National Audit Office

INSIGHT

Government's approach to technology suppliers: addressing the challenges

Department for Science, Innovation & Technology, and Cabinet Office

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Department for Science, Innovation & Technology, and Cabinet Office

Report by the Comptroller and Auditor General

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Gareth Davies
Comptroller and Auditor General
National Audit Office

9 January 2025

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Key facts

£14bn

estimated minimum UK public sector annual spend on digital programmes and technology, based on independent estimates

6,000

people in the commercial function who support a range of commercial activity, including digital

28,000

people working on the digital and data areas in government

120	people in the Crown Commercial Service who have a digital commercial focus
4	people in the Central Digital and Data Office recently dedicated to digital commercial activity
15	people in the Government Commercial Function focused on government's 19 strategic digital suppliers
£3 billion	increases in cost to reset programmes and operate legacy systems for longer than planned, in five digital change programmes we have looked at
£9 billion	annual value of digital procurement through Crown Commercial Service frameworks in 2022-23

Summary

1 The effective use of technology suppliers is essential to the success of government's ambitions to improve and digitally transform its services and operations. But repeated delays and cost overruns in digital delivery undermine government's ability to achieve its policy objectives. Expenditure on digital procurement is significant: at least £14 billion is spent annually.[1] Digital spend in government ranges from the design and implementation of new policy initiatives such as Universal Credit, to maintaining and replacing critical services like the Police National Computer, and the purchase and renewal of commodity items, for example, laptops. With such an extensive digital estate to develop and maintain, every major operational system, from borders to tax to welfare, depends on the successful performance of its suppliers.

2 Digital procurements share characteristics with all major government procurements, including those for capital infrastructure. But added complexities, such as integration with existing business and technical environments, make the difficulties even more acute and hard to understand. The Government Commercial Function (GCF) is a cross-government network of around 6,000 civil servants who procure, or support the procurement of, goods and services for government. It employs, via the Government Commercial Organisation, middle- and senior-ranking procurement officials in departments. It is responsible for government's overall commercial performance and provides strategic direction, guidance and develops capability. It has 15 people responsible for managing relationships with government's largest digital suppliers. GCF also includes the Crown Commercial Service (CCS), which establishes frameworks for public organisations to buy goods and services. The Central Digital and Data Office (CDDO) is government's centre of expertise in digital and data but has no formal responsibility for digital procurement. As of July 2024, CDDO sits within the Department for Science, Innovation & Technology (DSIT).

3 Our work over the last decade has shown that government's attempts at digital transformation have had mixed success. Former flagship major transformation programmes have failed to deliver results as expected. The centre of government sets the overall direction, culture and conditions, but individual departments award contracts to suppliers and subsequently manage them. It is at this departmental level where problems, arising from the overall commercial and contracting environment and processes, are most likely to manifest themselves. There is no single area focused on highlighting and addressing how departments can improve the use of suppliers in digital transformation programmes.

1 The £14 billion estimate includes spending in central government departments and in devolved governments.

4 Moreover, some technology markets have experienced fundamental shifts and are now dominated by very large suppliers, such as the increasing reliance on 'big tech' for providing cloud services and artificial intelligence capabilities.[2] Digital services are rapidly changing in nature and are increasingly underpinned by technology and services which are subscription-based and which government does not ultimately control. This calls for an approach which responds to this changing environment.

5 This report sets out lessons for the centre of government and departments to learn from government's approach to digital procurement. We focus on major procurement of technology to support business change, including the digital transformation of government, and planning for technology of the future. We refer to these major policy and business change procurements as 'digital programmes' and 'digital procurement' throughout this report. We exclude the more straightforward technology services and commodity items purchased for operational needs. We do not evaluate individual supplier performance because it is difficult to make such an assessment in isolation of the environment and conditions under which suppliers are expected to deliver.

6 In pulling together these lessons, we have reviewed our published reports and interviewed senior digital and commercial leaders from across government and major technology suppliers. We build on our 2021 report, *The challenges in implementing digital change*, our 2021 guidance on *Managing the commercial lifecycle*, and our 2024 report, *Efficiency in government procurement of common goods and services*. We have assessed good practice and consulted with experts from industry to highlight the nature of the challenges and understand why government has found them difficult. Our scope and evidence base are set out in Appendix One. Our report aims to add impetus to the work addressing government's known need to deliver practical improvements in how commercial and procurement activities can support digital change.

Key findings: lessons for government

7 Government has strengthened central expertise over the last decade in its commercial and digital functions. It has made progress in developing its commercial profession, but our reviews of digital commercial activity suggest that too often departments fall short of good practice. In April 2021, government created CDDO to lead its overall digital, data and technology function. In June 2022, CDDO published *Transforming for a digital future: 2022 to 2025 roadmap for digital and data*, which sought to address some of the underlying digital problems. The roadmap included actions to deal with the challenges of legacy systems and reforms to central processes, including those in finance and commercial to unlock digital transformation (paragraphs 1.9 and 1.19 to 1.21).

2 'Big tech' is a term that refers to the largest and most dominant global technology companies. 'Cloud' refers to services hosted by third parties and accessed by users over the internet.

8 Procurement remains particularly difficult for digital change programmes. Many of the difficulties which we outline in this report are critical in procurement for any major project or programme. However, they are even more pivotal in digital procurement, for example because of the increased uncertainties which typically characterise digital programmes, including 'unknown unknown' risks. As a result, government's expectations of what suppliers can contribute for what cost can be unrealistic from the outset. Current arrangements, which are more suited to commodities or traditional outsourcing, are applied to business change programmes, creating tensions between commercial guidelines and the requirements of digital transformation (paragraphs 1.7 to 1.8, 2.13, 2.14 and Figures 5 and 6).

9 Government's commercial approaches to the use of technology suppliers have contributed to its mixed track record on its attempts to modernise delivery. We have reported on several large digital change programmes, including the Emergency Services Network, Electronic Monitoring, Universal Credit, the National Law Enforcement Data Service, and Digital Services at the Border. These all took commercial approaches to working with suppliers that were a factor in their programmes running into difficulties, contributing to significant delays to modernisation (totalling at least 29 years), and with more than £3 billion of cost increases (at least 26% of the original forecast), requiring a reset to the programmes concerned and continuing to operate legacy systems for longer than planned (paragraph 1.6 and Figures 3 and 4).[3]

10 There is not yet a shared strategic approach across government to dealing with a few very large suppliers who now dominate technology markets. This is particularly significant given the rapidly changing nature of technology and services. Digital services markets can be highly concentrated due to scale benefits. For example, just three very large multinational providers now have a combined global market share of over 60% of cloud services provision. Moving from one cloud infrastructure provider to another can be challenging and disruptive and it is overly simplistic to treat large providers as if they are offering generic services that departments can easily switch between at will. Addressing these considerations calls for a strategic approach from government, building on the current collaborative central approach involving CDDO, CCS and GCF (paragraphs 1.12 to 1.18).

3 The £3 billion amount includes costs shown in a variety of different formats and different price bases, as estimated in the latest available National Audit Office report, and may not reflect current expected or final cost of each programme.

The centre of government needs to create a better approach for digital procurement

11 The centre of government has not aligned responsibilities, skills and resources to lead government's digital procurement activities. GCF has to cover a large spectrum of commercial activity and does not have the extent of digital skills needed to reflect the distinct procurement challenges of digital programmes and operations. CDDO leads on digital and data policy but, while it has relevant digital expertise, it does not have responsibility for digital procurement in government, is much smaller than GCF and is not resourced for more extensive engagement on digital procurement. Non-technical leaders are not given enough digital procurement support to manage digital change programmes effectively. This lack of specialist digital commercial focus creates major challenges to the efficient and effective organisation, delivery, and ongoing maintenance of government services and their related digital infrastructure. We have not seen evidence of government undertaking a formal assessment of its digital procurement skills needs or creating a plan to recruit and retain people with digital procurement skills (paragraphs 2.18 to 2.20 and Figure 9).

12 GCF leads on the 'One Government' relationship with strategic suppliers but is not set up to be government's overall single voice. The Markets, Sourcing and Suppliers team within GCF takes the lead on government engagement with the largest 19 digital suppliers. Available estimates from third parties suggest that government spends at least £14 billion annually on digital procurement, but government has not been able to provide a more precise figure. Government has negotiated memoranda of understanding with individual suppliers to be treated as a single customer for the purposes of volume discounts, which it regards as a strategic approach to relationship management. But there is insufficient information about the pipeline of demand from departments for digital services; no evaluation to compare it against suppliers' appetite; and, under the current system, very little information on supplier performance is available to inform decisions about future sourcing and contract awards. This means that GCF does not have the data to evaluate future demand which is needed to credibly inform decisions to take full advantage of government's buying power when negotiating with large technology suppliers (paragraphs 1.3, 1.9 and 1.13).

13 Government does not have sufficient skills and capability to manage the diverse breadth and depth of digital commercial needs, and this is particularly evident in the poor outcomes of major digital change programmes. Management of digital suppliers calls for skills and processes over and above those required by generic commercial considerations, but commercial directors told us that currently, the focus of government is mainly on procurement processes, and very limited resource or priority is given to managing suppliers post-contract award. To ensure better outcomes for its digital modernisation plans government will need to invest in capability to improve its understanding of digital markets, its technical expertise and how better to partner with suppliers (paragraph 2.22 and Figure 9).

14 Existing procurement guidance does not address all the complexities of digital commercial issues for major business change. Having consulted widely across government and its digital commercial suppliers, we found a high level of agreement among digital and commercial leaders regarding the inherent difficulties of current procurement practices. GCF has supplemented its general commercial guidelines with sector-specific 'playbooks' including the digital playbook published jointly with CDDO. While this is a start, it would benefit from greater departmental and external input on the more complex issues. There is also an opportunity for GCF, CCS and CDDO to provide more detailed advice and guidance to departments on specific areas where there could be scope to negotiate further with major cloud suppliers, such as on navigating the complexity of pricing options, term length and flexibility, or service levels (paragraphs 1.15, 2.3 and 2.4).

15 Current government processes from business case development to contract award do not work well for digital programmes. Departments can present investment cases without a detailed assessment of technical feasibility, for which there is no detailed central government guidance. Without such assessments, funding allocation at the centre can be based on departments' conceptual or simplistic high-level assumptions. This results in limited technical evaluation of contracts with technical risks downplayed. Complexities which emerge after contracts are signed can be too fundamental to be dealt with through a change control process. A poorly defined requirement and an over-emphasis on acquiring the minimum requirement or cheapest resource, rather than aiming for best value for money over the lifetime of the contract, can prevent government from exploring innovative business and technical solutions (paragraphs 1.6 and 2.4 to 2.6).

16 Ongoing supplier management is essential to managing supplier relationships and ensuring that suppliers are delivering the expected value. Technology suppliers play a vital role in supporting and modernising the public sector, and a mature relationship is required. In our guidance on *Managing the commercial lifecycle*, we identified a need for organisations to improve how they actively look at the quality of performance and delivery to supplement routine monitoring. Interviewees told us that, too often, departments dedicate substantial resources to putting a contract in place but insufficient attention and resources to managing the contract after award. This can reduce the value government obtains and lead to relationships with suppliers that become transactional and adversarial. Overall, government struggles to act as an intelligent client and manage suppliers and contracts effectively and in a constructive spirit of partnership (paragraphs 2.8, 2.11, 2.13 and 2.15).

