Growing digital skills in government

How to bridge the gap



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Contents

3 The skills challenge that government faces

4 Why we've published this report now

5 What are 'digital skills' anyway?

6 Government is not alone

10 Challenges and opportunities of new technology

14 Ways bridging the skills gap can help

15 How government can accelerate digital skills

16 Short-term solutions: sharing what we know

23 Longer-term solutions: unlocking people's potential

28 Other ways you can bridge the skills gap

29 10 ways to boost government skills

The skills challenge that government faces

The civil service digital skills gap is a major challenge and a key priority for the UK government. It is also a major pressure point for senior civil servants tasked with delivering the new digital public services that ministers want and that citizens need.



Beyond government, demand for digital skills is set to grow significantly. By 2030 it is estimated that 77% of all jobs globally will require some level of digital skills.

Although the civil service is one of the largest employers of digital and data professionals in the country, government digital roles currently make up a lower proportion of all government jobs compared to the average across industry.

Its state of digital government review, launched in January 2025, highlights that the "overall civil service...internal headcount equates to a proportion of around 5% digital and data employees. This represents under-resourcing relative to benchmarks of 6% for other governments and 8-12% in regulated private sector industries."

The government has made a firm commitment to addressing this imbalance.

In March 2025 Pat McFadden, Chancellor of the Duchy of Lancaster and head of the Cabinet Office, stated the government's ambition to double the proportion of civil servants in digital or data roles to 10%.

The government understands the scale of the challenge – which is why point 4 of the government's 'six-point plan for public sector digital reform' commits to "investing in the digital and data profession and competing for talent and raising the digital skills baseline for all public servants".

Reorganisation of the government's digital services organisations bodes well for its ambitions for digital excellence. Its digital government blueprint has merged teams from the Government Digital Service (GDS) and the Central Digital and Data Office (CDDO) as part of a new, strengthened GDS within the Department of Science, Innovation and Technology (DSIT).

While there has been progress in many areas, significant challenges do remain, including attracting and retaining the right talent and the need to grow the digital knowledge of people in non-technical roles.

There is an economic imperative for more digital skills in government. The 2024 budget asked government departments to reduce their budgets by 2% and to achieve this through more effective use of technology.

In a continuing climate of constraints on government spending, we understand that civil servants are under pressure to deliver more – whether in delivering new digital services direct or delivering the digital capabilities that those new services require. An ongoing sense of constant change, both in demand and in technology, can also add to the pressure on civil servants.

Why we've published this report now

This Opencast report aims to provide civil service leaders with ideas and approaches to understand and navigate the skills challenges they face. And it provides some of the actions they can take to accelerate the delivery that's needed.

In the report, we explore:

- the scale and nature of the challenge facing government in its efforts to bridge the skills gap
- the context of the global skills market
- how advances in technology are changing the way public services are designed and delivered, and the new skills demands that technology places on government
- what more can be done, particularly in transferring knowledge to in-house teams
- the increased role of secondments from business in helping bridge the skills gap
- some of Opencast's own experiences of promoting career moves into tech and building a progressive workplace culture.

With the publication in early 2025 of the new blueprint for modern digital government re-emphasising the need for more digital skills, now is a good time to consider what additional action is needed to help the government meet its ambition to hit the 10% target in the next five years.

To minimise the impact of the skills gap in both the short and long term, the government has established partnerships with external suppliers. This offers it opportunities to deliver digital projects that see suppliers transferring knowledge into government teams, as well as to offer routes to innovation, practical experience of new technologies, and lessons from other sectors and geographies.

As a consultancy helping government deliver its digital programmes, Opencast is well placed to share our experience in helping to transfer knowledge to government teams while on projects – and to suggest additional approaches to build good practice.

We see a strong alignment between the government's goals and our own purpose - to use the power of people and technology to make life better.

Across more than 12 years of work with government, we have built a strong understanding of how to transfer knowledge to in-house teams – leaving them in a better place to implement digital change and services themselves when we've completed our engagements.

Growing digital skills in government offers ways to make an impact, both to increase the efficiency and effectiveness of civil servants, and to deliver wider social impact by creating better digital public services for citizens.

