a trillion pounds of UK taxpayer's money. Politicians need to play their part in reforming our procurement system and therefore we should

113 [Q30](#)

114 [Q30](#)

115 Ministry of Defence, [Defence and Security Industrial Strategy](#), March 2021

116 Ministry of Defence, [Defence and Security Industrial Strategy](#), March 2021

117 [Q30](#)

118 [Q30](#)

address the longevity of this appointment. *Given the very high importance of the role, the Prime Minister, who is ultimately responsible for Ministerial appointments, should be strongly encouraged to promote greater stability in the procurement system, with MinDP in future serving for at least the bulk of a Parliament.*

103. Procurement is a highly specialised and complex subject, which requires expert scrutiny, including from Parliamentarians. Unlike in the United States, UK Parliamentary Committees do not have “line item power” to alter individual aspects of the Defence budget, including on procurement programmes, which makes their remaining scrutiny function arguably even more important. *Given that equipment purchasing and support now accounts for almost half of the entire defence budget, our main Committee now intends to hold at least two formal ‘Acquisition hearings’ each year, to scrutinise major procurement programmes in detail and the Ministry of Defence should provide access to all relevant information (if necessary at a classified level) in order to facilitate this.*

Industry

104. There are a several obstacles to a thriving defence industrial base in the UK. One of those is a shortage of skills. Paul Livingston, CEO of Lockheed Martin UK, told us that “the biggest threat to all of us being able to deliver the outputs of the defence enterprise—whether that is MoD, DE&S, industry or the military—is the lack of people and skills.”¹¹⁹ Mr Livingston also went on to reference the skilled workforce competition that the defence industry was facing against other industries, some of which can offer better remuneration.¹²⁰

105. The MoD engages with defence suppliers through two main fora: the Defence Suppliers Forum (DSF) and the Defence Growth Partnership (DGP). The Defence Growth Partnership (DGP) is a partnership between Government and industry that aims to grow the UK's defence sector to achieve international success. It is made up of MoD, Department for Business and Trade, 13 defence primes, and ADS.¹²¹ The DSF is currently co-chaired by the Secretary of State for Defence and Charles Woodburn, CEO of BAE Systems. It is the MoD's engagement mechanism with industry for strategic topics. The executive group of the DSF is the forum for identifying and actioning areas of improvement between MoD and UK defence industry.¹²²

119 [Q108](#)

120 [Q108](#)

121 Defence Growth Partnership, [About Us](#)

122 Ministry of Defence, [Defence and Security Industrial Strategy](#), March 2021

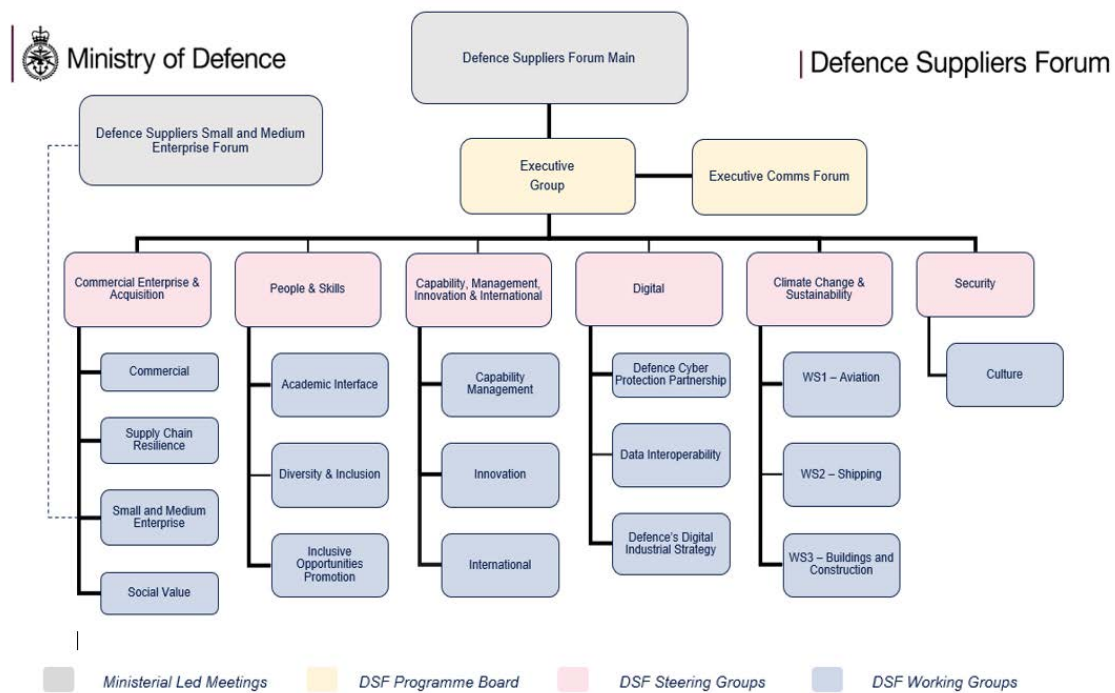


Figure 6 Defence Suppliers Forum structure¹²³

106. The DSIS set out how the MoD would build on its engagement with industry:

- Strengthen the Defence Suppliers Forum (DSF) as the primary MOD-industry engagement mechanism on strategic topics
- Increase transparency and improving communication of longer-term government priorities, requirements and pipelines, identified through cross-government collaboration and the development of ‘road maps’ for the pull through of projects
- Drive implementation of the MOD Strategic Partnering Programme (SPP) to enable greater collaboration with industry and using it to support implementation of this strategy with our strategic suppliers
- Conduct a strategic review of the Defence Growth Partnership’s work on exports and economic growth¹²⁴

The DSIS also foresaw the need to create a “virtuous circle” whereby Government clarity on its future requirements enables industry to invest in R&D with confidence.¹²⁵

107. Thus far, it is unclear whether DSIS has been implemented consistently across the board. At the time it was published, Paul Hough, associate fellow at RUSI, warned that:

The issue is that the DSIS is not something that is going to happen or be fully implemented next year. It will take some time. It will take concerted and focused effort, training and recruitment, sector by sector.¹²⁶

¹²³ Ministry of Defence, [Defence Suppliers Forum](#)

¹²⁴ Ministry of Defence, [Defence and Security Industrial Strategy](#), March 2021

¹²⁵ Ministry of Defence, [Defence and Security Industrial Strategy](#), March 2021

¹²⁶ Oral evidence taken on 20 April 2022, HC 1333, [Q165](#)

108. Meanwhile, ADS pointed to some inconsistency in the application of social value considerations:

Social value considerations being applied consistently and proportionally in tenders is seen as vital by industry. Inconsistent application and guidance on social value considerations by government risks undermining the principle and making the concept less effective.¹²⁷