Departments need to better understand and manage the complexities of digital procurement

17 Departments do not make full use of their digital expertise when procuring for technology-enabled business change. Commercial teams in departments lead, and make most of the decisions on, digital procurements often without the benefit of digital expertise. They are also not responsible for managing business systems. This leads to a lack of real ownership for the quality and costs of developing and running systems and services. Although some departmental digital teams have people with both digital and commercial skills, several chief digital and information officers (CDIOs) told us they can be excluded from advising on digital change procurements. Sometimes the CDIO is only involved too late, after a business case has been agreed or contracts have been signed. When specialists try to include key functional and non-functional requirements considered essential for the integrity and ongoing maintenance of systems, these can be removed by commercial teams as 'savings' to the contract.[4] This has contributed to the deterioration of many legacy systems over time. Ensuring the involvement of digital specialists earlier in the lifecycle coupled with digital commercial training could also reduce the tendency for digital procurements to exacerbate legacy issues, cost more than expected and to under-deliver (paragraphs 1.12 and 3.3 to 3.7).

18 Digital specialists within government feel constrained from participating in early market engagement with digital suppliers. Commercial and digital leaders in departments told us commercial teams across government can be reluctant to allow digital specialists to engage with suppliers to undertake up-front exploration of what is feasible and possible before a contract is scoped and awarded. Yet technical specialists and suppliers are fundamental to the design, delivery and maintenance of essential policies and services, and a source of innovative solutions. The new Procurement Act 2023 has mechanisms to allow early market engagement, but this is unlikely to make a practical difference without detailed guidance and a change in culture. Since 2011, a network of Crown Representatives has provided a focal point for engaging with strategic suppliers, but with few levers to affect delivery or bring about improvements (paragraphs 2.8 to 2.10 and 2.12).

4 'Non-functional requirements' define the required characteristics of a system covering aspects such as performance, reliability, security, availability, interoperability, scalability and maintainability.

19 Departments often enter into contracts for digital development work without sufficiently understanding the complexities posed by the existing environment. Setting requirements for digital programmes can be particularly difficult, but pressure to deliver quickly can result in contracts being awarded before the true requirement is fully understood. The consequences include buyers misunderstanding what the market can deliver, and unrealistic timetables which cannot be met. We have also seen instances where government focuses too narrowly on the nature of the technology being deployed at the expense of the policy or operational aspects. Agile programme approaches are sometimes misapplied to business change programmes, leading to programmes starting out with only a high-level understanding of the requirement or intended outcome.[5] There is a risk that the current project-by-project, contract-by-contract approach to digital programmes across departments increases cost and complexity while failing to contribute to the wider transformation and modernisation of government (paragraphs 3.7 to 3.12).

20 Departments' approaches to contract design can negatively affect successful digital delivery. Attempts by departments to outsource risk downplay the reality that government will still be held accountable for any failures. Stakeholders told us that government makes considerably less use of outcome-based contracts than the private sector, and that this situation limits suppliers' ability to provide solutions to the underlying business problem. Departments can also opt for mechanisms such as pricing structures which limit the flexibility for suppliers to use their expertise to help government deliver the desired outcomes. Most large programmes will use multiple contracts, and government must decide how to allocate the work between these. Several large programmes have run into difficulties because the chosen allocation was not optimal or proved hard to integrate into a coherent whole. These issues can discourage suppliers from bidding or from putting their best people on a government contract (paragraphs 3.17 to 3.21).

5 Agile methodology is an iterative and incremental approach to delivery frequently used in software development projects. In our guide on *The use of Agile in large-scale digital programmes*, available at: https://www.nao.org.uk/insights/use-of-agile-in-large-scale-digital-change-programmes, we said: "Agile approaches in the public sector have run into difficulties when applied to more complex digital business change programmes. The way Agile is applied at large scale is often found wanting, such as in transformations which involve migration from legacy systems and where a wide range of interactions, interfaces, dependencies and other complexities are the norm."

Concluding remarks

21 Government has a long-standing need to improve its use of technology suppliers, and its slow progress in doing this has contributed to poor outcomes in its attempts to modernise government. Our past reports have highlighted where the commercial approaches taken have contributed to delays and increased costs of major digital programmes. The external market environment is also changing. Traditional models of outsourcing or creating government-owned assets are giving way to subscription-based models such as the use of cloud services, and government has been slow to adapt how it engages with and manages suppliers. It needs to define a comprehensive sourcing strategy for the digital age which takes into account how to deal with 'big tech' and global cloud providers that are bigger than governments themselves, while aligning with policies on research and innovation.

22 Departments find it challenging to acquire the right blend of digital and commercial skills, but do not make as much use as they could of existing digital expertise. Commercial teams have insufficient digital expertise and typically adopt a generalist model, with limited use of a more strategic approach and specialist capabilities. There is a critical role for the centre of government to provide strategic direction on managing relations with suppliers. The centre can also do more to help departments with guidance to make their processes and their engagement with suppliers more effective and help them become more intelligent clients. Our recommendations are aimed at supporting government to take these steps to achieve better outcomes and prevent further waste of money and delays to improvements in public services. The creation of the new digital centre of government provides an opportunity to make the systemic changes that are needed.

Recommendations

23 In view of government's decision to locate responsibility for the digital centre in DSIT, to provide effective leadership for government's digital commercial activities, the digital centre, GCF and CCS should consider who should take responsibility for addressing the issues in this report and the recommendations below:

a **decide who should take ownership of the strategic relationship with suppliers and responsibility for collecting and analysing data about government's overall digital commercial activities,** ensuring clarity on what is done centrally to gather demand and supply data, assessing the demand pipeline against supplier capacity and evaluating what that means for government's use of suppliers;

b **produce a sourcing strategy including how government is better able to maximise its ability to negotiate with 'big tech' and strategic suppliers;**

c **identify what actions it needs to take to secure improvement in governance, processes, guidelines and supplier engagement,** to ensure that contracts for different categories of digital activities reflect a planned approach that addresses the business problem to be solved;

d **work with departments to identify what further negotiation levers they would find useful beyond headline volume and pricing agreements.** This should include guidance for contracts for digital procurement setting out how best to navigate options and negotiate on aspects such as payment terms and flexibility to ensure that departments are not paying more than necessary; and

e **address recruitment shortfalls and develop a plan to better equip and train decision-makers with responsibility for initiating digital commercial and contracting.** This should include education on legacy data and systems, the importance of understanding the business requirement at a sufficient level of detail, and the risks of 'build before buy' and of opting for unproven technology.

24 Individual departments and public bodies should:

f **ensure that CDIOs are responsible for overseeing commercial contracting involving technology suppliers, supported by their own departmental digital commercial teams.** Large digital change programmes should not have business cases approved and contracts agreed without digital experts agreeing that requirements have been properly understood and articulated and are deliverable;

g **strengthen their intelligent client function for digital change** to identify and develop key requirements before tenders and bid processes commence, improve how policymakers and technical specialists work together with procurement specialists, and ensure that digital specialists take the lead on technical supplier engagement; and

h **set up the capability needed to improve data and processes to inform decision-making,** including a pipeline of supply and demand to help the centre of government in building a more strategic approach to suppliers.

Part One

Introduction

1.1 In Part One of this 'lessons learned' report we describe the scale of the challenge of undertaking digital procurement in a way that supports the modernisation of the public sector to make it more efficient and effective, and government's response to that challenge. Parts Two and Three set out the areas that can be improved by the centre and departments (**Figure 1**).[6]

The importance of government's digital commercial capability

1.2 Government wants to modernise, but digital change programmes to improve and transform established organisations and ways of working are difficult to get right. Difficulties include implementing changes where operational aspects are tightly tied into systems being modernised, which requires technology expertise. However, whereas the prime focus of the programme should be on business change, the focus often becomes the technology being introduced, which commercial teams support without challenge. Government transformation and modernisation requires a level of legacy business understanding and analysis before making decisions, including on commercial approaches, not well served by government's standard procurement mechanisms.

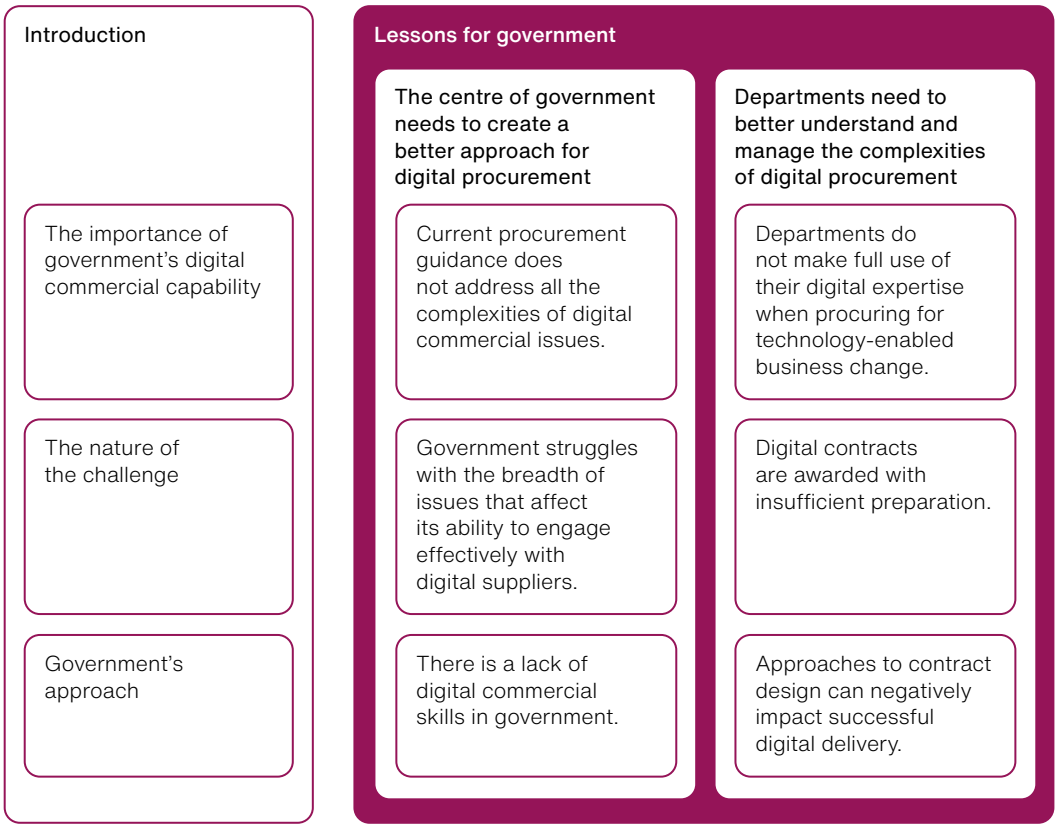
1.3 Government lacks basic data on how much is being spent. Each government organisation can account for its own spending activities, but the variety of ways in which they capture, hold and provide data to the centre means there is no consistent reporting or analysis. Government does not know the overall picture for how much is spent on digital change programmes, or with major digital suppliers, although the Government Commercial Function (GCF) pulls together aggregate data from supplier reporting. This makes it difficult for government to make informed decisions and fully use its buying power. Available estimates from third parties suggest that government spends at least £14 billion annually on digital procurement, but this is likely to be incomplete, and government has not provided a more reliable figure.[7]

6 We use 'departments' to include all government organisations that award contracts. Most large digital change programmes are run from the main central government departments, but most of our lessons apply to the wider public sector. Where we include specific examples from our published work, these reflect our findings at the time of the original report and not the current or final status of each programme.

7 The £14 billion estimate includes spending in central government departments and in devolved governments.

Figure 1
Lessons for government

We have identified six lessons for government to improve the way it sources digital programmes



Source: National Audit Office analysis of our published reports

1.4 Those working on modernising government need to improve commercial and procurement activities that support digital change. This requires government to work more effectively with suppliers and delivery partners to bring together data, processes, technology and resources to deliver higher quality policy and operational outcomes. It will also require senior decision-makers, policymakers, digital leaders and those providing assurance to possess appropriate skills and capabilities.

