National Audit Office

# Improving the performance of major equipment contracts

Ministry of Defence

REPORT

by the Comptroller and Auditor General

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# Key facts

**20**

number of defence equipment programmes considered in this report, 19 of which are in the Government Major Projects Portfolio

**£120.3bn**

whole-life cost of the major equipment programmes we examined, as at March 2021 (excluding the Future Combat Air System Technology Initiative and Warrior armoured vehicle)

**19**

number of strategic suppliers to the Ministry of Defence (the Department), not all of which directly supply military equipment

## Across the projects and programmes we examined, as at March 2021:

| | |
|---|---|
| **8 out of 19** | number of programmes where senior responsible owners (SROs) rated programme delivery confidence as 'amber/red' or 'red' |
| **254 months** | cumulative forecast net delays, across 13 programmes, in achieving entry into service since going on contract |
| **77 vs 22 months** | median running time for the projects and programmes, compared with the median time in post for an SRO |
| **14 out of 19** | programmes being procured wholly or partly without competition, only four of which are using this route because of government requirements for manufacture in the UK |
| **58% and 79%** | proportion of people working on the Department's Morpheus project and New Style of IT (Deployed) programme teams respectively who are temporary contractors |

| | |
|---|---|
| **Around £790 million** | the Department's estimate of the monetised benefits that it could deliver if its Strategic Partnering Programme and Category Management programmes are successful |

# Summary

**1** The Ministry of Defence (the Department) is responsible for some of the most technically complex, risky and costly procurement programmes in government. It has the largest number of programmes in the Government Major Projects Portfolio, with a total budgeted whole-life cost of £162.6 billion in 2019-20. In that year, it paid some 44% of its £26.6 billion procurement expenditure to 10 major providers, nine of which are involved directly in the supply of military equipment.[1] Due to the Department's complex requirements for its major equipment programmes, it relies on a limited specialist supplier base to meet its needs. Equipment programmes place high demands on the technical skills of both departmental and supplier staff. They also require a high level of expertise in commercial negotiation, and programme and contract management.

**2** Responsibility for managing and delivering defence programmes and contracts is shared between the Commands (Army, Navy, Air and Strategic Command), the Department's Head Office, and its delivery agents – these include Defence Equipment & Support (DE&S) and Defence Digital. Teams within the Commands are accountable for delivery of the programmes. Scrutiny teams in the Commands and the Department's Head Office provide assurance on programme teams' business cases, such as the commercial and financial cases. The delivery agents (most often DE&S) lead on commercial negotiations and day-to-day relationships with suppliers and are accountable for delivery of equipment to the programme.

## Strategic context

**3** In March 2021, the government published its *Integrated Review of Security, Defence, Development and Foreign Policy*, a defence command paper, and the *Defence and Security Industrial Strategy*. The command paper set out the ambition to build a more strategic relationship with industry and a more sustainable industrial base, by providing greater certainty about future workflow. The Department stated that competition will no longer be the "default" position and put a new emphasis on delivering with UK-based skills, technologies and capabilities. This stance sits alongside recent changes to government guidance that now encourages departments to think more broadly about the "social value" that can be generated from departmental interventions, such as defence equipment programmes. In recent years, the Department has been reforming its approach to equipment acquisition, management and oversight of programmes, and developing its staff to tackle ongoing challenges with delivery.

1 Airbus Group SE; Babcock International Group PLC; BAE Systems PLC; General Dynamics Corporation; Leonardo SpA; Lockheed Martin Corporation; QinetiQ Group PLC; Rolls-Royce Holdings PLC; The Boeing Company.

**4** Our annual reports on the Department's 10-year budget for equipment procurement and support (the Equipment Plan) have highlighted the unaffordability of its forward programme, with an estimated affordability gap in the period 2020–2030 of at least £7.3 billion.[2] Partly to address this gap, in November 2020, the Spending Review provided an additional £16.5 billion of capital funding over the next four years for the Department, including to modernise and invest in new technologies.