109. We were also told that industry would welcome “earlier and more consistent engagement with industry, including pre-procurement” and “earlier confirmation of Preferred Bidder status in order to let industry mobilise for delivery prior to a contract commencing”.¹²⁸ It would appear that these actions would fall under commitments made by the Government in DSIS, as set out in paragraph 106. Andy Start, CEO of DE&S, did tell us that DE&S, the Director of Military Capability, Dstl and industry have been holding classified meetings to enable earlier input from industry on requirements.¹²⁹

110. We also heard that the relationship between the MoD and industry could be improved. Lucia Retter, Research Lead at RAND Europe, told us:

if there were a more constructive relationship with industry, a lot of the challenges that we face within the defence acquisition process could be tackled more effectively. [...] Having a more proactive and constructive dialogue with industry, and treating the industrial base as a strategic asset in its true sense, would make a meaningful difference. That is not only a policy and conceptual change but, unfortunately, a big cultural change [...]¹³⁰

111. The Ministry of Defence's relationship with industry leaves much to be desired. *The Ministry of Defence and DE&S should engage in more consistent dialogue with industry. This should include a formalised pre-procurement stage (at appropriate classification levels) regarding future requirements and their feasibility.*

112. There is a lack of skills in key areas. Delays from the industry side are often due to a shortage of skilled workers. *The Ministry of Defence should put forward a plan on how it intends to help develop and foster the defence workforce over the next 10 years, including what plans it has to increase the availability and uptake of apprenticeships within the defence industry.*

113. *The Ministry of Defence and the Treasury should provide a much clearer definition of 'social value' in defence contracting and specify to bidders how these criteria will be applied in procurement competitions.*

127 ADS ([DES0021](#))

128 Lockheed Martin UK ([DES0022](#))

129 [Q230](#)

130 [Q25](#)

Exportability

114. The lack of firm strategic direction on the UK's industrial base has also led to a decline in exports from the UK. For many years, the UK was ranked number two in value of defence exports (with the US being first). However, in 2021 the UK's position slipped to fourth with just 7% of market share, compared to France's 28%.¹³¹

115. The new Minister for Defence Procurement, James Cartlidge MP, stressed his own eagerness to increase the export potential of British made equipment. The Minister told us:

Something I feel very passionately about is exportability. I want to see us competing and bringing forward products we can market internationally as well. The system currently considers that, but it is about really considering it and making it really intrinsic to the process from the beginning.¹³²

It is notable that the French DGA does precisely this, examining requirements against exportability and giving greater weight to the exportability factor.

'Exquisite procurement' and requirements creep

116. Responsibility for managing most equipment spending is delegated to Top Level Budget (TLB) holders. There are six TLBs with responsibility for the Equipment Plan: Navy, Army, Air, Strategic Command, Defence Nuclear Organisation, and Strategic Programmes. The first four of the TLBs are Front Line Commands. In practice, the Front Line Commands generally generate the concepts and the requirements for equipment they wish to acquire, whilst DE&S carry out the purchase from industry and manage the contract.

117. There appear to be two fundamental issues regarding requirements. Firstly, the Front Line Commands often set requirements that are unnecessarily complex. This trend is sometimes referred to as 'exquisite procurement' i.e. designing new equipment which is so complex—and thus expensive—that fewer and fewer platforms (such as ships, aircraft, or armoured vehicles) can actually be afforded in practice. Professor John Louth told us:

[...] the requirements seem to be to want everything. As soon as we start talking about suites of capabilities on a common platform, on a common framework, everybody adds in other bits and bobs, and suddenly you have a degree of manufacturing complexity built on design complexity that is incredibly difficult to deliver.¹³³

This very issue is seen most clearly in the Ajax programme referred to in Chapter 4 where over 1,200 requirements were eventually mandated for a platform that was initially intended to be an 'off-the-shelf' procurement of the existing ASCOD vehicle. Similarly, it was highlighted to us by a manager in the programme that the requirement for the Thales

131 House of Commons Library, [UK arms exports: statistics](#), January 2023

132 [Q188](#)

133 [Q7](#)

Watchkeeper Remotely Piloted Air System (RPAS), which also entered service many years late, was bedevilled by 265 User Requirements, of which 11 were Key User Requirements and an incredible total of an additional 1,910 system requirements.¹³⁴

118. On the subject of setting requirements, Lieutenant General Sir Mark Poffley, former Deputy Chief of the Defence Staff (Financial and Military Capability), said that “the case is certainly there for what I would describe as appropriate scrutiny of the requirement to ensure that it is only as specific as it needs to be.”¹³⁵ A similar sentiment was expressed by General Sir Richard Barrons, former Commander Joint Forces Command, who wrote:

An important part of acquisition reform is to grow the ability of the three Services and STRATCOM to set realistic requirements and contribute to their delivery over time. There is room for all-round growth in acquisition competence, and the future will include a greater tolerance for using off-the-shelf software and hardware, so minimising the requirement for bespoke complexity on relatively small population items.¹³⁶

Potential for spiral development

119. A potential solution in striking the balance between exquisite procurement and ‘off-the-shelf’ is one of spiral development. i.e. developing new equipment incrementally, rather than in long term, often highly complex projects (which risk being outdated by the time they eventually enter service). The Minister for Defence Procurement set out a recent conversation he had undertaken with an officer of the Irish Guards, during a Ministerial visit to Salisbury Plain. As the Minister explained:

When we were talking about procurement, he said words to the effect of, “Well, we need to go for 70% not perfect and then spiral the rest.” He put it to me in a nutshell. That is where you strike the balance; by not procuring something that is perfect and exquisite from the outset, you recognise the importance of spiral development. You sprint to 70 and then you spiral once it is with the Army or the Navy or the Air Force. That is how we should do it.¹³⁷

120. Spiral development would appear to enable the Front Line Commands to receive the equipment sooner, but also facilitate future upgrades. However, this could be met by entrenched resistance from the Front Line Commands themselves. Despite that challenge, it would appear that many would welcome it; as Sir Mark Poffley told us:

[...] how you think about this depends on your service and your appetite for risk. If you are prepared to accept some risk, the 80% solution is the right one now, because you have it in your hands.¹³⁸

134 Mr David C ([DES0006](#))

135 [Q67](#)

136 General Sir Richard Barrons ([DES0039](#))

137 [Q200](#)

138 [Q77](#)

121. When asked how to combat requirement creep, Andy Start also pointed to spiral development as the ideal method to incorporate changing requirements:

Ideally what we do is, wherever possible, go for shorter increments, so we do not reach quite so far each time. We run shorter programmes and then spiral up from that. That way, we can hold the contracts closed. Whenever you open a contract, on the basis that you are with a sole supplier, you are at a disadvantage relative to when you create a contract under competition.¹³⁹

122. The requirements for major projects are reviewed by the Joint Requirements Oversight Committee (JROC) to ensure scrutiny of performance, cost, time, and risk. DE&S does not currently sit on JROC (although we understand this is now under review). JROC is chaired by the Vice Chief of the Defence Staff and is attended by representatives from MoD and each of the military commands at Director General level.¹⁴⁰ JROC would appear to be the ideal forum for there to be a degree of sifting of the requirements put forward by the Front Line Commands. As set out in paragraph 62, the French DGA, in conjunction with the French Chief of the Defence Staff, perform a similar function in reviewing the specifications requested by their Front Line Commands. Critically, the French system empowers the DGA to say “no” to the specifications requested by the military customer. It would appear that no such mechanism currently exists in the UK.