The nature of the challenge

1.5 Government has many major projects and programmes which include some form of digital transformation requiring procurement relating to technology, digital capability and technology-enabled business change. Digital programmes are particularly complex because they must meet multiple requirements and work with wider policy initiatives, other programmes and existing systems and processes. They can also involve novel solutions. At March 2023, Government's Major Projects Portfolio had 244 projects with a total whole-life cost of £805 billion, many of which related to digital transformation and service delivery and many of which were rated 'red' (**Figure 2**). Even programmes categorised as infrastructure may contain digital elements. For example, Crossrail experienced significant delays integrating signalling systems with on-board train control software.[8]

1.6 Our previous reports show that government's lack of capability to act as an intelligent client has been a significant reason for its poor track record in delivering digital change programmes (**Figure 3** on pages 18 and 19). Government has not combined digital and commercial skills to the extent required to get the best outcome from contracting. Its approach can lead to transactional, and sometimes adversarial, relationships with suppliers. For example, our 2022 report on *Electronic Monitoring – a progress update* found that there had been a breakdown in trust between government and its supplier, with missed opportunities to reset behaviours. **Figure 4** on page 20 sets out the costs and delays on five large digital programmes that we have reported on.

Government does not differentiate between digital and other kinds of programmes

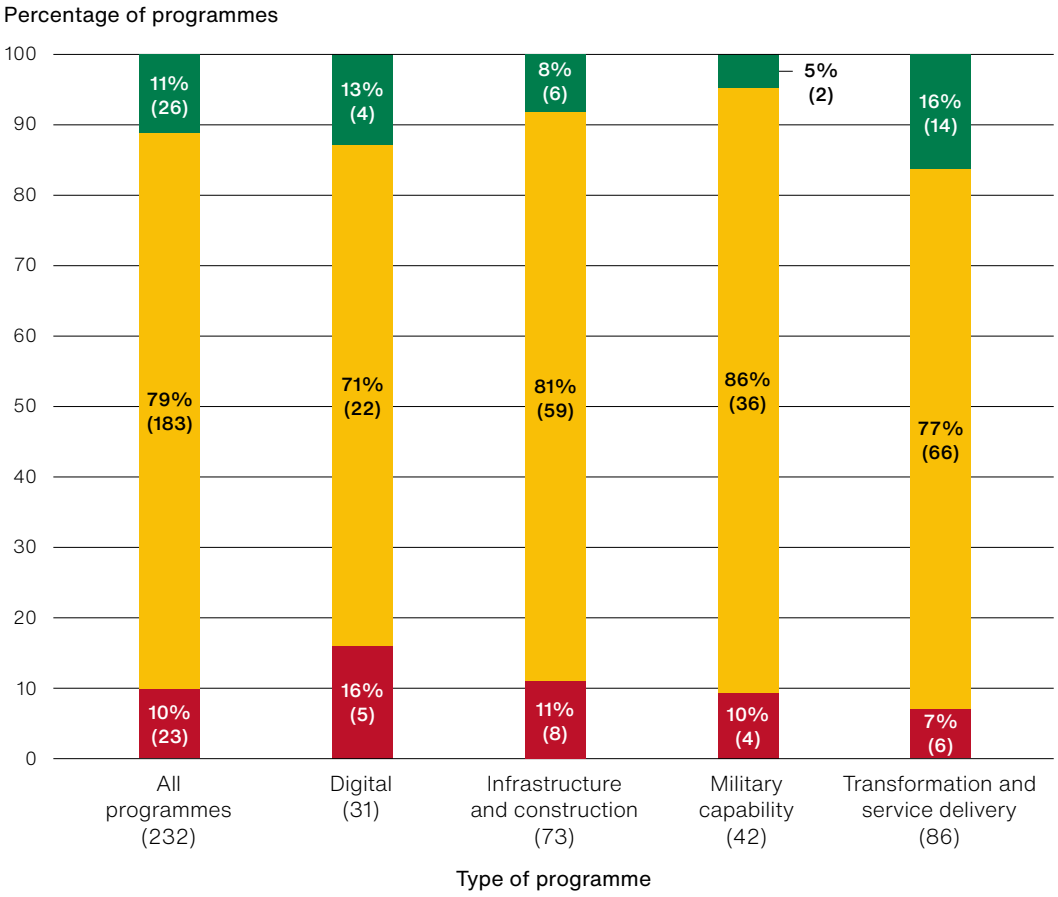
1.7 Digital change procurements do not usually deliver tangible or easy to visualise outputs (**Figure 5** on page 21). In construction programmes, it is well understood that design and architecture are done by the supplier, whereas in digital programmes they need to be done to a sufficient extent by the department in advance of contracting, and this is often under-appreciated by senior responsible owners and commercial teams in departments. Digital programmes require a detailed business and technical analysis of how the change will integrate and interoperate with government's existing environment, which needs to be reflected in the way contracts are specified, let and managed. This requires government to have an expert understanding of the digital marketplace to access the right mix of capabilities, including some that can be niche, and suppliers need an in-depth understanding of government, including its wider transformation aspirations.

8 Comptroller and Auditor General, *Completing Crossrail*, Session 2017–2019, HC 2106, National Audit Office, May 2019, available at: https://www.nao.org.uk/reports/crossrail

Figure 2

Delivery confidence assessments of major programmes, 2022-23

A larger percentage of digital programmes were rated 'red' than any other type of programme



Notes

1 Ratings are delivery confidence assessments by senior responsible owners as well as by the Infrastructure and Projects Authority (IPA), as reported in the IPA's 2022-23 annual report. This was the latest published data when our report was finalised. We have excluded programmes whose assessments are exempt from publication.

2 The IPA uses the following definitions:

- Red: successful delivery of the project appears to be unachievable. There are major issues with project definition, schedule, budget, quality and/or benefits delivery, which at this stage do not appear to be manageable or resolvable. The project may need re-scoping and/or its overall viability reassessed.
- Amber: successful delivery appears feasible but significant issues already exist, requiring management attention. These appear resolvable at this stage and, if addressed promptly, should not present a cost/schedule overrun.
- Green: successful delivery of the project on time, budget and quality appears highly likely and there are no major outstanding issues that at this stage appear to threaten delivery significantly.

3 Percentages may not add to 100% due to rounding.

Source: National Audit Office analysis of the Infrastructure and Projects Authority's 2022-23 annual report

Figure 3

Issues identified in National Audit Office reports on digital programmes with commercial elements

Many of our recent reports across multiple departments have found that government digital programmes with commercial elements have recurring issues

Report	Requirements	Unrealistic timetable	Digital skills	Measuring performance	Legacy technology	Business case process	Contract structure	Integration	Trying to be world-leading	Ineffective reset	Inflexible contracts	Funding issues	Market engagement	Agile-related issues
National Law Enforcement Data Service	●	●	●	●	●	●	●			●		●		
Electronic monitoring	●	●	●		●	●		●	●	●				
Emergency Services Network		●	●		●		●	●	●	●				
Green Homes Grant	●	●				●							●	
School meal vouchers	●	●												
NHS England, primary care support	●			●										
Passports	●			●										
Crossrail	●			●										
Improving performance of major equipment contracts			●											●
Modernising Department for Environment, Food & Rural Affairs' ageing digital services		●												
Digital strategy for defence											●			

● Issue was found in relevant National Audit Office report

Note

1 The figure shows issues we identified in our published National Audit Office reports and may not reflect the most recent programme position.

Source: National Audit Office analysis of our published reports

Figure 4

The costs of failing to deliver digital change successfully in five large digital programmes

Digital change programmes have experienced significant increases in cost and delays[1]

Digital programme	Original cost	Latest reported cost	Cost increase	Cost increase	Time increase
	(£mn)	(£mn)	(£mn)	(%)	(years)
Emergency Services Mobile Communications Programme (ESMCP)[2]	9,419	11,207	1,788	19	7
Universal Credit[3]	2,016	2,928	912	45	6
National Law Enforcement Data Programme (NLEDP)[4]	671	1,128	457	68	5
Digital Services at the Border (DSAB)[5]	199	311	112	56	3
Electronic monitoring[6]	130	153	23	18	8
Total	**12,435**	**15,727**	**3,292**	**26**	**29**

Notes

1 Costs and benefits presented come from the latest available National Audit Office reports and may not reflect the most recent programme position.

2 The latest cost and time estimates for ESMCP are from June 2021 and pre-date further delays, including changes to contracts; further cost increases and delays are expected. Costs are in 2022-23 terms and include running costs of new and legacy systems. The 'original cost' figure is from 2019, and excludes cost increases between 2015 and 2019. The original whole-life programme cost, before the programme was reset, was £5 billion (in nominal terms and over a shorter time period). Time increase is based on the date that the new system will replace the old network.

3 The Department for Work & Pensions' cost estimates for Universal Credit in its 2018 business case were in 2017-18 prices, while its latest estimates are in 2022-23 prices. Our 2024 report said the main reasons for the increase in the estimated cost of implementing Universal Credit were inflation and the delay in completing the implementation of Universal Credit from March 2022 to March 2025.

4 NLEDP costs are in 2021-22 terms and include costs of building new and legacy systems (including those removed from the programme). The time increase is the delay to full delivery as recorded in our 2022 report.

5 DSAB costs are in 2020-21 terms and include only costs of building new systems, since the original business case did not estimate running costs or the legacy systems and people costs.

6 Electronic monitoring includes the cost of the original programme which closed in March 2022. These costs are in nominal terms and date from 2022. Time increase compares the date that the original programme was expected to deliver to the point at which it was closed. This does not include the newer 'expansion' programme, which was launched to further widen use of tagging, procure new contracts, develop the evidence base and improve data.

Source: National Audit Office analysis of our published reports

Figure 5

Characteristics of digital programmes, compared with infrastructure programmes

The complexities and uncertainties of digital programmes can be greater than for infrastructure programmes

Digital	Infrastructure
Services, people, systems, processes, data.	Roads, bridges, hospitals, construction.
Often deployed into a 'brownfield' environment as the departmental environment already exists.	Often a 'greenfield' environment.
The end result is often intangible.	The end result is tangible and can be visualised from the outset.
The 'how' involves data, architecture and attention to detail but these may be insufficiently developed in the early stages.	Design and architecture are intrinsic to the approach and carried out by suppliers.
Focus on complexity – many 'unknown unknown' risks due to integrating new with existing.	Focus on risks – these are generally known or can be anticipated.

Source: National Audit Office

1.8 The breadth of digital change programmes means that government cannot take an undifferentiated approach to all digital contracting. Different types of digital procurement are needed for different types of programmes and their design and delivery (**Figure 6** overleaf). This includes for different types of cloud-based services, which government is increasingly seeking to adopt, and which can range from standardised capabilities and software to programmes that need to develop bespoke cloud-based applications.

Responsibilities for digital procurement in government are divided

1.9 Responsibility for government's overall commercial performance rests between the Government Commercial Function (GCF), which provides strategic direction, guidance and capability development, and departments, which award and manage contracts (**Figure 7** on page 23). GCF is a cross-government network of around 6,000 civil servants. It employs, via the Government Commercial Organisation, middle- and senior-ranking procurement staff who are placed into departments and lead on all procurement, including digital procurement. The Markets, Sourcing and Suppliers team within GCF has 15 people responsible for managing relationships with government's 19 largest digital suppliers. Commercial teams in central government departments report to the departmental commercial director. Commercial directors report to both their department, often to its finance director, and to the head of GCF.