**5** The Department's performance in delivering major defence programmes has been mixed. In 2020, we reported there was an average forecast delay of more than two years to achieve full operating capability for the most significant capabilities.[3] Such problems are not unique to UK defence; other countries experience similar issues.

**6** Against this background, we sought to identify the causes, and explain the consequences, of cost overruns and schedule delays in the contracts for some of the most significant equipment programmes and to examine how the Department is working to improve delivery. After setting out the policy and administrative context (Part One), this report examines:

- schedule delays and cost increases (Part Two);
- contract and programme management (Part Three);
- shortages of skilled staff (Part Four); and
- delivering value for money through the life of the contract (Part Five).

Appendix Two summarises our work, which focused on 20 major programmes (Figure 10) for the delivery of equipment for use in the air, on land and at sea, and in space. Together these programmes have a whole-life budgeted cost of more than £120 billion. For the purposes of this report, we did not consider whether individual programmes have achieved value for money.

2 Comptroller and Auditor General, *The Equipment Plan 2020–2030*, Session 2019–2021, HC 1037, National Audit Office, January 2021.
3 Comptroller and Auditor General, *Defence capabilities – delivering what was promised*, Session 2019–2021, HC 106, National Audit Office, March 2020.

## Key findings

### Schedule delays and cost increases

7 **The Department and its suppliers have both contributed to schedule delays across the contracted programmes we examined, resulting in shortfalls in defence capability.** While several of the Department's programmes were delayed prior to contract award, delays were more pronounced afterwards. The Department faces cumulative forecast net delays to equipment entering into service of 254 months across 13 of the programmes we examined. These delays were due to a variety of factors, including setting over-optimistic schedules early in projects and programmes, supplier performance, and contract management. Wider departmental affordability also contributed, leading, for example, to delays in order to make short-term savings (paragraphs 2.9 to 2.11 and Figures 5 and 6).

8 **Programme cost estimates we examined have increased, but mostly before contracts were let.** Where comparable information was available, we found that the forecast cost of nine out of 12 programmes increased between the initial business case and the main investment decision, on three occasions by 59% or more. In some cases, the Department responded to cost increases by reducing the number of units to be procured to remain within budget. Cost increases have been less likely and relatively less significant after contracts were let (although some programmes are still at an early stage). This may be attributable to more certainty around cost estimates following engagement with suppliers, the use of firm-fixed price contracts and improved project controls in DE&S (paragraphs 2.5 to 2.8 and Figure 4).

### Managing challenges to contract delivery

9 **The Department's short-term approach to the financial management of its equipment portfolio has affected suppliers' ability to deliver contracts effectively, although it is now seeking to address this through its industrial strategy.** Our recent report *The Equipment Plan 2020–2030* found that the Department's focus on short-term financial management and delaying expenditure into future years is increasingly restricting Front-Line Commands' ability to develop the capabilities they need. The Department depends on its suppliers to deliver defence capability. However, a lack of clarity over the future programme, and the use of departmental savings measures designed to manage short-term affordability challenges, mean suppliers lose skills, and are reluctant to take on risk when contracts are let. The Department is now seeking to rebuild capacity in the UK defence industry to address gaps in capability, including through long-term strategies for shipbuilding and combat aircraft (paragraphs 2.2 to 2.4).

**10 The Department has not opened to competition the majority of the programmes we examined.** In the past, the Department has found it more difficult to secure value for money from procurement where there is no competition. In March 2021, the Department announced it is moving away from using competition as the default option for defence equipment programmes, but in fact competition has not been the norm. Out of the 20 projects and programmes that we examined, 14 are being wholly or partly procured non-competitively. The Department only made this choice because of government national security policy in a minority of cases. In other cases, the Department chose not to let the contract through competition, either because of a lack of alternative suppliers for particularly complex requirements, or as a result of its own internal analysis of the most cost-effective solution. Cost overruns and schedule delays have affected programmes adopting both competitive and non-competitive procurements. In the absence of competition to help demonstrate value for money, delivery teams and the Department report that the Single Source Contract Regulations 2014 have proved effective at driving out unnecessary cost from contracts covered by the legislation and in strengthening the Department's negotiating position, although the full benefits will take some time to become apparent (paragraphs 3.2 and 5.5 to 5.8).