123. As well as setting more sensible requirements at the outset, there is also a need to stop changing requirements unnecessarily mid-contract. In some limited instances, there may be a case to update or upgrade requirements after the contract has commenced. Lieutenant General Sir Mark Poffley told us:

You have to accept that your requirement is going to change over time, because the opposition are always going to go asymmetric on whatever you field. Therefore, you are going to want to adapt to the opponent's posture. That is going to force you into something.¹⁴¹

124. ACM Sir Stephen Hillier added further colour, saying that it is not always appropriate to set fixed requirements across the board as developments can sometimes outpace the equipment. In other long-term projects, there is a case for more rigid requirements. ACM Hillier told us about the challenge in deciding between the two options:

For me, what we struggle to do is understand which is which. We have to make sure that we look at requirements rigorously, that we take the most senior ownership of requirements, and that we maintain the discipline in those requirements, because quite often they start off there and then they get ramped up over time [...] every time we either institute a requirement or change a requirement, we need to have a rigorous analysis that says, “What are the consequences in terms of costs and time?” Yes, there will presumably be a performance benefit, but is it worth it in terms of frontline capability?¹⁴²

139 [Q233](#)

140 HC Deb, 3 November 2021, [col 69006W](#) [Commons written answer]

141 [Q58](#)

142 [Q63](#)

125. General Sir Richard Barrons amplified the issues and the attendant risks as follows:

Whilst it is important to deliver equipment that remains competitive by being at the leading edge of technology where necessary (and only where necessary), the effect of constantly adding new demands is to increase both financial and technical risk. The exotic, exquisite and state of the art can be the enemy of the certainly good enough, soon enough and - vital for mitigating costs—exportability. Designing to cost and for export rather than to the 'ultimate specification' will be an important aid to effective acquisition.¹⁴³

126. When changes to requirements are made after contract award, and the original contract with industry is reopened. Sir Bernard Gray told us:

the problem is that we prejudice our position in the contracts because we keep going and asking for changes as a result either of a specification change or stretching out time. [...] the trouble with trying to enforce contracts is that if we keep breaking them it is very hard for us to get any discipline.¹⁴⁴

It naturally follows that frequent changes to the requirements for design and manufacture of equipment generally leads to greater cost and longer timelines.

127. 'Exquisite procurement' is the enemy of speed and time. Over-specifying a piece of equipment creates delays and budget pressures. Exquisite procurement also generally leads to greater cost and therefore less mass. For the most part, exquisite procurement should be avoided. Instead, *The Front Line Commands and DE&S should aim for a 'spiral development' model as a default. This should be enforced through the Joint Requirements Oversight Committee, the Investment Approvals Committee, and ultimately, Ministers.*

128. *Key trade offs between capability, cost, time, and technical complexity should be made much earlier in the procurement process, when requirements are initially being set. As in the French system, DE&S should be involved at the outset of formulating requirements and disputes should be resolved, if necessary, by Ministers.*

Urgent Capability Requirements

129. Urgent Capability Requirements (UCRs), previously known as Urgent Operational Requirements (UORs),¹⁴⁵ are a method of procuring defence equipment rapidly to respond to an unforeseen threat or mission critical operational risk that cannot be met through an in-service capability.¹⁴⁶ UCRs circumvent the usual procurement process and have a greater focus on time and performance. UCRs were used by the UK Armed Forces during the Falklands war, and also extensively in the campaigns in Afghanistan and Iraq.¹⁴⁷

143 General Sir Richard Barrons ([DES0039](#))

144 [Q39](#)

145 UCRs used to be called 'Urgent Operational Requirements (UORs)'. Many of our witnesses used the outdated phrase. We treat the phrases UCRs and UORs interchangeably.

146 Gov.uk, [DSPCR Chapter 9: procuring Urgent Capability Requirements \(UCRs\)](#), March 2023

147 [Q11](#)

130. As one example, during the Falklands war (Operation Corporate), now over four decades ago, the MoD and industry created an Airborne Early Warning (AEW) capability for the Naval Task Force by integrating an AEW radar onto a Sea King helicopter and fielding it, as a UOR, in 13 weeks from inception.¹⁴⁸ Four decades on, its effective replacement, Lockheed Martin's 'Crowsnest' programme (to integrate an AEW radar onto a Merlin helicopter) has taken over seven years and more than £400 million and has still not achieved IOC.¹⁴⁹

131. More recently, during Operation Herrick in Afghanistan, given the vulnerabilities of the Army's 'snatch land rovers', DE&S, again working with industry, rapidly procured a number of better protected vehicles such as Mastiff and Foxhound and fielded them in a matter of months.¹⁵⁰

132. ACM Stephen Hillier told us that his experience of UCRs "is simply positive".¹⁵¹ He also pointed out the "irony" that the process itself is executed by the same people who execute the standard procurement process—the difference being that the incentive is time.¹⁵² Professor John Louth is "a huge fan" of UCR methodologies. He also pointed out that UCRs benefit from purchasing mature existing capability as opposed to a programme of research and development, prototyping, and testing.¹⁵³

133. **The current procurement system does not place sufficient emphasis on the value of time. Indeed, as the Permanent Under Secretary (PUS) himself said in summarising the problems with the system: "we should place more value on time and less on money, so [on] the pace of decision-making and pace of delivery."**¹⁵⁴ We strongly concur with PUS' emphasis on the value of time.