In publishing this report, we aim to support people in key roles in government including:

- Digital capability leads who own departmental progress on skills
- Commercial teams involved in commissioning and procuring consultancy services
- People and technology leaders who have overall responsibility for recruitment and retention of people with technical skills.

Opencast will continue to support government on this agenda. We hope this report offers ideas for further progress in bridging the skills gap.

What are ‘digital skills’ anyway?

In discussing digital skills and skills gaps, the government’s focus is on roles as defined by the Government Digital and Data Profession Capability Framework.

The updated framework offers a 181-strong A-Z list of DDat skills, with roles grouped under eight broad categories

- Architecture
- Chief digital and data roles
- IT operations
- Product and delivery
- User-centred design (UCD)
- Data
- Software development
- Quality assurance testing (QAT)

Skill levels also have prominence in the updated framework. It assigns one of four levels to each skill – awareness, working, practitioner and expert.

Skills shortages for digital roles are unevenly spread across government. because of differing demands and resources within and across different departments and levels of seniority. For example, some departments have good UCD capability, while for others it remains a relatively new discipline.

Digital skills are not only required for technical roles. Increasingly, strategy and policy roles within the civil service require an understanding of technology and its potential.

This understanding ensures that legislation, guidance and policies align to delivery needs and that technical teams can implement digital services safely, responsibly and in an agile way.

The capability framework is constantly being updated, with new roles and disciplines being added as and when defined, with priority given to roles that are in high demand across departments.

Upskilling senior leaders

The government is focusing much of its efforts on addressing the challenge of upskilling basic digital skills. The focus of the last administration was on the fundamentals of digital and data literacy.

Its ‘digital and data essentials’ programme for senior civil servants had already evolved into a more comprehensive digital excellence programme (DEP), as part of a broader strategy to modernise the civil service by enhancing digital, data and technology capabilities among senior leaders.

The DEP aims to upskill 90% of senior civil servants in digital, data, and technology capabilities. By September 2024, nearly 2,500 DEP licences had been purchased across various government departments, demonstrating significant engagement with the programme.

The government elected in 2024 has evolved the programme, creating a more expansive and integrated approach to upskilling senior leaders in digital and data competencies. Its civil service people plan for 2024–27 sets out how it plans to develop digital and data skills across the civil service.

It has expanded the digital and data profession capability framework to include senior civil service roles including chief data officer, chief information security officer and chief technology officer. It also designates 16 skills as ‘senior civil service’ skills.

The framework seeks to increase the visibility of executive leadership and establish clearer career pathways for DDaT professionals within the civil service.

DDaT professional roles and skills

50	8	181	16
roles in total	role categories	skills in total	digital skills designated for ‘senior civil service’

Source: government digital and data profession capability framework (updated February 2025)

Government is not alone

The digital skills gap is by no means just a government challenge. Businesses across the world are facing similar recruitment and retention issues caused by skills shortages.

In this section, we offer an overview of the situation globally and in the UK, before assessing the how the government is progressing against its goals – and the key factors that affect its ability to recruit, retain and grow its digital expertise.



There's a global shortage

The digital skills demand

Global demand for digital skills is growing and will continue to do so. The number of people with digital skills is not keeping pace with the growing demand. The World Economic Forum says the digital skills shortage is a huge concern to global business leaders and that a lack of exposure to digital tools and digital ambition is leaving many young people ill-prepared for the jobs of the future.

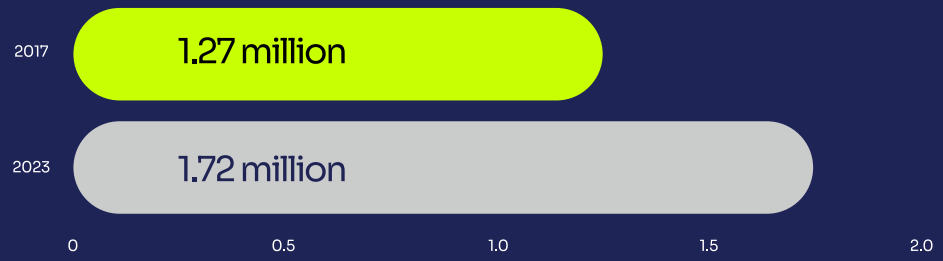
The World Economic Forum has estimated that

150 million

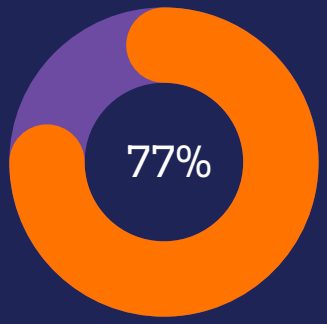
new technology jobs will be created globally over the next 5 years.