**11 Suppliers have failed to deliver contracted levels of performance on a number of programmes.** Figure 6 on pages 34 to 38 sets out challenges to successful delivery faced by the projects and programmes we examined, including the areas in which suppliers were not delivering to the contract. Problems with supplier performance referenced by delivery teams in the projects and programmes that had experienced problems with supplier performance included:

- the technical ability of suppliers to execute complex design work and meet the requirements of defence standards. The ability to provide safety cases that satisfy the various military safety regulators is a recurring problem; and
- the suppliers' ability to manage the programme effectively, including their ability to oversee other parts of the supply chain.

On occasions – such as on the Ajax armoured vehicle programme – the Department has changed its requirements after the contract was let, making it more difficult for suppliers to achieve cost and schedule milestones. This has led to renegotiation of aspects of the contract (paragraphs 3.7 to 3.11 and Figure 6).

12 **The Department's lack of accurate information on the progress of some programmes makes it more difficult to monitor suppliers' performance, but it is taking steps to address this.** For example, in the case of the Crowsnest radar system, neither the Department nor the prime contractor identified the lack of progress being made by the key sub-contractor. Staffing issues described in paragraphs 16 to 18 also contribute to a lack of oversight. The Department is now introducing earlier support and scrutiny to programmes in order to identify gaps in knowledge and is measuring supplier progress more accurately using Earned Value Management techniques. Once problems are identified, we saw evidence of the Department addressing issues, such as through engagement by senior leaders or by embedding staff with the supplier (paragraphs 1.5, 3.7 and 3.11 to 3.15).

13 **The Department does not meet its own obligations to suppliers under some contracts.** Government Furnished Assets (GFA) are assets purchased separately by the Department, or existing departmental assets, which are integrated into a programme and used by the supplier. Problems with the supply and availability of GFA persist despite programme teams recognising the risks involved and trying to minimise GFA use. The Department has also experienced difficulties when attempting to take on the role of integrating GFA with the work of suppliers (paragraphs 3.16 and 3.17 and Figure 6).

14 **The Department uses different contracting approaches to better control costs and, less successfully, to speed up delivery.** The Department adopts different contracting approaches depending on the risks and challenges of a project or programme. The Department has sometimes imposed financial penalties on suppliers for poor performance and failing to meet milestones and has contracted with suppliers in a way that will reward them for over-achieving against cost and schedule targets. Despite this, schedule delays remain common. The Department wants to speed up procurements by deploying 'agile' programme delivery more widely, but this does not sit comfortably with contracting approaches designed to minimise costs, or the Department's existing culture and skills, and requires better transparency on progress (paragraphs 3.3 to 3.5).

**15 The Department needs strong leadership to embed accepted commercial good practice.** The Department is adopting accepted commercial good practice, which it estimates could realise benefits of £788 million over the next 10 years. This includes development of a Strategic Partnering Programme with 19 of its main suppliers. The Department and BAE Systems, the pathfinder company for the programme, have together developed a shared view of programme performance, and are carrying out specific interventions to improve contract delivery. The Department is drawing on its experience of individual projects and programmes to inform its interventions. Under new government proposals, it will also be easier to take past performance by suppliers into account when letting new contracts. The Department is also implementing Category Management, a best-practice approach to realising greater efficiencies from procurement, which it has previously tried, and failed, to embed. Strong leadership will be needed to manage the risks to realising the benefits of these initiatives, including: that adequate levels of skilled resources will not be available to implement the initiatives properly; that cultural barriers in the Department and suppliers will block progress; and that failure to capture evidence of benefits will undermine the case for change and lead to withdrawal of funding (paragraphs 3.17 to 3.20).