134. *The Ministry of Defence must develop a much greater sense of urgency in its procurement methodologies. At present, the system is far too ponderous and bureaucratic. There must be a much greater emphasis and value on time. The Ministry of Defence should make greater use of the Urgent Capability Requirements (UCR) method in getting the UK Armed Forces prepared for the immediate future and potential near-term conflicts with peer adversaries.*

135. *The Ministry of Defence, the Front Line Commands—and DE&S in particular—should adopt a 'UCR mindset' which seeks to deliver equipment with much less bureaucracy in a far timelier manner and with a greater emphasis on early operational benefit.*

136. *In the longer term, the Ministry of Defence and DE&S should also review whether the standard processes avoided by use of the UCR method could be removed altogether from all defence procurements.*

148 UK Defence Forum, [Sea King Helicopter \(RN & RAF\)](#);

149 [PQ 182511](#); [PQ 182508](#)

150 Reuters, [Iraq, Afghanistan spur UK industry change-minister](#), February 2007; Ministry of Defence, [£400m equipment package for troops in Afghanistan announced](#), December 2011

151 [Q83](#)

152 [Q83](#)

153 [Q14](#)

154 [Q248](#)

Budgets and affordability

137. Affordability plagues defence procurement. As the Public Accounts Committee (PAC) has noted, the MoD have frequently relied on “over-optimistic assumptions about the cost of programmes”. The PAC also found a deficit of £2.6 billion over the first seven years of the 2022–23 Equipment Plan.¹⁵⁵ As part of the Levene reforms, the Front Line Commands were given greater responsibility for their own budgets, including equipment purchases. Sir Bernard Gray told us that there is no sanction if a Front Line Command overspends, leading to ineffective accountability (and a process of ‘robbing Peter to pay Paul’).¹⁵⁶

138. Part of the issue stems from the lack of a long-term budget. Sir Bernard Gray pointed to the French DGA which has a multiple year budget, by law. Through this, he argued, the DGA can effectively compel its Front Line Commands to stick to the budget, as it has been legislated for.¹⁵⁷

139. The problem of overspending is almost encouraged by the lack of will to cancel a programme. As referred to in paragraph 23, the Front Line Commands often commit to future spending beyond their budget and expect to receive the necessary uplift in due course. Francis Tusa put it starkly in saying that the Front Line Commands behave irresponsibly:

Again, it is done on the basis of, “Do not worry. Once the Secretary of State has stood up in the House and said, ‘We are buying this’, he ain’t going to cancel it”. This attitude is prevalent. The Levene reforms were to make the services behave responsibly. They cannot.¹⁵⁸

Annuality

140. Throughout our inquiry we consistently heard about the challenges that ‘annuality’ posed. Annuality refers to the difficulties created by having to work in tight one-year funding cycles. The essence of the issue is that most defence procurement programmes take multiple years. Some of those years may require more capital expenditure than others. ACM Stephen Hillier told us more about the challenge this presents:

These really big programmes might last for 10 years, and if every single year you have to land the budget on the sixpence of what you forecast at the beginning of the year, or otherwise lose the money, that is really difficult and it is not an efficient way to do business. Clearly there needs to be control—you can’t just say, “In the next 10 years, do what you wish,” because that wouldn’t be sensible either. If we can set some sort of margin so that projects can manage on a multi-year basis, that would help a lot. It would ensure that DE&S, which has great people doing a really important job, is not consumed by looking at the money all the time and working out whether by 31 March it can get it down to a certain amount because another year starts on 1 April.¹⁵⁹

155 Public Accounts Committee, [MoD Equipment Plan 2022–2023](#), Forty-Eighth Report of Session 2022–23, HC 731

156 [Q32](#)

157 [Q33](#)

158 [Q133](#)

159 [Q79](#)

A similar sentiment was expressed by industry. Paul Livingston, CEO of Lockheed Martin UK, told us that industry would not ask its programme managers to divide up a budget equally across multiple years.¹⁶⁰

141. The fixation on short-term budgets also leads to ill-founded decisions in the name of budgeting. Restricted cash flow can lead to programmes being intentionally slowed down and extended over more years than necessary. This comes at a cost. Sir Bernard Gray pointed to a specific example. In 2008, just six months into the contract, the production of the UK's aircraft carriers was slowed down by two years. This led to the programme cost rising from £3.7 billion to £5.2 billion, “simply as a result of that decision to throttle back cash flow”.¹⁶¹

142. **The funding cycle and a lack of a fixed long-term budget exacerbates many of the issues that already exist. Programmes are often delayed (or ‘slipped to the right’ in Ministry of Defence parlance) in order to spread out the cost. However, this is frequently short-sighted as it generally leads to greater overall costs. This goes hand in hand with the issues posed by annuality. *The Ministry of Defence should ensure that it is using the funding flexibilities offered by HM Treasury to the full extent necessary, such as through Budget Exchange mechanisms. If this remains insufficient, it should explore with Treasury what additional flexibilities may be permitted to ensure that major procurement programmes can be managed much more efficiently in the future. In short, the obsession with annuality has to change.***

143. **The Ministry of Defence must stop rewarding failure. On too many occasions, industry have been able to delay programmes with no financial sanctions. There is a reluctance from every part of the procurement system to cancel a failing programme. This also allows the Front Line Commands to spend irresponsibly and for industry to increase their profits, through multiple change orders. *The Ministry of Defence should take, if necessary, a more robust attitude towards its contractors if programmes get into serious difficulty. Allied to this, Ministers should be prepared to cancel programmes that are obviously failing, rather than exercising constant ‘optimism bias’ to the detriment of the UK taxpayer.***

Senior Responsible Owners (SROs)

144. The Senior Responsible Owner (SRO) is the individual who is responsible for ensuring that a programme or project meets its objectives and delivers the projected benefits. The SRO of a major programme or project is accountable to the Permanent Secretary as accounting officer and to Parliament.¹⁶² At present, the SRO sits within the Front Line Command that is acquiring the equipment. In theory, the SRO and DE&S work closely during a programme's lifetime. However, in reality there are sometimes tensions between the SRO and DE&S. In his forensic review of the Ajax programme, Clive Sheldon KC tellingly observed:

the two SROs during the period with which the Review is concerned had limited time to devote to the equipment DLOD [Defence Line of Development] given their extensive other responsibilities; they had

160 [Q93](#)

161 [Q31](#)

162 [Osmotherly rules](#), page 9

few (if any) levers of influence; and their involvement and input were not really welcomed by the delivery agent DE&S, as DE&S believed it was solely their responsibility to deliver the equipment. The SRO during the period 2019- 2021 explained that, in reality, he only had the “power of personality” or needing to escalate, all the way to the Defence Board if necessary, on each occasion where DE&S formed a different view to the SRO. He told the Review that this created relationship tensions, and ultimately inhibited collaborative behaviour.¹⁶³

The problems described by Mr Sheldon are by no means unique to Ajax. The description of an SRO with no formal levers of power is one that could extend to other SROs and programmes, including in other Services.

145. The tensions between the SRO and DE&S were starkly laid bare as Mr Sheldon described how “significant concerns and issues were discussed and decided within the DE&S chain of command without input from the SRO”.¹⁶⁴ DE&S did not include the SRO in “key senior meetings” with General Dynamics Land Systems UK (GDLS-UK). DE&S were also found to have engaged in “an important exchange of letters between the CEO DE&S and CEO GD Corporation” that were copied to others, but not the SRO of the programme. The SRO of the Ajax programme said that DE&S did not take the issue of SROs seriously.¹⁶⁵ Mr Sheldon’s review also considered whether the SRO should sit within DE&S or the Front Line Command, but concluded in favour of the latter.