Figure 6
Digital programme procurement types

Procurement needs differ according to programme type

Programme type	Characteristics	Example	Procurement needs
New policy initiatives	Transformation programmes that involve complex and ongoing interdependencies between policy and digital research, design and delivery, as well as compliance with cross-government standards.	Universal Credit	Access to high-quality digital business and system design, delivery and integration capabilities.
Enhancements to an existing digital environment	Programmes that involve the design, development and implementation of digital enhancements that integrate with existing data, systems and processes.	Making Tax Digital	
Maintaining and renewing legacy systems	Programmes that ensure the continued viability, integrity and availability of mission-critical services.	Police National Computer	
Commodity products and services	Projects to acquire, update or renew commodity hardware, software, products and services.	Laptops, software licences	Off-the-shelf products and services.

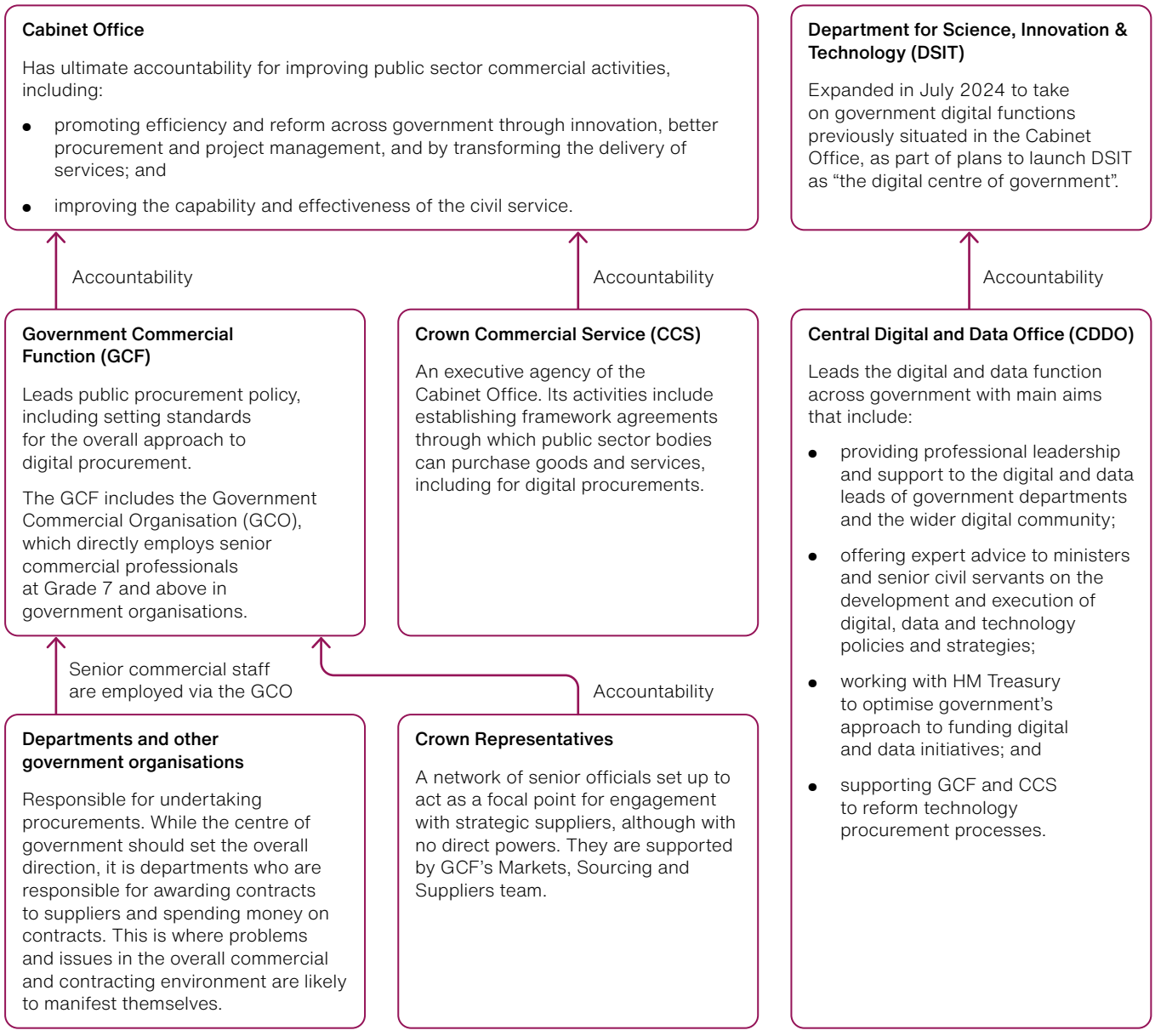
Source: National Audit Office

1.10 Government's digital function, the Central Digital and Data Office (CDDO), is responsible for digital and data policy. CDDO has the depth of technical expertise to provide a more strategic approach to digital procurement but has limited resources and does not have a formal role in this area. Similarly, departments' digital and data functions often do not lead on digital procurement, particularly on technology-enabled business change programmes, despite having responsibility for managing and maintaining outsourced digital services. This is where problems arising from central processes and the overall commercial and contracting environment are most likely to occur. Generally, government organisations have too few people with the skills needed to undertake digital procurement well. Implementing the Procurement Act 2023, which takes effect in February 2025, may make these skills challenges more acute.

Figure 7

Responsibilities for digital commercial activities across government

The Central Digital and Data Office leads on digital and data policy but does not have responsibility for digital procurement in government



Organisation and responsibility

Formal accountability

Note

1 CDDO was created as a unit of the Cabinet Office in 2021 and transferred to the Department for Science, Innovation & Technology in July 2024.

Source: National Audit Office analysis of government information

Government's approach

1.11 This section sets out the need for a more strategic approach to government's dealings with technology suppliers.

Government has not developed a shared strategic approach to sourcing for modernisation and innovation

1.12 The centre of government has not yet adopted a shared strategic and integrated approach to digital sourcing and procurement. Different parts of government interact variously with individual suppliers and do not often take a cross-government view. Government does not have training for digital commercial skills. In 2023, GCF launched a 'digital commercial development programme for senior commercial professionals'.[9] The development programme focuses on leadership skills, business acumen and commercial judgement, but was not co-authored with the digital profession and does not emphasise the need for specifically digital commercial skills.[10] Decisions made in other areas of government can undermine attempts to improve digital procurement: for example, headcount limits can exacerbate a known lack of digital skills in government.[11] References to procurement in digital strategies have not normally considered approaches for more strategic relationship building for the longer term.

1.13 Government does not have a sourcing strategy for digital procurement. GCF has negotiated memoranda of understanding with individual suppliers under the banner of 'One Government' to treat departments as a single government customer for the purposes of volume discounts. It regards this as a strategic approach. But GCF does not have the available data to evaluate future demand. There is insufficient information about the pipeline of demand from departments for digital services; no evaluation to compare it against suppliers' appetite; and, under the current system, very little information on supplier performance is available to inform decisions about future sourcing and contract awards. This data is needed to credibly inform decisions to take full advantage of government's buying power.

9 Government Commercial Function, *GCF Digital Development Programme for Senior Commercial Professionals,* updated November 2024, available at: https://www.gov.uk/government/publications/government-commercial-organisation/gcf-digital-development-programme-for-senior-commercial-professionals-html

10 See Figure 9 for a definition of digital commercial skills.

11 In our 2021 report, *The challenges in implementing digital change* (Session 2021-22, HC 575, July 2021, available at: https://www.nao.org.uk/insights/the-challenges-in-implementing-digital-change), we said that many departments face a large capacity gap for people with digital skills. This skills shortage is replicated globally, which makes this challenging to overcome.

There is a need for a more strategic approach to working with 'big tech' suppliers

1.14 Government's approach needs to keep pace with significant changes that have taken place in the technology market in the last few years. Digital services are rapidly changing in nature and are increasingly underpinned by technology and services which are subscription-based and which government does not control. Globally, the market is consolidating due to scale benefits and three multi-national cloud providers, sometimes referred to as 'hyperscalers', had a combined market share of over 60% in 2024.[12] In October 2023, the Competition and Markets Authority (CMA) opened an investigation into the competitiveness of the UK market for cloud services. Government also deals with other very large global providers of digital and technology services, colloquially known as 'big tech'.[13]

1.15 Government would benefit from a more strategic overall approach to dealing with cloud providers given their importance to the delivery of digital services. There is insufficient data to help buyers make decisions on opting into collective buying, and the centre of government could do more to encourage departments to align their own procurement timescales or to harmonise specifications. As noted above, GCF and CCS have negotiated memoranda of understanding with major cloud suppliers but there is also an opportunity to develop more specific and detailed advice to departments on how to navigate the complexity of options available and where further negotiation may be possible.[14]

1.16 Government's negotiating position needs to acknowledge the practical reality that moving between different cloud providers can be difficult and disruptive. The CMA's market research found that "[s]witching cloud providers is seen as the equivalent of moving other kinds of infrastructure, such as moving house or moving a business from one country to another. It is not something to undertake lightly or consider at all unless it leads to significant business benefits long term that override the perceived cost and risk of changing." Trying to avoid services specific to a particular provider is difficult and likely to result in reduced functionality.[15]

12 For example, Canalys reports that the combined global cloud infrastructure market share of Amazon Web Services, Microsoft Azure and Google Cloud is increasing and in the second quarter of 2024 stood at 63%, see: https://www.canalys.com/newsroom/worldwide-cloud-services-q2-2024

13 'Big tech' is a term that refers to the largest and most dominant global technology companies. 'Cloud' refers to services hosted by third parties and accessed by users over the internet.

14 Examples include optimisations such as aligning licence payments to usage, and moving to a different pricing tier which may include more bundled features and rebalancing (exchanging one paid-for feature for another).

15 The cloud platforms offered by major providers are very different at the technical level, including controls, features and security.

1.17 The use of multiple cloud providers to meaningfully reduce dependency on a single provider for a particular service can pose a significant challenge and introduce new risks. It involves greater technical complexity, higher overall cost and makes it harder to take advantage of innovations specific to a particular cloud provider. Few people have the depth of specialist knowledge to work with multiple cloud platforms, and there will be a cost in retraining or replacing digital teams. Decision-makers should not assume that one piece of software is much the same as another of the same type. Switching cloud application software to work with a different provider's platform almost always requires significant work due to the uniqueness of solutions, customisations and integrations. Such work could also detract from an organisation's ability to address other more pressing priorities with existing resources.

1.18 Using the cloud for new or existing services without changing existing business processes falls short of full digital transformation. Government has also tended to adopt a mindset of building bespoke products to meet a perception of unique or special needs, rather than taking advantage of standardised capabilities. Procurement to support such activities has focused on building individual products on a contract-by-contract basis and not on how to integrate them into complete services that contribute to the wider modernisation of government. The cost implications of these approaches are unknown. Moreover, departments should have a clear and coherent view on how they are going to take advantage of innovative cloud services, including artificial intelligence and advanced software and data capabilities. Government would benefit from adopting an approach which encourages more innovation from suppliers. The digital centre should lead this thinking to provide clarity including for commercial teams.

Recognising the problems

1.19 CDDO has identified digital procurement as an area where government could improve performance. Its *Transforming for a digital future: 2022 to 2025 roadmap for digital and data* includes actions under 'Mission six' for reforms to central processes, including in finance and commercial, to unlock digital transformation.[16] However, with four people recently dedicated to improving procurement for digital programmes, CDDO has not had the resources to make headway with the substantive challenges we have previously reported.

16 CDDO, *Transforming for a digital future: 2022 to 2025 roadmap for digital and data*, June 2022 and updated September 2023, available at: https://www.gov.uk/government/publications/roadmap-for-digital-and-data-2022-to-2025/transforming-for-a-digital-future-2022-to-2025-roadmap-for-digital-and-data. In our March 2023 report, Comptroller and Auditor General, *Digital transformation in government: addressing the barriers to efficiency,* Session 2022-23, HC 1171, March 2023, available at: https://www.nao.org.uk/reports/digital-transformation-in-government-addressing-the-barriers, we said that planned progress was slow as the success of this mission was as much about influencing other central functions to engage as it was about what CDDO did. We were concerned that CDDO had insufficient resources to deliver this mission.