## Capacity and capability to manage the delivery of contracts

**16 The Department's ability to effectively manage contracts, identify risks and oversee suppliers has sometimes been hampered by shortages in experienced and skilled staff.** In the programmes we examined, risks around the availability of sufficient qualified and experienced staff were a recurring concern for teams. The cost of such staff is small compared with the costs of the programmes they deliver. DE&S has 'pinch point' shortages in areas vital to programme delivery. Both it, and the Submarine Delivery Agency (SDA) have made increased use of contractor support to fill in-house posts. This is costly and reduces corporate memory. When recruiting contractors, organisations may find themselves competing with each other, other parts of government and the private sector. To address this, the Department has plans to increase the skills and capabilities of its workforce across commercial management and programme delivery. In the meantime, it has set up frameworks for private sector partners to provide additional commercial and cost assurance skills more efficiently (paragraphs 4.2 to 4.5, 4.7, 4.12 and Figures 6 and 7).

**17 The Department faces particularly acute problems in recruiting and retaining staff to oversee digital programmes and is now seeking to reduce reliance on contractors.** The New Style of IT (Deployed) programme and the Morpheus project rely on outside contractors for 79% and 58% of their complements respectively. The Skynet 6 satellite programme is finding it difficult to rebuild capacity in space-based capability after the Department let its predecessor under a private finance initiative contract, thereby losing in-house skills. Defence Digital is disadvantaged when recruiting compared with DE&S and the SDA, which can diverge from civil service pay rates. The Department's chief information officer has developed a Strategic Workforce Plan to reduce reliance on outside contractors and improve digital skill levels (paragraphs 4.6 to 4.8).

**18 Senior members of programme delivery teams can lack support and sufficient time in post to effectively manage the programme and supplier relationships.** Despite the long-term nature of defence programmes, there is considerable churn among those leading them, with individuals frequently in post for only a fraction of the contract lifecycle. This is particularly true for service personnel, where there is inherent tension between the duration of these programmes and their career paths. For example, the programme managers for our sample had typically been in place for just over one year. Senior responsible owners (SROs) report a lack of key skills commonly associated with effective contract management and a tension between their accountability for programme delivery and lack of budgetary control (paragraphs 4.9 to 4.11).

## Ensuring value for money through the life of the contract

**19 The Department does not rigorously review whether it is continuing to secure value for money across the lifecycle of its projects and programmes as costs and schedules change.** The Department requires programme teams to present a value-for-money (VFM) case to justify the chosen contracting approach for each programme. In the programmes we examined, affordability and a limited choice of contracting solutions frequently determined the definition of VFM. Once a programme is on contract, the operational need for delivery as soon as possible means that issues with cost increases and delays are rarely acknowledged within the Department as compromising VFM. In eight of the projects and programmes we examined, the Department's accounting officer has formally reported to Parliament where programme cost and/or time parameters have been breached, or are likely to be breached. None of these submissions stated that VFM was affected, although not all addressed the issue directly. The Department does not currently evaluate the extent to which contracts where the equipment has entered service have delivered VFM, although it has plans to upgrade its approach to programme evaluation (paragraphs 5.2, 5.3 and 5.9 to 5.11).

**20 Although Departmental teams have identified learning from their own experience, many had not systematically learned lessons from other contracts.** Teams' current analysis of the risks they face indicate that they are aware of the challenges discussed in this report but can find it difficult to mitigate them. We saw good examples of teams identifying and collating learning from their own and others' experience, but the depth and maturity of this work varies significantly. In some cases, it appears the same lessons are learned separately by different teams; for example, on providing GFA to the programme. Embedding good practice more widely would offer the opportunity to reduce the assurance processes currently in place and enable teams to demonstrate that they have acted to avoid past mistakes and reduce programme risks (paragraphs 5.12 and 5.13).