146. Mr Sheldon also mentioned that SROs had “limited time” given their other responsibilities and recommended improving the resources given to the SRO. The Ajax programme had a number of SROs: five since November 2011.¹⁶⁶ The NAO noted that this turnover was because the Army has a policy of regularly rotating posts.¹⁶⁷

147. The Sheldon Review also heard evidence that the role of the SRO and their limitations were “misappreciated”.¹⁶⁸ For instance, in our own evidence we heard that there were issues within the Army of how procurement roles were viewed. Francis Tusa told us:

One problem I have seen, especially with the Army, over the last 25 years, is, once you have done two procurement jobs, you are generally regarded as having left the warrior race. You are no longer a warrior. You are a hat, in para parlance. There is this thing of, “I do not want to be doing procurement because my promotion will end”.¹⁶⁹

Evidently, the culture described by Mr Tusa would not be conducive in producing effective SROs within the Front Line Commands.

163 Ministry of Defence, [Report of the Armoured Cavalry Programme \(Ajax\) Lessons Learned Review](#), 19 May 2023, paragraph 7.6.2

164 Ministry of Defence, [Report of the Armoured Cavalry Programme \(Ajax\) Lessons Learned Review](#), 19 May 2023, paragraph 7.6.3

165 Ministry of Defence, [Report of the Armoured Cavalry Programme \(Ajax\) Lessons Learned Review](#), 19 May 2023, paragraph 7.6.3 - 7.6.5

166 National Audit Office, [The Ajax Programme](#), March 2022

167 National Audit Office, [The Ajax Programme](#), March 2022

168 Ministry of Defence, [Report of the Armoured Cavalry Programme \(Ajax\) Lessons Learned Review](#), 19 May 2023, paragraph 7.6.7

169 [Q147](#)

148. Also on this topic, Brigadier Simon Goldstein, a retired senior reservist with familiarity of the weaknesses in Army procurement, highlighted to us in written evidence, work undertaken by the PAC in their 2021 report on the MoD Equipment Plan, on the “tour lengths” for SROs:

CEO's change every 3–4 years. At SRO level the median time in post was 22 months against median programme time of 77 months. Comment is also made in the same report of the short duration of tours leading to new individuals in post taking time to come up to speed. This wastes time and leads to a lack of corporate memory, and makes any holding to account of individual performance on the programme almost impossible.¹⁷⁰

149. Accountability and responsibility are not aligned. As Clive Sheldon KC noted, the Senior Responsible Owner (SRO) for a programme often lacks the levers to take or even influence decisions for which they are accountable. It is right that the SRO sits within the Front Line Command due to the multifaceted nature of integrating new equipment. However, *SROs should be given significantly more powers to affect change within a programme, including greater budgetary and commercial control over their DE&S counterparts.*

150. Senior Responsible Owners (SROs) are a critical part of a successful programme. Their knowledge of a programme and the relationships they build theoretically enable issues to be resolved sooner and more effectively. Crucially, via their formal letters of appointment, SROs are accountable to Parliament, including its specialist Committees, such as Defence and Public Accounts, for the successful delivery of the programme in their charge. However, the turnover and frequent ‘multiple hatting’ of SROs can negatively impacts their programmes. *The Ministry of Defence should endeavour to keep SROs in post for a minimum of five years to ensure continuity. Whilst it may not be possible to mandate the length of the position, the Ministry of Defence should provide incentives to reward length of service e.g. through remuneration packages and subsequent promotion. The Ministry of Defence should also ensure that SROs for category A programmes (i.e. those over £400 million) should have 100% of their time doing that specific job, as opposed to balancing a number of programmes or other roles in one appointment.*

151. *In addition, in order to better align accountability (including to Parliament) with responsibility, SROs, who are often at one or two star level, should be able to exercise direct access to the CEO of DE&S (and if necessary to the Minister for Defence Procurement) in the event of a programme for which they are responsible experiencing serious difficulties, which they are unable to resolve on their own.*

152. Procurement is seen as a step down within many of the Services. Leaving to work in ‘Main Building’ or ‘Head Office’ is seen to be leaving the ‘warrior race’. *The Ministry of Defence should develop a professional career path within the military that enables Officers to specialise in procurement, as a dedicated cadre, at a much earlier stage of their career. If the Ministry of Defence is unable to ensure that military personnel are forthcoming to take on SRO roles, it should consider the greater use of civilian SROs in the long term.*

170 Mr Simon GOLDSTEIN (Retired at British Army) ([DE50007](#))

153. In furthering clear accountability, the CEO of DE&S should become the accounting officer to Parliament for the overall budget for procuring and maintaining equipment. This responsibility currently sits with the MoD Permanent Secretary, who should remain accounting officer for all other matters.

154. In a reversion to past practice, the CEO of DE&S (who would now be responsible for spending approximately half of the Department's budget) should again be given a seat on the Defence Board, chaired by the Secretary of State.

Conclusions and recommendations

'A broken system'

1. The Ministry of Defence must finally admit, once and for all, that there is a real problem across UK defence procurement: the current system is indeed broken and multiple, successive reviews have not yet fixed it. With a major war now under way in Ukraine, now is the time to act. (Paragraph 33)

Case Studies

2. *We agree with Clive Sheldon KC that all personnel working on a programme should escalate safety concerns where there are 'seeds of doubt' about a matter, even if not fully evidenced, but would go further. We recommend that the Army's safety system should now be subject to a rigorous overhaul, incorporating the detailed lessons already learned and evidenced within the Sheldon Review, with the aim of redesigning the Army's safety system in a timely manner, into one which is genuinely fit for purpose in the 21st century.* (Paragraph 60)

Key problems within DE&S

3. The culture within the Ministry of Defence, Defence Equipment and Support (DE&S), and the Front Line Commands is often one of misplaced optimism when assessing project cost and schedule. The current standard confidence measure used throughout DE&S is P50, meaning that an estimate of cost or schedule is as equally likely to be wrong as it is right. *DE&S should move from P50 confidence measures to P75, thereby ensuring much greater realism in project forecasting, at all levels.* (Paragraph 90)
4. By increasing P50 to P75, the procurement system would switch to estimates which are three times less likely to be exceeded than not—as opposed to equally likely to be exceeded as not, at present. (Paragraph 91)
5. *It would however be iniquitous to impose this much greater discipline in forecasting for equipment procurement just on DE&S. The new P75 benchmark for both cost and schedule estimates should also be extended across the wider procurement system, including the Front Line Commands (FLCs); the Joint Requirements Oversight Committee (JROC); the Investment Approvals Committee (IAC); and the Performance Management Reporting System (PMRS) which provides regular briefings to Ministers.* (Paragraph 92)
6. DE&S does not allocate enough resource to legal and commercial talent. DE&S should have a greater appetite for, and access to, use of external specialist contract lawyers to support its work. We believe this would be money well spent to ensure that costly programmes (especially category A programmes) do not experience costly contractual disputes later in their life, to the taxpayer's disadvantage. (Paragraph 96)