Source: World Economic Forum

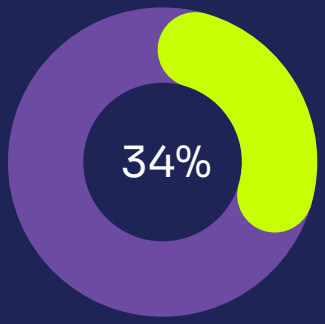
The UK faces a similar technical skills shortage. For years, UK jobs involving digital roles have been hard to fill. These shortages also have an economic impact. The parliamentary communications and digital committee estimated last year that "digital skills shortages cost the economy up to £63bn a year".



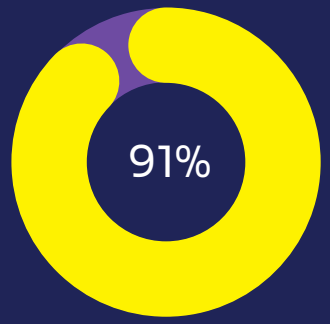
Source: UK government's annual employer skills survey



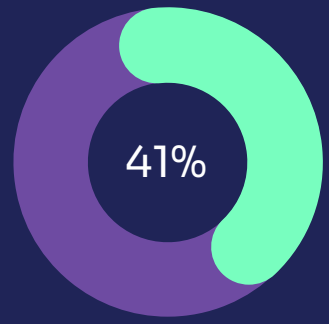
of all jobs to require digital skills by 2030.



of technology jobs worldwide filled by the necessary skilled labour.



of businesses experience challenges due to lack of digital talent.

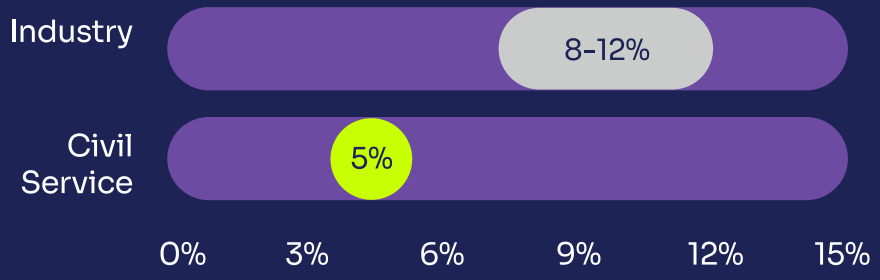


say the main cause is lack of training opportunities.

Source: People Management

The skills gap

Despite being one of the UK's largest employers of digital and data professionals, government still needs to increase its skilled digital workforce. The percentage of people working in government digital and data roles in the civil service is behind that of industry as a whole. The January 2025 state of digital government review said the proportion of DDaT employees equated to 5% of civil service staff overall, with government using the 8-12% industry figure as its benchmark.



Source: State of digital government review, January 2025

Although it is tracking behind industry, there has been progress. In November 2023, figures from the Central Data and Digital Office (CDDO) showed that the government's digital and data profession had grown by 9% in the previous six months. These roles now make up approximately 5.2% of the civil service headcount. This built on previous growth of 19% in the year to April 2023.

In addition, the proportion of government digital and data specialists had nearly doubled in the previous five years, growing from 2.8% in 2018 to 5% in 2023.

The size of the senior civil service digital and data cohort also continued to grow, with almost 300 senior civil service (SCS) roles reported. This represented an 8% increase over the previous months and 18% on the previous year.

In a November 2023 blog, CDDO said that "it's clear our digital workforce is growing and will continue to do so, with ample opportunity for more seasoned professionals or budding future specialists to join our ranks."

Vacancy levels

Demand for government digital and data roles is high right across government. TechMonitor reported in March 2023 that 37% of digital and data recruitment campaigns fail. This may be reflected in the vacancy rates.

But there is positive news. In September 2023, CDDO said that vacancies and vacancy rates were going in the right direction, down 5% and 2% respectively on the previous year – putting the civil service on track to achieve its target of less than 10%.