## Conclusion on value for money

**21** The Department has regularly experienced difficulties in effectively managing its major equipment contracts, with frequent delays and cost increases. These stem from supplier under-performance; weaknesses in departmental contract management; the Department and suppliers underestimating the scope and technical complexity; and the Department prioritising short-term solutions because of its affordability challenges. Consequently, the Department has not been able to optimise value for money from the contracts for its largest, most complex equipment programmes. The recent Integrated Review and the announcement of £16.5 billion of additional expenditure, much of it for future defence equipment and support work, emphasises the urgency of strengthening how the Department manages key contracts.

**22** To improve value for money the Department must follow through on its initial efforts to embed wider good practice in its commercial relationships and project delivery. These are promising steps, but it is early days for the initiatives, some of which have been tried unsuccessfully before and do not necessarily fit easily with the existing departmental culture. Strong leadership and sustained resources will be needed to fully embed these changes and deliver real benefits. A key part of the Department's agenda must also be to learn lessons routinely across the portfolio, including being honest in acknowledging and learning from examples of poor value for money when they occur.

## Recommendations

**23** The Department is developing a programme of important reforms, some of which are at a relatively early stage. To support this agenda and to complement the recommendations in our recent report on the Department's 2020–2030 Equipment Plan,[4] we recommend that:

a **Programme teams should state explicitly in their initial business cases how they have applied lessons learned from other programmes.** To avoid repetition of past mistakes and embed learning from experience into the approvals processes, teams should demonstrate to the Investment Approvals Committee and the Department's scrutiny teams how they have drawn on comparable programmes, including past experience of working with suppliers on other programmes.

b **While the Department has introduced initiatives to secure better value from its contracts, such as the Strategic Partnering Programme, it must ensure they become embedded in departmental practice.** We support the enhanced approaches to joint working with suppliers but have seen previous efforts falter. To avoid this, the Department should ensure sufficient resources are available, and make use of existing governance arrangements to maintain a focus on progress and yielding anticipated benefits.

c **The Department should be prepared to penalise suppliers for past poor performance when letting new contracts.** While the Department is doing more to improve working relationships with suppliers, there remains the challenge of what to do if suppliers fail to deliver. In the government green paper on procurement it is proposing to make it easier to exclude suppliers with records of poor performance from future procurements. As and when rules change, the Department should consider how it could use this power to incentivise better performance.

d **The Department should work with the Cabinet Office and HM Treasury to address shortfalls in vital contract and programme management skills.** Differing levels of remuneration and terms of employment between different parts of the Department, between the Department and other parts of government, and between government and other sectors create long-term skills gaps. Reliance on buying in temporary support is expensive and inefficient. The Department's Industrial Strategy promises to develop required skills in the defence industry and should be used as an opportunity to develop an approach that helps all parties.

4 See footnote 2.

e **The Department should do more to keep key personnel in place on contracted programmes for as long as is needed to meet specific milestones.** SROs and senior members of their team are crucial to the delivery of contracted programmes and strong supplier relationships, but there is evidence that they are insufficiently supported and too often move before key milestones have been achieved. The Department should examine how it can align movement of personnel more closely with programme progress.

f **The Department should pay greater consideration throughout a programme as to whether it remains value for money.** Business cases set out whether the proposed option is VFM, but major changes in delivery dates, for example to make the portfolio more affordable in the short-term, and increases in forecast costs, can have a significant impact on whether a programme remains so. Currently, it is not clear that at this point there is appropriate reflection on options or remedial action. Each business case should include specific performance, cost and time criteria for when the programme ceases to be VFM, based on better baselines and benchmarks derived from improved programme evaluations. Breaching these criteria should require more rigorous and transparent consideration of how VFM can be achieved.