Wider problems beyond DE&S

7. There is a need for greater continuity in the critical portfolio of Minister for Defence Procurement (MinDP) who is now in day to day charge of an equipment budget totalling almost a quarter of a trillion pounds of UK taxpayer's money. Politicians need to play their part in reforming our procurement system and therefore we should address the longevity of this appointment. *Given the very high importance of the role, the Prime Minister, who is ultimately responsible for Ministerial appointments, should be strongly encouraged to promote greater stability in the procurement system, with MinDP in future serving for at least the bulk of a Parliament.* (Paragraph 102)
8. Procurement is a highly specialised and complex subject, which requires expert scrutiny, including from Parliamentarians. Unlike in the United States, UK Parliamentary Committees do not have “line item power” to alter individual aspects of the Defence budget, including on procurement programmes, which makes their remaining scrutiny function arguably even more important. *Given that equipment purchasing and support now accounts for almost half of the entire defence budget, our main Committee now intends to hold at least two formal ‘Acquisition hearings’ each year, to scrutinise major procurement programmes in detail and the Ministry of Defence should provide access to all relevant information (if necessary at a classified level) in order to facilitate this.* (Paragraph 103)
9. The Ministry of Defence's relationship with industry leaves much to be desired. *The Ministry of Defence and DE&S should engage in more consistent dialogue with industry. This should include a formalised pre-procurement stage (at appropriate classification levels) regarding future requirements and their feasibility.* (Paragraph 111)
10. There is a lack of skills in key areas. Delays from the industry side are often due to a shortage of skilled workers. *The Ministry of Defence should put forward a plan on how it intends to help develop and foster the defence workforce over the next 10 years, including what plans it has to increase the availability and uptake of apprenticeships within the defence industry.* (Paragraph 112)
11. *The Ministry of Defence and the Treasury should provide a much clearer definition of ‘social value’ in defence contracting and specify to bidders how these criteria will be applied in procurement competitions.* (Paragraph 113)
12. ‘Exquisite procurement’ is the enemy of speed and time. Over-specifying a piece of equipment creates delays and budget pressures. Exquisite procurement also generally leads to greater cost and therefore less mass. For the most part, exquisite procurement should be avoided. Instead, *The Front Line Commands and DE&S should aim for a ‘spiral development’ model as a default. This should be enforced through the Joint Requirements Oversight Committee, the Investment Approvals Committee, and ultimately, Ministers.* (Paragraph 127)
13. *Key trade offs between capability, cost, time, and technical complexity should be made much earlier in the procurement process, when requirements are initially being set. As in the French system, DE&S should be involved at the outset of formulating requirements and disputes should be resolved, if necessary, by Ministers.* (Paragraph 128)

14. The current procurement system does not place sufficient emphasis on the value of time. Indeed, as the Permanent Under Secretary (PUS) himself said in summarising the problems with the system: “we should place more value on time and less on money, so [on] the pace of decision-making and pace of delivery.” We strongly concur with PUS’ emphasis on the value of time. (Paragraph 133)
15. *The Ministry of Defence must develop a much greater sense of urgency in its procurement methodologies. At present, the system is far too ponderous and bureaucratic. There must be a much greater emphasis and value on time. The Ministry of Defence should make greater use of the Urgent Capability Requirements (UCR) method in getting the UK Armed Forces prepared for the immediate future and potential near-term conflicts with peer adversaries.* (Paragraph 134)
16. *The Ministry of Defence, the Front Line Commands—and DE&S in particular—should adopt a ‘UCR mindset’ which seeks to deliver equipment with much less bureaucracy in a far timelier manner and with a greater emphasis on early operational benefit.* (Paragraph 135)
17. *In the longer term, the Ministry of Defence and DE&S should also review whether the standard processes avoided by use of the UCR method could be removed altogether from all defence procurements.* (Paragraph 136)
18. The funding cycle and a lack of a fixed long-term budget exacerbates many of the issues that already exist. Programmes are often delayed (or ‘slipped to the right’ in Ministry of Defence parlance) in order to spread out the cost. However, this is frequently short-sighted as it generally leads to greater overall costs. This goes hand in hand with the issues posed by annuality. *The Ministry of Defence should ensure that it is using the funding flexibilities offered by HM Treasury to the full extent necessary, such as through Budget Exchange mechanisms. If this remains insufficient, it should explore with Treasury what additional flexibilities may be permitted to ensure that major procurement programmes can be managed much more efficiently in the future. In short, the obsession with annuality has to change.* (Paragraph 142)
19. The Ministry of Defence must stop rewarding failure. On too many occasions, industry have been able to delay programmes with no financial sanctions. There is a reluctance from every part of the procurement system to cancel a failing programme. This also allows the Front Line Commands to spend irresponsibly and for industry to increase their profits, through multiple change orders. *The Ministry of Defence should take, if necessary, a more robust attitude towards its contractors if programmes get into serious difficulty. Allied to this, Ministers should be prepared to cancel programmes that are obviously failing, rather than exercising constant ‘optimism bias’ to the detriment of the UK taxpayer.* (Paragraph 143)
20. Accountability and responsibility are not aligned. As Clive Sheldon KC noted, the Senior Responsible Owner (SRO) for a programme often lacks the levers to take or even influence decisions for which they are accountable. It is right that the SRO sits within the Front Line Command due to the multifaceted nature of integrating new equipment. However, *SROs should be given significantly more powers to affect change within a programme, including greater budgetary and commercial control over their DE&S counterparts.* (Paragraph 149)

21. Senior Responsible Owners (SROs) are a critical part of a successful programme. Their knowledge of a programme and the relationships they build theoretically enable issues to be resolved sooner and more effectively. Crucially, via their formal letters of appointment, SROs are accountable to Parliament, including its specialist Committees, such as Defence and Public Accounts, for the successful delivery of the programme in their charge. However, the turnover and frequent 'multiple hatting' of SROs can negatively impacts their programmes. *The Ministry of Defence should endeavour to keep SROs in post for a minimum of five years to ensure continuity. Whilst it may not be possible to mandate the length of the position, the Ministry of Defence should provide incentives to reward length of service e.g. through remuneration packages and subsequent promotion. The Ministry of Defence should also ensure that SROs for category A programmes (i.e. those over £400 million) should have 100% of their time doing that specific job, as opposed to balancing a number of programmes or other roles in one appointment.* (Paragraph 150)
22. *In addition, in order to better align accountability (including to Parliament) with responsibility, SROs, who are often at one or two star level, should be able to exercise direct access to the CEO of DE&S (and if necessary to the Minister for Defence Procurement) in the event of a programme for which they are responsible experiencing serious difficulties, which they are unable to resolve on their own.* (Paragraph 151)
23. Procurement is seen as a step down within many of the Services. Leaving to work in 'Main Building' or 'Head Office' is seen to be leaving the 'warrior race'. *The Ministry of Defence should develop a professional career path within the military that enables Officers to specialise in procurement, as a dedicated cadre, at a much earlier stage of their career. If the Ministry of Defence is unable to ensure that military personnel are forthcoming to take on SRO roles, it should consider the greater use of civilian SROs in the long term.* (Paragraph 152)
24. *In furthering clear accountability, the CEO of DE&S should become the accounting officer to Parliament for the overall budget for procuring and maintaining equipment. This responsibility currently sits with the MoD Permanent Secretary, who should remain accounting officer for all other matters.* (Paragraph 153)
25. *In a reversion to past practice, the CEO of DE&S (who would now be responsible for spending approximately half of the Department's budget) should again be given a seat on the Defence Board, chaired by the Secretary of State.* (Paragraph 154)

Annex 1: Defence procurement and related reviews

Below is a list of 16 reviews, reports or strategies that have, in some way, shaped UK defence procurement since 1988.