1.20 CDDO has taken on a more prominent role in renegotiating government's memorandum of understanding with Microsoft for cloud services and business applications. The three-year agreement which the Crown Commercial Service (CCS) negotiated was largely a pricing agreement for aggregated demand discounts. CCS and Microsoft had not agreed renewal terms by the time of its original expiry at the end of April 2024. GCF and CCS agreed to involve CDDO in a reset of the negotiations. A short extension was agreed on current terms and CDDO is now involved, with a focus on looking to obtain more significant strategic value. If this approach is successful, it could be a new model way of working.

1.21 In July 2024, government announced a restructuring of the digital centre of government, with implications still emerging. Government has expanded the scope and size of the Department for Science, Innovation & Technology (DSIT), by moving from the Cabinet Office the digital functions of CDDO, the Government Digital Service and the Incubator for Artificial Intelligence (i.AI). This will form "part of wider efforts to launch DSIT as the digital centre of government, working closely with the Cabinet Office and HM Treasury, to maximise the potential of digital, data and technology to deliver for the British public."

Part Two

The centre of government needs to create a better approach for digital procurement

2.1 This part discusses the need for system reform at the centre of government in developing a strategic approach to digital procurement across government.

Current procurement guidance does not address all the complexities of digital commercial issues

2.2 This section sets out how the centre of government needs to improve its approach to digital procurement.

Guidance and business case processes need to be strengthened

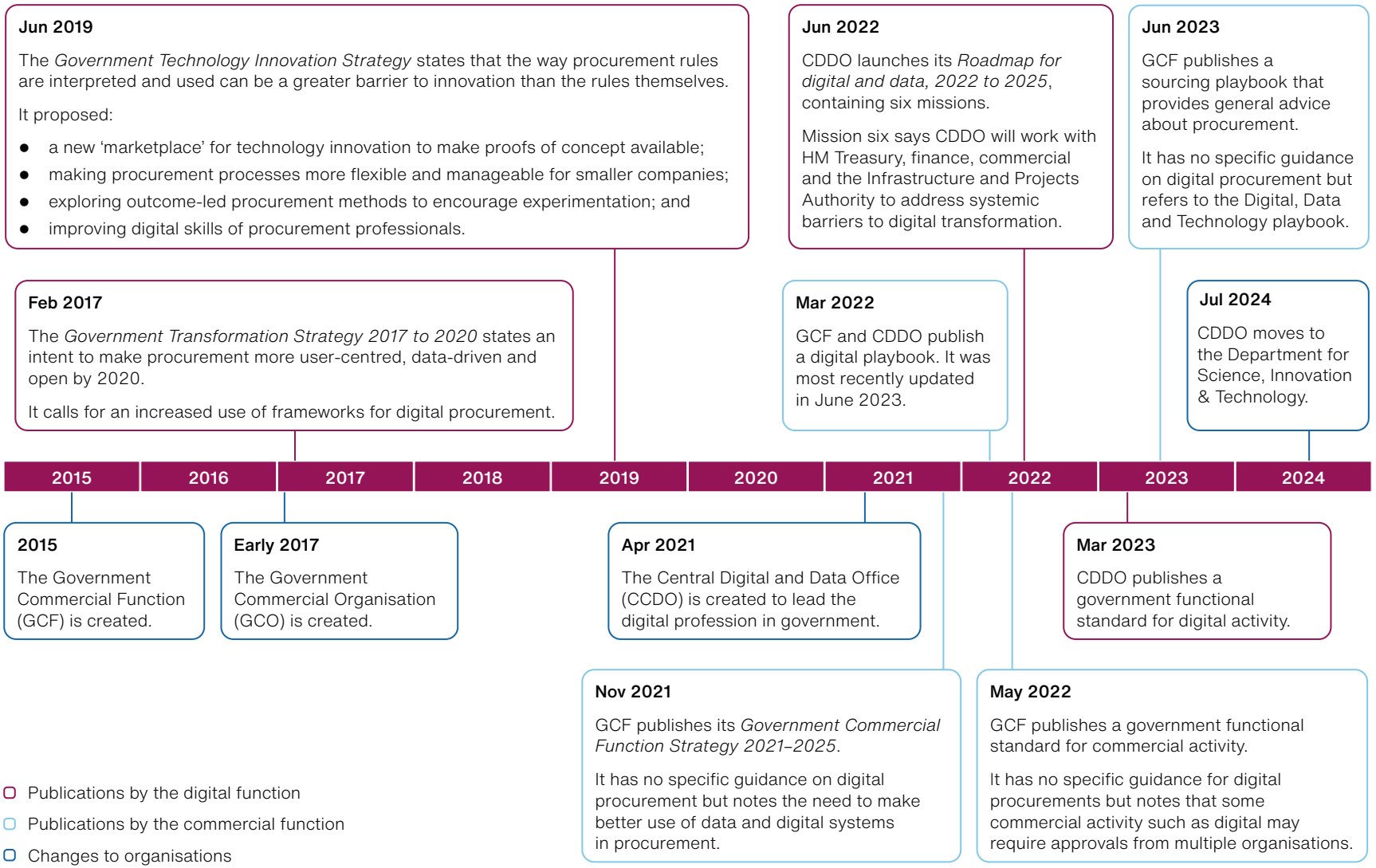
2.3 Government strategies to date have not addressed procurement for digital change in any depth (**Figure 8**). There is an important distinction between digital and other programmes, such as construction, which require different types of procurement for their different needs. The Government Commercial Function (GCF) supports procurement in departments through the Crown Commercial Service (CCS), which provides buying advice and support to departments and other public sector bodies who have common requirements, including digital. Government has supplemented general commercial guidance with sector-specific 'playbooks'. The GCF and the Central Digital and Data Office (CDDO) have made a start with publication of a digital playbook in March 2022 and updated it in June 2023. GCF's construction playbook was co-developed and endorsed by the construction industry, whereas the digital playbook would benefit from greater departmental and external input on the more complex issues.[17]

17 Digital, Data and Technology Profession, *The Digital, Data and Technology Playbook*, June 2023, available at: www.gov.uk/government/publications/the-digital-data-and-technology-playbook/the-digital-data-and-technology-playbook

Figure 8

Government digital and commercial strategies, 2015 to 2024

Government strategies have not yet addressed procurement for digital change in any depth



Source: National Audit Office analysis of information from government commercial and digital functions

2.4 Business case processes do not work well for digital change programmes. Programmes need an approved business case before they can secure funding, but for digital programmes this can be too early to understand how best to organise design, development and delivery. The 'five case model' set out in the Green Book guides central government on how to appraise and evaluate programmes but does not specifically address digital considerations or recognise them as distinct. Business cases for digital programmes sometimes proceed on conceptual or simplistic high-level assumptions without needing technical feasibility studies. The digital playbook requires the technical feasibility of large-scale projects to be assessed but is limited on detail.

2.5 Digital leaders within departments perceive there is an incentive to show a high return on investment and give a false impression of certainty. Central guidance requires departments to allow for uncertainty when making assessments but is not backed up by more specific guidance for how to do this in digital projects. We have seen examples where technical experts would have little confidence that the proposed approach is deliverable, or where technical risks are downplayed. Complexities emerging after contracts are agreed can be too fundamental to be dealt with via a change control process. This can lead to difficulties with scope, or disputes with suppliers over what is to be provided, adding to costs and delays.

Contracting practices do not prioritise outcomes

2.6 Government requires that all public procurement must be based on value for money, which it defines as "the best mix of quality and effectiveness for the least outlay over the period of use of the goods or services bought".[18] Digital leaders and suppliers told us the private sector places a greater emphasis on meeting business need and achieves better outcomes. For business change programmes in particular, government too often goes to market with a poorly defined requirement and an over-emphasis on minimising the scope of the requirement or cheapest resource. Such a focus on cost can prevent government taking full advantage of suppliers' specialist knowledge and innovation.

18 Crown Commercial Service, *Guidance: Public procurement policy*, updated April 2023, available at: https://www.gov.uk/guidance/public-sector-procurement-policy

Government struggles with the breadth of issues that affect its ability to engage effectively with digital suppliers

2.7 This section covers how the centre needs to ensure that government is better placed to engage strategically with suppliers before the start of programmes, as well as ongoing engagement to ensure government gets overall value from the relationship.

Engaging commercial partners strategically

2.8 Departments do not spend sufficient time exploring requirements with commercial partners before awarding a contract. It is hard to define and write upfront specifications for complex digital programmes, and early discussions with a range of suppliers before settling on a proposed approach can strengthen collaboration, facilitate innovation and improve the quality of requirements. Digital leaders within departments said that they are often advised by the commercial function that engaging with suppliers outside a formal procurement would be too risky. While government needs to ensure compliance with procurement law, we consider that in many cases digital specialist leaders could speak to a range of suppliers to understand what the market can offer without jeopardising the subsequent competition.

2.9 Government finds it difficult to treat digital suppliers as commercial partners. Commercial partners are an important source of expertise, bringing valuable experience of working with complexity and scale.[19] Even in well-organised departments, supplier engagement is considered a role for only general commercial teams, with digital specialists not involved. In our 2023 report *Lessons learned: competition in public procurement*, we found that departments are unclear how to engage with the market before contracting and do not consistently follow central guidance.[20]

2.10 New legislation allows for early engagement, but detailed guidance and a change in culture are required to make a practical difference. The Procurement Act 2023 allows government to design competitive processes that operate over several stages, potentially enabling government to test feasibility in a better way without participating suppliers gaining an unfair advantage. Government's Procurement Act training explains the benefits of market engagement, but guidance for commercial teams is only a high-level summary of what the Act allows and does not give practical advice on how to run engagements effectively. Currently there is no plan for a strategy or more detailed practical guidance on early market engagement.

19 By 'commercial partners' we mean external suppliers of digital technology who have an ongoing relationship with government through extensive contractual involvement.

20 Comptroller and Auditor General, *Competition in public procurement: lessons learned*, Session 2022-23, HC 1664, National Audit Office, July 2023, available at: https://www.nao.org.uk/insights/competition-in-public-procurement-lessons-learned

2.11 Government needs strategic and sustained access to a wide range of professional digital skills, including to support the continued operation of its legacy systems. It needs assistance with serious or urgent critical systems problems, expertise in large-scale and cross-government technical design and architecture, and specialist integration skills without which departments can struggle to orchestrate successful delivery themselves. Timely and cost-effective access to such capabilities requires both an understanding of the professional services marketplace and commercial expertise in the creation and maintenance of appropriate supplier contracts. This includes an understanding of how to establish expertise, independence and freedom from conflicts of interest in accordance with the new Procurement Act.

2.12 Government set up a network of Crown Representatives in 2011 to provide a focal point for its relations with strategic suppliers. This arrangement is intended to create mutual value, but the view from digital leaders and suppliers is that, while it sometimes works effectively and Crown Representatives can bring good experience, they have few levers to improve delivery, and so have not led to substantial improvements.

Being an intelligent client

2.13 Government struggles to manage contracts effectively as an intelligent client. Acting as an 'intelligent client' entails being able to understand the supplier and to use commercial levers to meet government's needs. For digital contracts it is important for the buyer to understand that, although the technical delivery will reside in suppliers, as the public service provider, it remains ultimately responsible for the outcome of a contract. Therefore, it cannot effectively manage the contract without understanding the technology, product lifecycle or commercial strategies of the supply chain. This requires people with strong digital commercial skills throughout the contract lifecycle, as follows.