3905

Civil Service government digital and data vacancies

Source: CDDO (Nov. 2023) – latest available figures

12%

Civil Service government digital and data vacancy rates

Source: CDDO (Nov. 2023) – latest available figures

Pay and budget constraints

There are twin challenges for the civil service in attempting to address the digital skills gap: rates of pay and budget constraints.

This was highlighted in 2023 by a parliamentary Public Accounts Committee (PAC) report on digital transformation in government, which concluded that:

"Digital skills shortages, including those self-inflicted through headcount cuts, risk costing government much more in the long run because opportunities to transform are foregone, and delays increase the risks of prolonging legacy systems."

The PAC report said that departments were constrained in what they can pay and, while they try to offer more for specialist roles, they "cannot fully compete with the private sector in hard-to-recruit roles such as data architects and cyber security experts."

Data shows that the rate of salary increases in the market have now slowed from significant increases in 2022-2023, although technical architecture, solutions architecture and content design continue to increase. However, there remains a pay gap between public and private sectors.

But there has been some positive progress. A 2023 update from government stated that 32 organisations across the civil service had adopted the common government digital and data pay framework, which is designed "to offer a competitive remuneration package which recognises specialist DDaT [digital and data] skills in a consistent, fair and transparent way".

To address the imbalance between civil service and private sector pay, the framework offers government digital and data staff an additional, non-pensionable allowance based on role, working location and skill.

Practice	Average change 2023-24		Average change 2024-25	
Software development	0%	—	0%	—
Business analysis	0%	—	0%	—
Quality assurance	3%	▲	0%	—
Agile delivery management	0%	—	0%	—
Product management	3%	▲	0%	—
DevOps	0%	—	0%	—
Interaction design	0%	—	0%	—
Service design	0%	—	0%	—
User research	0%	—	1%	▲
Content design	11%	▲	4%	▲
Technical architecture	0%	—	5%	▲
Solution architecture	0%	—	3%	▲
Enterprise architecture	0%	—	0%	—
Digital performance analysis	0%	—	2%	▲

Salary changes for tech roles 2023-25
Comparative data from Brightmine



Climate of constant change

Civil servants work in a climate of constant change – and they are acutely aware of the ever-changing landscape. They know that new initiatives and requirements are coming through all the time. They also know that there is always the possibility of a change of administration in future.

In this climate of constant flux, it is easy to understand why civil servants sometimes feel like they are under siege. Varying approaches can ease this pressure, addressing delivery at different scales and over different timeframes. Changes to the way projects are delivered can secure value in the short term, with work on learning and knowledge transfer making an impact in the longer term.

Challenges and opportunities of new technology

The technology environment is ever evolving, and the pace of change accelerating. New technologies offer huge opportunities for government to deliver faster, more efficient and better targeted public services. But to make the most of these technologies, it needs people who understand its potential for making this a reality.

To address this, the government has created new organisations and frameworks, including standards and expectations of what digital services should look like, and how they should be designed and delivered.

For instance, the service standard and technology code of practice – introduced by the Government Digital Service (GDS) – set clear frameworks for how new digital products and services should be delivered – and also the skills required to do that.

It is essential guidance stays aligned with the demand for new skills, including for roles that previously did not exist. In this section we explore some of the impacts of the changing technology landscape.

Increased expectations

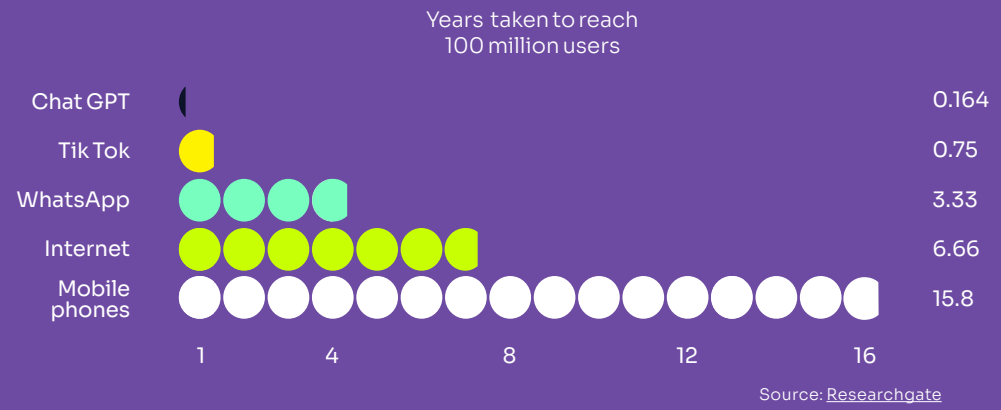
Public expectations about the quality and usability of digital services are constantly growing, driven by ever-more innovation in consumer technology.