- 1988: [Learning from experience: a report on the arrangements for managing major projects in the Procurement Executive](#)
- July 1990: [Options for Change defence review](#)
- February 1998: [Transforming the UK's Defence Procurement System](#) by McKinsey
- July 1998: [Strategic Defence Review](#)
- October 2009: [Review of Acquisition for the Secretary of State for Defence](#) by Bernard Gray
- February 2010: [The Defence Strategy for Acquisition Reform](#)
- October 2010: [Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review](#)
- May 2011: [Defence Materiel Strategy](#)
- June 2011: [Defence Reform: An independent report into the structure and management of the Ministry of Defence](#) by Lord Peter Levene
- November 2015: [Strategic Defence and Security Review](#)
- December 2017: [Industry for Defence and Prosperous Britain: Refreshing Defence Industrial Policy](#)
- July 2018: [Growing the contribution of defence to UK prosperity](#) by Philip Dunne MP (former Minister for Defence Procurement)
- March 2021: [Global Britain in a Competitive Age, the Integrated Review of Security, Defence, Development and Foreign Policy](#);
- March 2021: [Defence in a Competitive Age](#);
- March 2021: [Defence and Security Industrial Strategy](#)
- March 2023: [Integrated Review Refresh 2023: Responding to a more contested and volatile world](#)

N.B the updated 'refresh' of the March 2021 Defence Command Paper (Defence in a Competitive Age) was expected imminently as this Report went to press.

Annex 2: MoD Ministers for Defence Procurement from 2016 to present

Minister	Entered Office	Left office
Harriett Baldwin MP	18th July 2016	9th January 2018
Guto Bebb MP	9th January 2018	16th July 2018
Rt Hon Stuart Andrew MP	19th July 2018	27th July 2019
Rt Hon Anne-Marie Trevelyan MP	27th July 2019	16th December 2019
Rt Hon James Heappey MP	16th December 2019	13th February 2020
Rt Hon Jeremy Quin MP	13th February 2020	7th September 2022
Rt Hon Alec Shelbrooke MP	7th September 2022	26th October 2022
Rt Hon Alex Chalk MP	27th October 2022	21st April 2023
James Cartlidge MP	21st April 2023	Incumbent ¹⁷¹

Annex 3:

"If you had one key suggestion ..."

1) At the end of each of our oral evidence sessions, we asked every witness before us the same final question, which was:

"If you each had one key suggestion to materially improve defence procurement in the UK, what would that be?"

The table below sets out a summary of the responses we received to this question from each of our 15 witnesses.

Witness	'One key suggestion'
Professor John Louth, Independent author and defence analyst	"I would make the case for really fluid UORs and system requirements from now on."
Professor Matt Uttley, Chair of Defence Studies, King's College London	"The need for more comprehensive institutional learning, and the application of lessons at all levels."
Lucia Retter, Research Lead, RAND Europe	"If there were a more constructive relationship with industry, a lot of the challenges that we face within the defence acquisition process could be tackled more effectively."
Sir Bernard Gray, former Chief of Defence Materiel and author of Review of Acquisition.	"Balance the budget ... the cost of indiscipline is less equipment for our dollar to the frontline."
Air Chief Marshal (retired) Sir Stephen Hillier, former Chief of the Air Staff, Ministry of Defence	"Value time far more than you do at the moment"
Sir Mark Poffley, former Deputy Chief of the Defence Staff (Financial and Military Capability), MoD	"I would apply a philosophy that centred around no unnecessary specification and that produced boundaries, both in specification and fiscal terms."
Paul Livingston, Chief Executive, Lockheed Martin UK	"Move from a culture that celebrates risk avoidance to one that celebrates balanced risk taking."
Herman Claesen, Managing Director of Future Combat Air Systems, BAE Systems plc	"A coherent and integrated defence policy and strategy that is strongly connected to, or flows down into, an industrial base"

Lord Levene, author, Defence Reform 2011	"Make sure that everybody has very good commercial experience."
Francis Tusa, Editor, Defence Analysis	"There needs to be a centralised equivalent of the Cost Assurance and Analysis Service... thus, we need to have a body capable and empowered to take the tough choices."
Robert Clark, Director, Defence and Security, Civitas	"I would say staffing, for example, the average acquisition programme goes through four SROs, and since September, we have had four Procurement Ministers."
Dominic Nicholls, Associate Editor (Defence), The Telegraph.	"It would be annualisation. We need to have a sensible conversation with the Treasury about in-year money."
David Williams, Permanent Secretary, Ministry of Defence	"We should place more value on time and less on money, [so] the pace of decision-making and pace of delivery."
Andy Start, CEO, Defence Equipment and Support, Ministry of Defence	"To execute the operating model reforms that the Permanent Secretary has talked about."
James Cartlidge MP, Minister for Defence Procurement	"Exportability is intrinsic, along with technology, in ensuring we stay ahead of the game. Exportability must be intrinsic because it brings other disciplines."

Formal minutes

Tuesday 11 July 2023

Members present

John Spellar, in the Chair

Sarah Atherton

Robert Courts

Dave Doogan

Richard Drax

Mark Francois

Emma Lewell-Buck

Gavin Robinson

John Spellar took the Chair, in accordance with the Resolution of 5 March 2020.

Defence Equipment and Support

Draft Report (*It is broke – and it's time to fix it: the UK's defence procurement system*), proposed by the Chair, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 154 read and agreed to.

Annexes and Summary agreed to.

Resolved, That the Report be the Ninth Report of the Committee to the House.

Ordered, That the Chair make the Report to the House.

Ordered, That embargoed copies of the Report be made available (Standing Order No. 134).

Adjournment

Adjourned till Tuesday 5 September 2023 at 2.00pm.

Witnesses

The following witnesses gave evidence. Transcripts can be viewed on the [inquiry publications page](#) of the Committee's website.