- The technical design needs to be specified correctly, in enough detail, so that progress against outcomes can be properly assessed. This requires a realistic understanding of what services should cost and how long delivery should take.
- Digital experts need to be actively involved in regular contract management forums to ensure problems are identified and escalated. This is particularly important where different suppliers' work needs to be integrated, or where government needs to deliver its own obligations.
- Governance arrangements need to ensure that senior leaders are equipped to understand the issues being raised and the options available to manage risks.
- Suppliers should be treated as trusted partners. The Infrastructure and Project Authority's Major Projects Leadership Academy teaches senior project leaders across government to work collaboratively with suppliers, recognising that complex projects benefit from a partnership model.

2.14 The centre of government does not have sufficient detail of suppliers' own costs and requirements. Having such knowledge would give government a better idea of whether suppliers' profit margins are reasonable. This includes safeguarding against excessive profits but also ensuring that commercial returns are fair. If a supplier's ongoing viability is at risk, it could cause disruption to the continuity of essential services.

2.15 Supplier management is more than just managing the terms of a contract which can work for commodity contracts but is not sufficient for digital programmes and services. For these it is essential to manage supplier relationships and ensure that suppliers are delivering requirements as expected. Good practice includes building consistent knowledge and understanding of the contract, requirements, supplier and costs, and retaining this knowledge throughout the commercial lifecycle. In our guidance on *Managing the commercial lifecycle*, we identified a need for organisations to improve how they actively look at the quality of performance and delivery to supplement routine monitoring.[21] Interviewees told us that, too often, departments dedicate substantial resources to putting a contract in place, but insufficient attention and resources are applied after the contract is awarded. This can reduce the value government obtains and lead to relationships with suppliers that become transactional and adversarial.

The role of suppliers in the transformation of legacy systems

2.16 Government is still heavily reliant on legacy systems which can be difficult to support and unattractive for alternative suppliers to take on. Legacy systems underpin many important operational and administrative processes and associated services.[22] They are often difficult and expensive to support, but, if they fail, the continuity of key government operations, such as tax and benefits, will be affected. Legacy systems are often supported by the large suppliers who originally provided them. Many have become 'black box' systems over time, making them unattractive to other suppliers to take over and run, especially when they are approaching the end of their useful lives and a programme is underway to replace them. For example, the Police National Computer (PNC), first introduced in 1974, has been supported by the same large supplier for many years and is being replaced under the National Law Enforcement Data Programme. When the Home Office renewed the PNC support, it undertook market engagement, but no other suppliers came forward to challenge the incumbent, who was awarded a new £48 million contract in 2022.

21 National Audit Office, *Managing the commercial lifecycle*, July 2021, available at: https://www.nao.org.uk/insights/good-practice-guidance-for-managing-the-commercial-lifecycle

22 We define legacy systems as systems and applications that have been operationally embedded within a business function but have been overtaken by newer technologies or no longer meet changed business needs.

2.17 Replacing legacy systems is difficult and complex, and needs commercial partners who both understand the issues and can undertake the task. Failure to understand the many issues associated with making the transition from legacy technologies to modern technologies, including their interdependency with other systems, has frequently hampered government's past attempts. Those responsible for procurement need to prioritise the appropriateness of supplier capabilities, focusing on all aspects, and not overestimating the capabilities of smaller suppliers or only selecting the cheapest bidder. This can be a particular problem in circumstances when the use of a framework determines the supplier to be used, rather than a supplier who may be better suited for the task.

There is a lack of digital commercial skills in government

2.18 This section covers the challenges of finding the right mix of skills and the right sourcing approach at the centre of government.

Responsibilities, resources and skills at the centre of government

2.19 The centre of government has yet to establish mechanisms for aligning responsibilities, skills and resources to give it the best chance of fulfilling its potential to lead government's digital procurement activities. GCF has to cover a large spectrum of activity and does not have all the digital skills needed to reflect the distinct procurement challenges of digital programmes and operations. The Markets, Sourcing and Suppliers team within GCF manages relationships with government's largest digital suppliers. CCS and Crown Representatives take the lead in developing frameworks and engaging with suppliers respectively, and there are 120 people in CCS who have a digital commercial focus. CDDO leads on digital and data policy but does not have responsibility for digital procurement in government. It has relevant expertise that can inform how government approaches digital procurement. CDDO specialists could bring a depth of understanding of digital and technical matters beyond what exists in the wider commercial function. However, CDDO has limited resources to take on additional work.

Assessment of skills and capability needs across government

2.20 Existing digital expertise in government outside GCF is insufficiently harnessed in digital procurement. We consider that digital leaders understand the challenges and bring much needed expertise to the public sector, but they struggle to get the necessary attention. The digital leaders we spoke to expressed frustration with the existing situation and their inability to exert sufficient influence on the commercial aspects of change programmes with digital components. Outside government, there is an increasing focus on equipping senior executives with the understanding they need to provide effective leadership, including commercial, to programmes with a strong digital element.

2.21 We have not seen evidence of the centre of government undertaking a formal assessment of its digital procurement capability needs. Over 28,000 people work in the digital and data profession in government, around 5% of the civil service workforce in 2023. In an area as important as digital procurement, it is essential that government has a clear view of the skills it needs, the gaps and the actions required to fill them. Similarly, we have not seen evidence of a government plan in relation to recruiting and retaining people with digital procurement skills.

2.22 Much of the domain and technical expertise sits in departments, and defining and agreeing skills should therefore be a collaborative process. Departmental business owners, commercial and technical specialists should work collaboratively together to explore needs and options, and to incorporate required central standards, in order to produce the best procurement and contracting approach. This includes aspects such as business and technical requirements, evaluation and technical assurance of bids (**Figure 9** overleaf).

Figure 9

Digital skills required for strategic management of suppliers

Strategic management calls for skills and processes over and above those required by generic commercial considerations

Skill	Digital expertise
What is strategic supplier management?	Commercial directors told us that the key elements should include: (1) demand planning, strategy and strategic evaluation; (2) procurement sourcing and contracting; and (3) supplier performance and relationship management.
What have we found?	Government's approach to strategic supplier management mainly addresses (2) above and focuses on the supply aspects, rather than identifying strategic demand, pipelines and plans, for which the data is lacking. Commercial directors told us that all three are needed, and to be successful, requires investment in time and commitment, together with the right training and skills.
What digital skills are required?	**Strategic alignment:** In-depth technical capabilities to ensure that all digital procurements and contracts align with and actively support delivery of the cross-government digital transformation vision, strategy, architecture, and standards. **Internal insight:** Deep expertise in the use of digital procurement to deliver departmental policy and business outcomes, and to manage their ongoing relationship with technology budgets, pipelines and plans. **External insight:** Experience of developing and maintaining a detailed technical map and analysis of the digital landscape, including complex supply chains and their impact on sourcing and procurement. **Market intelligence:** Deep expertise in new and emerging technologies, standards and suppliers, and how they relate to government's existing systems, technologies, standards and suppliers, to make informed analyses and recommendations based on emerging trends. **Supplier management:** A deep technical understanding of the digital landscape, identifying and implementing effective commercial routes to market to support consistent cross-government transformation and innovation, including taking advantage of economies of scale. **Relationship management:** Ensuring digital commercial developments meet the needs of the various parts of government, both within and between departments, drawing on deep technical experience of successful digital delivery and the relationships and interdependencies between policy, business and technology.

Source: National Audit Office analysis of interviews with departmental commercial directors

Part Three

Departments need to better understand and manage the complexities of digital procurement

3.1 This part discusses the key areas that departments need to get right before they reach the point of awarding digital contracts to suppliers.

Departments do not make full use of their digital expertise when procuring for technology-enabled business change

3.2 This section covers the need for digital commercial capability in departments and the impact of Agile delivery methods on the commercial approach.

Ensuring and using the right mix of capability in a department

3.3 Commercial teams in departments lead, and make most of the decisions on, digital procurements often without the benefit of digital expertise. They are also not responsible for managing business systems. This can lead to a lack of consideration of the critical functional and non-functional requirements needed to run the service, and a lack of real ownership for the quality and costs of developing and running systems and services. When specialists try to include key functional and non-functional requirements considered essential for the integrity and ongoing maintenance of systems, these can be removed by commercial teams as 'savings' to the contract. This has also contributed to the deterioration of many legacy systems over time. Chief digital and information officers (CDIOs) who do understand these matters are often not involved at all or until it is too late. This can be after policy decisions have been made and an approved business case has been passed to the commercial team to start the tendering process for a technology supplier contract.

3.4 Procurement teams can often treat contracting as if it were a single-issue technical process instead of addressing the ongoing interplay of policy design, business model, data model and technical architecture. Where the complexities of digital change are not properly understood, resourcing and contracting can create disjointed, fragmented solutions unable to deliver a holistic outcome that helps government become more effective and efficient. To succeed, departments need business, data and technology architectures and a sourcing strategy to support them, and to ensure digital programmes contribute both to improved departmental outcomes and the wider programme of government transformation. Otherwise, they may not meet policy or business objectives, having to de-scope, delay, or even abandon programmes after contract award.

3.5 Current approaches to digital procurement can also exacerbate the problem of legacy systems. Although various guidance exists regarding tackling legacy issues, a focus on short-term delivery horizons can mean insufficient attention is paid to fundamental issues.[23] These include contingency, interoperability with and dependency on existing systems, and the longer-term sustainability of newly developed solutions. These issues are further complicated because of the way essential technical capabilities are procured, with experts sometimes engaged on a short-term contractual basis that risks government prematurely losing access to the essential skills and capabilities it needs to maintain and enhance its digital estate. Without sufficient funding and commercial attention to both the remediation of existing legacy systems, and ensuring new procurements do not merely add another layer of complexity and cost, government will be poorly placed to ensure its digital infrastructure continues to meet the ever-increasing demands it faces.

3.6 Departments face a shortage of people who combine both digital and commercial skills. This can increase reliance on generic commercial frameworks which are not well suited to complex requirements. Consequently, departments may be tempted to structure contracts and specifications to fit the skills of officials letting and managing contracts and apply model terms in situations which are not suited to the model.

23 Examples of such guidance include CDDO, *Managing legacy technology,* February 2019, available at: https://www.gov.uk/guidance/managing-legacy-technology, and Digital, Data and Technology Profession, *Commercial and supplier management approach to mitigating and preventing legacy IT*, March 2022, available at: https://www.gov.uk/government/publications/how-to-mitigate-and-prevent-legacy-it/commercial-and-supplier-management-approach-to-mitigating-and-preventing-legacy-it

3.7 Commercial teams do not make sufficient use of available digital expertise, which creates risks throughout the procurement process. Several CDIOs we spoke to considered they were not able to influence digital procurements because their teams were not consulted properly. Although commercial specialists are required to engage with business owners, there is no guidance about how and when to engage digital specialists, and digital leaders felt that this consultation was not happening. The risks created include:

- suboptimal requirements and specifications – this can lead to the inability to deliver the right contracts;
- ineffective evaluation process – bid assessment by insufficiently qualified people can lack the necessary depth of expertise required and, in extreme cases, take the wrong approach; and
- scoping solutions around current knowledge – this may lead to a lack of innovation and increased technical debt. Technical solutions may also become detached from wider objectives because of contract-specific solutions that do not integrate with, or contribute to, other digital change programmes.

Ensuring the involvement of digital technical specialists earlier in the lifecycle could lead to better outcomes from contracts and reduce the tendency for digital procurements to cost more than expected and to under-deliver.

Deciding on in-house capability and external support

3.8 Government has not set out clearly what skills it wants to develop and retain itself, and what skills are best brought in from outside. Some departments have built in-house teams but supplement them with supplier capability. CDIOs told us their main focus is to strengthen their intelligent client functions. Suppliers can provide government with access to a wide resource pool of trained technology professionals, and the government digital and data profession's latest attempt to boost skills in the workforce is seeking to establish an ongoing programme of exchanges and placements with industry. However, government does not see digital procurement as a skillset in its own right.