The government has committed to making its most-used digital services easier and faster to use than ever before, through upgrades and investment. This will continue to have an impact on the demand for digital skills.



Faster adoption

New technologies are being developed all the time and, crucially, the adoption of those technologies is accelerating at remarkable pace. An emphatic illustration of this can be seen in the speed at which major technologies have reached 100 million users over the last 150 years.



Source: Researchgate

To keep pace, organisations need to ensure that their staff have the necessary skills to make the most of these new tools.



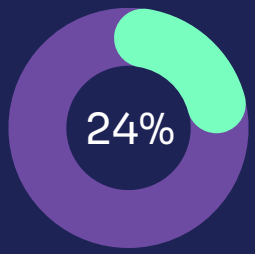
Training boosts tech skills for 150+

Training is an obvious route to boosting in-house digital skills –and works best when it balances on-the-job learning with peer support and training. As a certified training provider for a central government department, Opencast has helped upskill more than 150 of its people, supporting those with limited experience in agile, QA tools and Scala. We've enabled agile maturity and ways of working, which has had a positive impact on the pace and efficiency of service delivery. Our training embeds Government Service Standards and the Technology Code of Practice and is growing digital delivery capability for the department.

New technology impacting roles and skillsets

New policy and social imperatives, including agendas on sustainability and inclusion, are leading to demands for new approaches to technology, including in areas such as in GreenOps, accessibility and ethical approaches to new tech like AI. More than seven in 10 UK government bodies are now either planning or piloting AI.

Implementing new approaches not only needs the right roles but also an understanding of how technology impacts skillsets. This includes predicting demand for new, specialist digital roles, such as Prompt Engineer and Data Labeller.



of civil servants said that their department has the necessary skills and expertise in AI or machine learning



understand how to implement, deploy, migrate, and/or maintain applications on cloud infrastructure



have had training in AI and/or machine learning in the last two years

Source: Global Government Forum

If skills in emerging technologies like AI are not available in-house, and recruitment remains a challenge, government teams need to look at other strategies, such as boosting skills through training and mentorship.



Developing accessibility skills

Ensuring digital services are accessible is a must for government. Opencast helped a central government department's delivery teams both understand their responsibilities and solve problems to deliver accessible outcomes. Our consultant has run open-invitation workshops introducing accessibility principles, as well as advanced sessions identifying accessibility issues in projects and hands-on use of assistive technology. We developed self-paced learning and tools – now widely used – to help project teams understand why accessibility processes are needed from the start. This work has raised the profile of accessibility and helped improve understanding – building confidence and cascading knowledge that development teams can apply every day.

Automation and low code/no code

Automation is another growing area. In the field of process automation, for example, newer solutions are much more easily instrumented via APIs and adaptors.

These include low code/no code (LCNC) tools that allow users outside the government digital and data function to design, develop and tweak software tools that are precisely tailored to meet their needs, without detailed knowledge of how coding works. These tools can help organisations implement business processes more quickly, for example by reusing prebuilt components that can be connected to form workflows more easily.

As these and similar tools are more widely adopted, they will have an impact on the mix of digital skills that government needs. The tools can have a low skills barrier to entry, meaning that relatively non-technical people like business analysts and service design professionals can deliver workflow automations.

New semi-autonomous AI Agents are also on the rise. Gartner esimates that AI agents will make 15% of day-to-day work decisions autonomously by 2028 – and they are only going to get more prolific.

But there are risks with automation tools. Without good change management, source control and proven technical principles and practices, automations can become complex, unmanageable and brittle to changing business ecosystems. Knowledge of APIs, data, authentication and authorisation mechanisms in associated systems are essential. Developers will also need to understand how to build out core reusable components specific to the business ecosystem, including custom applications or unsupported vendor technologies.