Wednesday 17 May 2023

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

[Q1–26](#)

Sir **Bernard Gray**, former Chief of Defence Materiel and author of Defence Reform [Q26–52](#)

Wednesday 07 June 2023

Air Chief Marshal (ret'd) Sir **Stephen Hillier**, Former Chief of the Air Staff, Ministry of Defence; Lt. Gen (ret'd) Sir **Mark Poffley**, Former deputy Chief of the Defence Staff (Financial and Military Capability), Ministry of Defence

[Q53–87](#)

Herman Claesen, Managing Director Future Combat Air System, BAE Systems plc; **Paul Livingston**, Chief Executive, Lockheed Martin UK

[Q88–118](#)

Lord **Peter Levene**, Author, Defence Reform 2011

[Q119–131](#)

Wednesday 21 June 2023

Francis Tusa, Editor, Defence Analysis; **Robert Clark**, Director of Defence & Security, Civitas; **Dominic Nicholls**, Associate Editor (defence), The Telegraph

[Q132–162](#)

James Cartlidge MP, Minister for Defence Procurement; **Andy Start**, CEO, DE&S, Ministry of Defence; **David Williams**, Permanent Secretary, Ministry of Defence

[Q163–248](#)

Published written evidence

The following written evidence was received and can be viewed on the [inquiry publications page](#) of the Committee's website.

DES numbers are generated by the evidence processing system and so may not be complete.

- 1 ADS ([DES0021](#))
- 2 Anonymised ([DES0017](#))
- 3 Anonymised ([DES0003](#))
- 4 Arnold-Forster, Mr Josh (Political consultant, n/a) ([DES0025](#))
- 5 BAE Systems plc ([DES0035](#))
- 6 Barrons, General Sir Richard ([DES0039](#))
- 7 Blackwell, Mr Alan (Director, ABAL Insight Ltd) ([DES0005](#))
- 8 C, Mr David ([DES0006](#))
- 9 CMS Strategic ([DES0038](#))
- 10 Clark, Andre ([DES0002](#))
- 11 Edwards, Mr Ralph (Photo/Journalist, Self-employed) ([DES0009](#))
- 12 Goldstein, Mr Simon (Retired, British Army) ([DES0007](#))
- 13 Jackson, Simon (Owner and Founder, Simon Jackson Consulting) ([DES0008](#))
- 14 Kirkpatrick, Professor David; and Holder, Mr Ian ([DES0041](#))
- 15 Levene, Lord Peter ([DES0033](#))
- 16 Lockheed Martin UK ([DES0022](#))
- 17 London, Mr James (Retired Army Officer, n/a) ([DES0019](#))
- 18 Make UK Defence ([DES0032](#))
- 19 Ministry of Defence ([DES0034](#), [DES0042](#))
- 20 Molineux, Mr Richard (Retired: created and ran Fundraising Consultancy for non-profits, n/a) ([DES0004](#))
- 21 Orwell, Mr Stephen ([DES0028](#))
- 22 Patel, Jag ([DES0001](#))
- 23 Prospect ([DES0036](#), [DES0037](#))
- 24 Redstone Risk Ltd ([DES0026](#))
- 25 Samuel, Mr Christopher (Retired, Member of Defence Synergia.) ([DES0016](#))
- 26 Samuel, Mr Christopher ([DES0040](#))
- 27 Society of Maritime Industries ([DES0011](#))
- 28 TECHSEARCH ([DES0024](#))
- 29 Taylor, Professor Trevor (Director, Defence, Industries and Society Programme, Royal United Services Institute) ([DES0018](#))
- 30 Veterans for Britain ([DES0013](#))
- 31 Vidal, Mr Michael ([DES0030](#))

List of Reports from the Committee during the current Parliament

All publications from the Committee are available on the [publications page](#) of the Committee's website.

Session 2022–23

Number	Title	Reference
1st	The Treatment of Contracted Staff for The MoD's Ancillary Services	HC 187
2nd	The Integrated Review, Defence in a Competitive Age and the Defence and Security Industrial Strategy	HC 180
3rd	Defence Space: through adversity to the stars?	HC 182
4th	Developments in UK Strategic Export Controls	HC 282
5th	Withdrawal from Afghanistan	HC 725
6th	Special Relationships? US, UK and NATO	HC 184
7th	Defence Diplomacy: A softer side of UK Defence	HC 792
1st Special	Operation Isotrope: the use of the military to counter migrant crossings: Government response to the Committee's fourth report of Session 2021–22	HC 267
2nd Special	The Treatment of Contracted Staff for the MOD's Ancillary Services: Government Response to the Committee's First Report	HC 702
3rd Special	The Integrated Review, Defence in a Competitive Age and the Defence and Security Industrial Strategy: Government Response to the Committee's Second Report	HC 865
4th Special	Defence Space: through adversity to the stars? Government Response to the Committee's Third Report	HC 1031
5th Special	Withdrawal from Afghanistan: Government Reponse to the Committee's Fifth Report	HC 1316

Session 2021–22

Number	Title	Reference
1st	Russia and Ukraine border tensions	HC 167
2nd	Women in the Armed Forces	HC 154
3rd	"We're going to need a bigger Navy"	HC 168
4th	Operation Isotrope: the use of the military to counter migrant crossings	HC 1069
1st Special	Obsolescent and outgunned: the British Army's armoured vehicle capability: Government Response to the Committee's Fifth Report of Session 2019–21	HC 221

Number	Title	Reference
2nd Special	Manpower or mindset: Defence's contribution to the UK's pandemic response: Government Response to the Committee's Sixth Report of Session 2019–21	HC 552
3rd Special	Russia and Ukraine border tensions: Government Response to the Committee's First Report	HC 725
4th Special	Protecting those who protect us: Women in the Armed Forces from Recruitment to Civilian Life: Government Response to the Committee's Second Report	HC 904
5th Special	"We're going to need a bigger Navy": Government Response to the Committee's Third Report	HC 1160

Session 2019–21

Number	Title	Reference
1st	In Search of Strategy—The 2020 Integrated Review	HC 165
2nd	The Security of 5G	HC 201
3rd	Pre-appointment hearing for the Service Complaints Ombudsman	HC 989
4th	Foreign Involvement in the Defence Supply Chain	HC 699
5th	Obsolescent and outgunned: the British Army's armoured vehicle capability	HC 659
6th	Manpower or mindset: Defence's contribution to the UK's pandemic response	HC 357
1st Special	Armed Forces Covenant Annual Report 2018: Government Response to the Committee's Eighteenth Report of Session 2017–19	HC 162
2nd Special	Drawing a Line: Protecting Veterans by a Statute of Limitations: Government Response to the Defence Committee's Seventeenth Report of Session 2017–19	HC 325
3rd Special	In Search of Strategy—The 2020 Integrated Review: Government Response to the Committee's First Report	HC 910
4th Special	The Security of 5G: Government Response to the Committee's Second Report	HC 1091
5th Special	Foreign Involvement in the Defence Supply Chain: Government Response to the Committee's Fourth Report	HC 1380