Impact of delivery method on the commercial approach

3.9 The common practice of leaving essential details to be determined only after a contract is awarded can lead to inadequately scoped contracts. Agile has become the default choice for delivery of government digital programmes. It can be an excellent approach when used appropriately, but is not appropriate for all programmes' needs, and can make procurement more challenging. Agile is sometimes misapplied to business change programmes, leading to programmes starting with only a high-level understanding of the requirement or intended outcome (**Figure 10** overleaf). It is important that requirements are defined to a sufficient level of clarity for suppliers to make an informed assessment of what is being asked for.

Figure 10
Case example: agile methodologies

Agile methodologies have been misapplied to business change programmes

Agile methodology is an iterative and incremental approach to delivery frequently used in software development projects. Agile methods have become the default choice for delivery of government digital programmes but are not the answer to all programme delivery challenges. Agile is an excellent approach when used appropriately. When programme teams get Agile right, they: target specific software deliverables using the right expertise; have a small budget and short duration; consider the user perspective; and deliver in a controlled and managed way. However, Agile methods can exacerbate problems when the complexity of the programme is not sufficiently understood.

In our October 2022 good practice guide, *Use of Agile in large-scale digital change programmes* we suggested that senior leaders ask whether commercial arrangements support Agile ways of working by asking the following questions.

- Have suppliers been consulted early to help shape requirements at the pre-contract stages?
- Are the limitations of the traditional HM Treasury approach to business cases, with artificial certainty and rigid movement from Strategic Business Case through Outline Business Case to Full Business Case, understood by those allocating funds to Agile development?
- Do contracts lock suppliers into fixed commitments before the requirements have emerged?
- Is there enough information about the design at a level suitable for the basis of a procurement, or are requirements vague so that suppliers have to include many assumptions in their bids?
- Are there indications that the organisation is treating such assumptions as risks to be minimised, for example as evidenced by risk logs, risk reviews and governance meeting minutes?

Source: National Audit Office, *Use of Agile in large-scale digital change programmes*, October 2022

3.10 Departments tend to consider each programme in isolation, and we rarely see digital programmes consider how technology will interact across services, or how to manage cost over the full life of a service. The way Agile approaches are adopted in government can lead to bespoke, localised development of components in a piecemeal way which support a narrow view of user need, rather than helping government transition services to a rationalised, and more effective, joined-up cross-government approach. Our report, *Early review of the new farming programme* said that designing and developing technology solutions ahead of key business decisions may lead to the solution costing more, taking longer and creating a suboptimal outcome based on an incomplete architecture and design, and integration issues.[24]

24 Comptroller and Auditor General, *Early review of the new farming programme*, Session 2017–2019, HC 2221, National Audit Office, June 2019, available at: https://www.nao.org.uk/reports/early-review-of-the-new-farming-programme

Digital contracts are awarded with insufficient preparation

3.11 This section covers challenges arising from starting a procurement before developing an early understanding of a department's delivery requirements and engaging with digital specialists and suppliers to understand what is possible.

Awarding contracts before the requirement is properly understood

3.12 Digital leaders in government told us programme teams often hasten to award a contract because of pressure to deliver. We have found instances where organisations attempt to award contracts before the requirement has been properly understood (**Figure 11** overleaf). In such situations, organisations do not spend enough time understanding the policy or business need, the existing environment, how the solution will integrate with other systems, data and processes, what business improvement the programme team wants to deliver, or how best to establish commercial relationships with suppliers to achieve the desired outcome. Setting requirements for digital projects is particularly challenging to get right.

- It needs technical skills to understand how and what the market can deliver, and the timetables and conditions within which they are expected to deliver. Suppliers told us that being involved earlier with a more outcome-based approach could help departments create more realistic requirements.
- Over-reliance on Agile working practices (paragraph 3.9) may exacerbate a tendency to work with an under-developed understanding of the outcome, or to overlook policy and legal constraints.
- Requirements need to be sufficiently detailed to get the right outcome without overly constraining a supplier from innovating or using its expertise. However, it is also important not to lock suppliers into excessively prescriptive commitments and deliverables too early.

3.13 Pressure to award contracts quickly can arise through weaknesses in managing contracting pipelines and tracking expiry dates. We have seen little evidence of the systematic use of contract management systems for identifying the need to procure the right solutions in a controlled and managed way and in a timely fashion. A more joined-up approach between commercial and digital teams would help avoid 'cliff edge' scenarios where approvals are urgently sought to meet approaching deadlines. Tracking the wider picture across government would help with the aggregation and prioritisation of demand, which in turn could drive better value.

Figure 11

Case example: awarding contracts too quickly

Government often attempts to award contracts before the requirement has been properly understood

Our 2021 report on the *Green Homes Grant Voucher Scheme* (the Scheme) found that the deadlines set by HM Treasury for the Department for Business, Energy & Industrial Strategy (BEIS) to implement the Scheme constrained the time available for design, procurement and launch. The 12-week timetable strained BEIS's already limited resources, particularly the availability of specialist disciplines. BEIS chose to proceed to its timetable even though no bidder thought it was possible to fully implement the required digital voucher application system by the Scheme's launch.

Since BEIS was still developing the Scheme at the time of the procurement, it had not fully developed its requirements. This added complexity to the procurement and made it more difficult to set out clear contractual obligations – with some terms needing to be agreed after the contract was awarded. The supplier informed us that, in its view, BEIS's requirements for the system were complex, not sufficiently clear, and in some instances changed from the procurement stage, which hindered its ability to develop a solution and process applications in a timely manner.

BEIS judged that the use of a Crown Commercial Services framework, a standard government contract with pre-assessed suppliers, was the only way to procure a supplier within the timescales needed for the Scheme, while also minimising the risk of legal challenge and high costs. This meant, however, that it could only procure from the limited pool of framework suppliers, and it chose to adopt the framework's standard contract terms. These standard terms included the contract's cost-plus pricing model, which did not provide financial incentives for the timely processing of voucher applications.

BEIS attempted to mitigate the risk of the system not being fully implemented by varying the contract to allow for full manual processing of a limited number of applications until implementation could be completed. While further digital elements were added as the Scheme progressed, the system anticipated by BEIS was not in place by the time the Scheme closed.

Source: Comptroller and Auditor General, *Green Homes Grant Voucher Scheme*, Session 2021-22, HC 302, National Audit Office, September 2021

3.14 Programme teams can be slow to acknowledge and address the impact of underlying scope challenges on the procurement approach (**Figure 12**).

Working with suppliers to understand what is possible

3.15 Some digital programmes have tried to procure untested technologies on a large scale without understanding whether the market was capable of delivering them (**Figure 13** on page 44).

Approaches to contract design can negatively affect successful digital delivery

3.16 This section covers challenges relating to aspects of contracts that departments agree with suppliers. It addresses the allocation of risk to suppliers, characteristics of effective contracting mechanisms, structures and consideration of the integration role.

Figure 12
Case example: scope challenges

Government can be slow to acknowledge and address the impact of underlying scope challenges on the procurement approach

The National Law Enforcement Data Service (NLEDS) programme

In September 2021 we reported on the Home Office's programme to develop NLEDS. NLEDS was launched in 2016 to replace the Police National Computer (PNC) and the Police National Database (PND), which were reaching the end of their useful lives, and to enable the combined data to be linked to other systems. In 2020, following increasing costs, delays and significant police concerns that the programme was not meeting their expectations, the programme was reset. Since it started, the programme has switched its focus from replacing the PND and then the PNC, to only replacing the PNC.

The programme was delayed for several reasons, including uncertainty around the scope of the requirements, de-prioritisation of funding relative to other programmes, changes in technical approach, lack of commercial strategy and shortcomings in programme management and governance. The Home Office changed several fundamental aspects of the NLEDS technology as the programme progressed, resulting in additional work and expenditure. Some suppliers and programme staff told us that there had been multiple changes of technical design, driven by differing advice as to what was 'state of the art'.

Digital Services at the Border (DSAB) programme

Our December 2020 report on DSAB found that the Home Office had a consistent vision, but difficulties setting a manageable scope and plan to deliver. It faced pressures to increase the scope of the programme since it began in 2014, and it had not clearly defined what the programme was required to deliver. It sought to accommodate changing technologies and new requirements, including a 2014 government change to classification of security data, as well as demand for improved intelligence on areas of risk and better targeting of resources, with insufficient consideration of their impact.

The Home Office under-estimated the technology requirements of the programme and the capability it needed to deliver them. The programme board received reports of resourcing shortages, particularly of technical staff, eight times in 35 months between July 2015 and May 2018, with the Home Office categorising programme resourcing risk at the highest possible level in July 2019. As a result, the decision was made to pause delivery, ultimately leading to a reset of the programme.

Source: Comptroller and Auditor General, *The National Law Enforcement Data Programme*, Session 2021-22, HC 663, National Audit Office, September 2021; and Comptroller and Auditor General, *Digital Services at the Border*, Session 2019–2021, HC 1069, National Audit Office, December 2020

Allocation of risk

3.17 Attempts by departments to outsource risk downplay the reality that government will still be held accountable for any failures. Digital leaders told us that government sometimes tries to use contracts to pass too much risk to suppliers. Using contracts to ensure risks are managed appropriately is difficult for digital projects because over-specifying can inhibit delivery, while under-specifying may leave the buyer at risk of receiving a service that does not actually meet its needs yet still leave the buyer accountable for that failure. These issues can discourage suppliers from bidding, which limits competition, or from putting their best people on a government contract. One major supplier indicated that it had declined to bid for two large government contracts because it felt it could not produce proposals it believed were financially sound with manageable commercial risk to itself, given the risks that government was expecting the supplier to bear.

Figure 13

Case example: asking the market to deliver bespoke technology

Some digital programmes have tried to procure untested technologies immediately on a large scale without an understanding of whether the market was capable of delivering

The Ministry of Justice signed contracts in 2012 to develop a new 'world-leading' ankle tag for offenders, combining both radio frequency and GPS functionality. The tags aimed to store and send more location data than existing tags in the market, meet higher data security standards, and be reliable and robust. They were also expected to be compact enough to wear comfortably and not require continual recharging.

Following failed procurements for tags with two small and medium-sized enterprises, the Ministry abandoned plans for a bespoke tag and instead opted to procure tried and tested tags 'off the shelf', a lower-risk option which represented a significant departure from its original objective. HM Prison and Probation Service began to replace ageing curfew tags from the previous contracts in September 2020 against an initial target of March 2019. However, it has not improved efficiency and capability as planned, so the service remained no different from that in 2014. In March 2022, the original programme was closed, and a new programme was launched.

Source: Comptroller and Auditor General, *The new generation electronic monitoring programme*, Session 2017–2019, HC 242, National Audit Office, July 2017; and Comptroller and Auditor General, *Electronic Monitoring: a progress update*, Session 2022-23, HC 62, National Audit Office, June 2022

Departments' choice of contracting mechanism

3.18 Contracts for digital services are sometimes priced on a rate card basis, or fixed price, as if the supplier will provide a 'standard' service and take only limited risk. In 2022-23, Crown Commercial Service frameworks were used for £9 billion of digital procurement. Frameworks risk encouraging a contracting approach based on time usage rather than specifying what the supplier is meant to achieve. Frameworks are seen as beneficial as they make compliance with processes easier but are geared to buying inputs rather than outcomes. If the aim is to make the supplier responsible for successful delivery, a framework may not provide the optimal approach. Day rates can be an unreliable indicator of overall cost where widespread automation has substantially reduced development and testing effort and the remaining work demands creative skills at a higher rate. Suppliers told us such contracts limit flexibility in using their expertise to help government deliver the desired outcomes. We would expect that an appropriate sourcing approach is chosen for the requirement, aligned with risk management, procurement principles and market assessment.