Business analysts who have been upskilled can quickly source a solution that works. However, getting something that meets your exact requirements often requires a developer with skills in LCNC, working with a dedicated software developer or architect.

Getting the right team with the right skills will be essential. Removing any professional development expertise with a simplified development processes can sometimes lead to overlooked security vulnerabilities, posing risks including data breaches or unauthorised access.





Upskilling for a digital transformation first

Embarking on a digital transformation programme for the first time is a daunting prospect. Opencast joined a non-departmental public body to help deliver its first programme, sharing knowledge and upskilling permanent team members including a digital service owner with little experience in Government Service Standards, agile or user-centred ways of working. Through collaboration and running co-design sessions and workshops, our 'showing-through-doing' approach helped upskill the in-house team in standards and agile principles, emphasising the need for stakeholder engagement, cross-organisation alignment and user focus. The team passed its first GDS assessment and the digital service owner was promoted into a position to influence future ways of working.

Ways bridging the skills gap can help



Lower cost, lower risk

Dame Meg Hillier, former Chair of the Public Accounts Committee, said in 2024 that skills shortages lead to "delays, inefficiencies and budgetary overruns". A more digitally skilled in-house government workforce will mean government can do more for less.



Consultancies by choice, not necessity

With more than £5 billion spent IT/digital and management consultancies in both of the last two years (according to data from Tussell), there is scope to either minimise spend or to apply that investment where it can make the most impact, such as transformation projects.



Expectations met more easily

The government has committed to "continuing to design, develop and deliver world-class digital services and a government that operates in a modern and efficient way, from front-end service delivery to back-office administration". A civil service with stronger digital skills will be able to meet the expectations of both ministers and public.



Easier paths to reform

86% of civil servants across government say that part of their job is to innovate and optimise the way public services are provided. However, only 42% think that their department has the tools, resources and skills necessary to utilise technology in transforming the public services they deliver. Fixing the skills gaps will help.



Slowing down how soon people leave

In 2022, according to the Institute for Government, nearly 14% of civil servants had either moved between departments or left the civil service altogether during the previous year. If the government is able to invest in skills development, it should minimise the need to recruit by improving staff retention.

How government can accelerate digital skills

When deciding which solutions to apply to address the skills challenges, it's important to find a balance between immediate results and setting up for future. In this section, we look at both the short-term solutions and those that build a roadmap for change.



Short-term: sharing what we know

Making the most of your partners

Consultancies working on government digital projects offer multiple ways to help upskill in-house teams, overcoming pain points at both project and strategic level. Good consultants will work to build the knowledge and self-sufficiency of in-house project teams to ensure they are not reliant on outside support in the long term. This will help deliver the best value for money from their investment in consultancies.

To make the most of consultant engagements, upskilling and knowledge transfer should be built into every project. This aligns with the government's commitment to building maturity in its delivery, to ensure that in-house teams have the skills to manage their own projects without relying on external support.

It will take a while for government to move away from use of external consultancies. In the meantime, ensuring consultancies build knowledge transfer into all projects will enable in-house teams to upskill and stop them being disenfranchised.

Here we outline the essential elements needed to make knowledge transfer a success. Opencast's extensive experience of transferring knowledge on government projects gives us a clear sense of what works – and we set out here our standard practices for knowledge transfer in our work on government projects.

Knowledge transfer from the start

Knowledge transfer is a first-class deliverable and good consultancies will ensure that clients have access to knowledge throughout the project. Planning for consultancy exit from day one is essential, including contracting for upskilling, which introduces a commercial lever to encourage upskilling as a contracted deliverable.

A comprehensive approach to knowledge transfer will build significantly on guidance from the Government Consulting Hub (GCH) on how to generate, transfer and share knowledge during consultant engagements. By proactively scoping, planning, managing, measuring and refining an approach to knowledge transfer with their clients, good consultants ensure they work within the deployment environment and that everyone understands what's required.

Knowledge transfer is and should be two-way. Good consultants work pragmatically with their government clients and other suppliers and their consultants should be experienced in taking on and handing over projects and all stages of the digital delivery lifecycle.



Scoping requirements and measuring success

As part of scoping and co-creating statements of work (SoWs), knowledge transfer should be clearly documented in line with key milestones and with associated key performance indicators (KPIs) and acceptance criteria.

At the outset of any project, good consultants will agree how to measure the success of knowledge transfer, including gathering feedback and measuring delivery progress.

Mobilisation methodology

It is vital for project success that the products and services that are created are fully understood by the client, and that there's a clear plan to transfer this critical knowledge to everyone in the in-house project team.

This can be achieved through a focused mobilisation and take-over period. This includes understanding how products have been architected, designed, and developed to date. Government teams should work closely with their consultants to share their strategic objectives and principles – and ensure they understand the best ways of working and tooling required for successful delivery.

In this early mobilisation phase, an overarching consultant handover and knowledge transfer plan should outline the timelines, responsibilities and tasks required to help ensure a successful transition and mitigate potential risks to successful outcomes.

Discovery mindset

It's essential that the whole team can align on the overall vision, goals and outcomes for the service, as well as better understand the development history, current functionality/ performance, planned backlog and previous user research. A discovery mindset allows this to happen.

When working with clients, teams should focus on getting 'under the skin' of the product or service, while at the same time readying a delivery team to take on the live running of the project, whichever phase of delivery. Workshops, fact finding and data analysis exercises with client stakeholders all help with this.



Embrace feedback to up the content game

Content reviews are a vital part of the content creation process. Our content designer led a presentation to a government department's content community about reviews, kickstarting new guidance for content designers across the department. Sharing knowledge with the community and clearing the air on peer reviews and content crits, the presentation explored how each benefits content quality - and discussed when each review should be used in the content development lifecycle. The key message was: embrace feedback! New guidance followed, and content crits are now blooming. This was a successful knowledge share overall, leaving the community empowered to up their content game.

Building project understanding

To build an understanding of the detail of what's needed on projects, government should ensure that consultants:

- Develop an architecture understanding: following best practice, consultants should review or create comprehensive documentation for the products/ services they're taking on
- Focus on development, DevOps and testing: following the right process and tasks forms the basis of a successful handover for all pipelines, repositories and cloud infrastructures
- Focus on user-centred design: Irrespective of the project phase, it's essential to focus on building a deep understanding of the user base and the design of the product or service to date
- Focus on product design and development: the most productive approach covers communication and collaboration, documentation, training, test and validation, and knowledge transfer





Improving UCD practice through communities

Improving best practice and thinking on user-centred design (UCD) ultimately helps deliver digital services that work for the people using them. Working with a central government department, our consultants were proactive in contributing to communities of practice, with user research (UR) specialists leading lunch-and-learn sessions for the UR community.

Opencast and client URs co-wrote guidance on how to moderate inclusive research sessions with vulnerable participants, helping teams work safely with users. To develop stakeholder thinking, we established a service design community (SDC) that fostered and created a unified community voice. The SDC also drove joined-up thinking across services, helping to improve senior-level design briefs.

Growing communities of practice

Government has several established communities of practice for government digital and data specialisms, including in user-centred design, software development and product management. Communities of practice bring people working on the same discipline together to share good practice, discuss challenges and build capabilities. They are an excellent way to transfer knowledge.

Bringing external consultants in to communities can add energy as well as expertise. This also fosters collaboration and helps create a unified voice for specialist communities.

These elements are vitally important for knowledge transfer. When working on government projects, good consultants will help shape, participate and lead client communities of practice.

A clearly defined approach and methodology will add value to consultant engagements from day one, with consultants:

- **Actively engaging in communities of practice (CoPs):** leading and contributing to these communities, providing targeted training and upskilling opportunities.
- **Providing access to leaders in consultant practices:** to best support clients, practice leads have a central position on projects and close client relationships will mean they can share ideas, knowledge and best practice.
- **Running 'show and tells' to share best practice:** these sessions showcase digital tools/ approaches/methodologies, that are most relevant to specific projects/programmes or that address particular risks/issues.





Building emotional intelligence for business analysts

Many factors differentiate a great business analyst (BA) from a good one – but one that stands out is applying emotional intelligence principles in their work. Invited to talk to a community of practice at a central government department last year, two Opencast BAs adapted an interactive workshop to the daily challenges that community faces. In-house BAs learned emotional intelligence skills and techniques that they could engage with and immediately implement in their day-to-day work – helping them build meaningful relationships with colleagues and stakeholders. The BAs were invited to return with more workshops to a wider audience at the department.