3.19 Inflexible contracts can result in poor outcomes for both the department and the supplier (**Figure 14** overleaf). As we said in our report on *The challenges in implementing digital change*, evidence suggests that departments do not typically revisit, renegotiate and update contracts enough, except in the event of failure. Government is unlikely to get the quality of service it needs if suppliers need to minimise their losses. It can result in financial losses for suppliers and risk to continuity of service for government if suppliers are held accountable for unrealistic contractual obligations. A more mutually beneficial arrangement for departments and suppliers would involve commercial negotiation that recognises scope and requirements may change, for example, to address the emergence of previously unidentified key dependencies.

Structures and the integration of different contracts

3.20 Arranging contracts in a way that does not align with the nature of what is being procured, and which elements are being bought or built, leads to fragmentation. Most large programmes will use multiple contracts, and government must decide how to allocate the work between these. Where large programmes have been broken up into smaller contracts with a range of suppliers, departments have sometimes proved ill-equipped to combine the results into a coherent service. Disaggregating large contracts into individual services to define, contract for and run is a complex undertaking needing specialist integration skills which government mostly lacks in-house. The absence of skills and expertise can lead to an inflexible approach to procurement and cause adversarial relationships with suppliers (**Figure 15** overleaf).

3.21 Short contract lengths for complex undertakings can lead to contracts that do not comfortably fit the underlying technology lifecycle. Digital leaders told us that departments sometimes award contracts that are too short. There is no current central guidance on durations for digital contracts, but spend controls in force from 2016 to 2021 emphasised the use of short contracts to avoid lock-in to a single supplier. Digital leaders consider that contracts for digital change programmes are often too short to allow transformational work to be completed. We were told that departments' human resources and procurement functions sometimes create rules which limit the length of appointment of contractors and consultants. Such enforced departures to meet arbitrary time limits can disrupt programmes needing external resources.

Figure 14
Case example: inflexible contracts

Inflexible contracts can result in poor outcomes for both departments and suppliers

In 2012, the Army contracted with a supplier for their expertise in recruitment and marketing and set up a partnering agreement to manage the recruitment process. This included plans for a centralised, automated approach to engaging with candidates, using a new online recruitment system.

The supplier underestimated the complexity of the Army's requirements and the amount of customisation required for the new online system. As a result, it could not use an 'off-the-shelf' commercial solution and took longer than expected to develop a bespoke application. The Army included 10,000 specifications in the supplier contract and did not take the opportunity to simplify the recruitment process before introducing the new online system. Between 2013 and 2018, it also responded slowly to the supplier's proposals to streamline or change the process.

The Army was concerned that continuing to apply the maximum service credit deductions for failing to meet monthly recruitment targets would not give the supplier an incentive to improve its performance. Delays in developing the Army's own part of the online recruitment system meant it had not met its own contractual obligations. The Army therefore agreed to amend the performance regime to address shortfalls in recruitment and reinforce its partnering agreement with the supplier.

Source: Comptroller and Auditor General, *Investigation into the British Army Recruiting Partnering Project*, Session 2017–2019, HC 1781, National Audit Office, December 2018

Figure 15
Case example: integrating contracts

Integrating different contracts together requires a collaborative approach

HM Prison and Probation Service (HMPPS), an agency of the Ministry of Justice, is responsible for electronic monitoring ('tagging'). It originally let regional contracts to suppliers who operated an end-to-end service. In 2014, it changed to a functional 'tower' contracting approach with four different suppliers. It planned for each supplier to be responsible for a different element of the national programme: supplying and fitting tags to offenders; running a monitoring centre; providing underlying mapping data; and providing the communications network. HMPPS acted as an 'integrator' to coordinate work across the four suppliers.

As integrator, HMPPS had to agree requirements, ensure suppliers' contributions were compatible, and resolve integration issues. However, HMPPS did not spend enough time at the outset exploring the feasibility of requirements. Instead, it took a detailed, prescriptive approach which was inflexible and limited innovation. An external review of the programme found that HMPPS did not intervene early enough to resolve cross-supplier integration issues. In addition, a breakdown in trust and collaboration between HMPPS and a supplier led to three formal disputes during the programme. It saw evidence on both sides "where past history is referenced in place of current realities and perceived 'facts' reported verbally have not been borne out by the documentary evidence". It found that, despite signing a collaboration agreement, HMPPS and its supplier did not always work together effectively, with missed opportunities to reset adversarial behaviours.

Source: Comptroller and Auditor General, *Electronic Monitoring: a progress update*, Session 2022-23, HC 62, National Audit Office, June 2022

Appendix One

Our scope and evidence base

Our scope

1 This report examines government's overall approach to digital and technology suppliers. It sets out lessons for the centre of government and departments to learn from government's approach to digital procurement. We focus on major procurement of technology to support business change, including the digital transformation of government and planning for technology of the future. We refer to these major policy and business change procurements as 'digital programmes' and 'digital procurement' throughout this report. We exclude the more straightforward technology services and commodity items purchased for operational needs. The report examines:

- the scale of the challenge of undertaking digital procurement in a way that supports the modernisation of the public sector to make it more efficient and effective, and government's response to that challenge;
- how the centre of government can adopt a more strategic approach to how it works with digital and technology suppliers; and
- how departments can better understand and manage the complexities of digital procurement, including making full use of their digital expertise.

2 The report does not look at individual contracts and relationships between government departments and technology suppliers. We have not audited the procurement processes of individual departments as part of this report, but have drawn on past National Audit Office (NAO) reports that have looked at a range of digital procurements.

Our evidence base

3 We reached our independent conclusions on government's approach to its dealings with digital and technology suppliers following analysis of evidence collected primarily between April and November 2024.

Document review

4 We conducted a review of published documents. These included government digital and commercial strategies published over the last 25 years. We reviewed and compared government's construction and digital playbooks published in 2021 and 2023 respectively.

5 We analysed published NAO reports from 2016 to September 2024, covering a range of subjects that commented on digital and commercial topics, and on major programmes. From the findings of those reports we developed case studies to illustrate lessons learned for the purpose of this report. These reports included the following.

- Comptroller and Auditor General, *Upgrading emergency service communications: the Emergency Services Network*, Session 2016-17, HC 627, National Audit Office, September 2016.
- Comptroller and Auditor General, *NHS England's management of the primary care support services contract with Capita*, Session 2017–2019, HC 632, National Audit Office, May 2018.
- Comptroller and Auditor General, *Investigation into the British Army Recruiting Partnering Project*, Session 2017–2019, HC 1781, National Audit Office, December 2018.
- Comptroller and Auditor General, *Completing Crossrail*, Session 2017–2019, HC 2106, National Audit Office, May 2019.
- Comptroller and Auditor General, *Progress delivering the Emergency Services Network*, Session 2017–2019, HC 2140, National Audit Office, May 2019.
- Comptroller and Auditor General, *Challenges in using data across government*, Session 2017–2019, HC 2220, National Audit Office, June 2019.
- Comptroller and Auditor General, *Early review of the new farming programme*, Session 2017–2019, HC 2221, National Audit Office, June 2019.
- Comptroller and Auditor General, *Universal Credit: getting to first payment*, Session 2019–2021, HC 376, National Audit Office, July 2020.
- Comptroller and Auditor General, *Investigation into the free school meals voucher scheme*, Session 2019-21, HC 1036, National Audit Office, December 2020.
- Comptroller and Auditor General, *Digital Services at the Border*, Session 2019–2021, HC 1069, National Audit Office, December 2020.
- Comptroller and Auditor General, *Improving performance of major equipment contracts*, Session 2021-22, HC 298, National Audit Office, June 2021.

- Comptroller and Auditor General, *The challenges in implementing digital change*, Session 2021-22, HC 575, National Audit Office, July 2021.
- National Audit Office, *Managing the commercial lifecycle*, July 2021.
- Comptroller and Auditor General, *Green Homes Grant Voucher Scheme*, Session 2021-22, HC 302, National Audit Office, September 2021.
- Comptroller and Auditor General, *The National Law Enforcement Data Programme*, Session 2021-22, HC 663, National Audit Office, September 2021.
- Comptroller and Auditor General, *Electronic Monitoring: a progress update*, Session 2022-23, HC 62, National Audit Office, June 2022.
- National Audit Office, *Use of Agile in large-scale digital change programmes*, October 2022.
- Comptroller and Auditor General, *The Digital Strategy for Defence: A review of early implementation*, Session 2022-23, HC 797, National Audit Office, October 2022.
- Comptroller and Auditor General, *Modernising Defra's ageing digital services*, Session 2022-23, HC 948, National Audit Office, December 2022.
- Comptroller and Auditor General, *Investigation into the performance of HM Passport Office*, Session 2022-23, HC 949, National Audit Office, December 2022.
- Comptroller and Auditor General, *Progress with delivering the Emergency Services Network*, Session 2022-23, HC 1170, National Audit Office, March 2023.
- Comptroller and Auditor General, *Digital transformation in government: addressing the barriers to efficiency*, Session 2022-23, HC 1171, National Audit Office, March 2023.
- Comptroller and Auditor General, *Progress with Making Tax Digital*, Session 2022-23, HC 1319, National Audit Office, June 2023.
- Comptroller and Auditor General, *Competition in public procurement: lessons learned*, Session 2022-23, HC 1664, National Audit Office, July 2023.
- National Audit Office, *Digital transformation in government: a guide for senior leaders and audit and risk committees*, February 2024.
- Comptroller and Auditor General, *Progress in implementing Universal Credit*, Session 2023-24, HC 552, National Audit Office, February 2024.
- Comptroller and Auditor General, *Investigation into the Pensions Dashboards Programme*, Session 2023-24, HC 732, National Audit Office, May 2024.
- National Audit Office, *Guidance for audit committees on cloud services*, September 2024.

6 All documents that the study team received were reviewed against our overarching study questions. The review was used to verify and triangulate evidence, and as a basis for compiling our report findings. When needed, we clarified our understanding of the documents with relevant bodies and requested further documents and information as required. We made use of expertise within the NAO to support our review and interpretation of documents. We used our 2021 guidance on *Managing the commercial lifecycle* to help structure our review. We drew out lessons for both the centre of government and individual buying organisations, mainly focusing on early stages of a procurement (pre-requirement, sourcing approach, market monitoring, and process and agreement), because this is where we have often seen digital programmes go wrong.

Interviews

7 We conducted a series of semi-structured interviews with a range of stakeholders between April and November 2024. We selected interviewees to represent a broad range of knowledge, experience and perspective on digital commercial activities. They included the following:

- Individuals with responsibilities for digital commercial activities at the centre of government, by which we mean officials at the Central Digital and Data Office (CDDO), the Government Commercial Function (GCF) and the Crown Commercial Service (CCS). We met with officials at the Department for Science, Innovation & Technology (DSIT) who have taken responsibility for overseeing the CDDO as part of government changes in July 2024.
- Individuals with responsibilities for digital activities at the main departments in central government. These included individuals holding the role of chief digital and information officer and equivalent, and a non-executive director of a department.
- Individuals with responsibilities for commercial activities in a range of central government departments. These included individuals holding the role of commercial director and equivalent.
- Individuals holding senior positions at a selection of major digital suppliers and consultancies, with direct experience of working with government on contracts to provide digital products and services.

Financial analysis

8 Figure 4 of this report draws together relevant findings from five previous reports on digital change programmes undertaken by government. The figure shows the original and latest reported cost, cost increase and time increase for each programme, drawn from the findings in the corresponding NAO report. Where we include cost totals in the figure and elsewhere in the report, these totals are illustrative only since we are combining costs calculated or estimated at different times and using different price bases. The data were taken from the relevant NAO reports which were published at different times, and so the figure may also not reflect the latest position of costs and delays for each programme.

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