Ways of working

Consultants can add value through supporting 'ways of working' in agile development. They can support the adoption of methods and processes, including show-and-tells, daily stand-ups, continuous iteration and collaboration – all helping to build internal capabilities and focus. Handover sessions with consultants can help internal teams become more self-sufficient when engagements come to an end. Sessions can be planned and built in to project planning and execution.





Problem solving with problem statements

Problem statements help teams to identify, explain and solvetechnical problems, then stay on track with the issues they're solving. Working for a central government department, an Opencast business analyst volunteered to help upskill an in-house team with no experience in triaging and prioritising change requests on its backlog. This exercise helped the team to understand the value of writing short problem statements in helping to prioritise requests. An end-to-end walkthrough used a real-life change request to show the in-house team how to write and use statements – and the team now uses this as a template for its own statements.

Pair programming

Pair programming offers showing-by-doing learning by bringing two software programmers to work together, with one writing code and the other observing and reviewing lines of code as they're written. The two programmers will often switch roles so both can continue to learn. By mixing these pairings across both consultant and in-house roles, knowledge can be transferred effectively.

A successful approach will facilitate shared organisational learnings and promoting environments to support change. Consultants should encourage upskilling through multi-disciplinary pairing, pair programming and mobbing sessions.

Mentoring

In 2017, GDS set up the GDS Academy on the back of what started out as DWP's Digital Academy. That was created by government from the ground up "to help people working in digital understand how government was working in new ways to build services for its users". It trained 5,000 civil servants in three years.

Consultants can offer support to internal government mentoring initiatives. Good consultant mentors will actively engage with their in-house client counterparts, offering real-world insights, guidance and support. They can offer one-to-one or a mentoring programme for people right across teams, alongside the strategic support.



Mentoring for real world insights

Mentorship is a cornerstone of any good knowledge sharing. Opencast business analysts actively engage with their client counterparts, providing real-world insights, guidance and support. Working on a central government department's IT programme, our business analysts worked closely with apprentice client associate BAs to help build their knowledge and develop their training portfolios. One-to-one sessions, conducted over several months, explored agile concepts and their real-world application including how to write effective user stories, acceptance criteria and best practice business process modelling. The upskilling of associates has helped create a stronger pipeline of skilled in-house business analysts at the department.

Preparing for exit and handover

It is essential to plan early with robust principles for exit and handover. This ensures a continuous approach to knowledge transfer and early engagement with live service or incoming teams. This includes ensuring services are easy to support and maintain and can enable future improvements once a project is live.

There is huge value in making the whole consultancy team accountable for handover/exit, so that how projects end is front and centre of how they design, build, deliver and document processes and rationale.

From a process perspective, service-specific comprehensive handover checklists can help:

- Develop service-specific comprehensive handover checklists, with tangible outcomes, ensuring technical aspects are covered and agreed during public beta with all relevant stakeholders
- Create working groups with stakeholders/users downstream and upstream, establishing relationships and working practices, which avoids siloed delivery and supports handover and running in live
- Inform key stakeholders, based on research and early stakeholder mapping, to enable them to ensure their staff are fully aware and trained. This should be done in conjunction with change teams, often through online training sessions/social media/technical collaboration channels
- Ensure websites have information about the upcoming switch into live
- Make sure all relevant data is migrated, tested and signed off and internal comms completed
- Supporting running of the service through clinics/drop-ins during public beta and for months after going live
- Have open and honest incident reviews with actionable and documented learnings from incidents in beta to inform live
- Ensure the service team are fully up to speed with monitoring and alerting solutions
- Hand over any remaining risks and issues, ensuring they are fully understood and manageable for the incoming team
- Pass the applicable assessments,either via the GDS framework or self-certification.





Ways of working and handover sessions

Using the right working methods is key to the successful delivery of all digital projects. To help establish this on a government transformation project, consultants held agile ‘ways of working’ sessions with the internal project team and the wider digital community. To help the internal team take on further development after we’d finished work, we ran collaboration and handover sessions involving key people from various teams. These included business analysts, product manages and delivery managers, as well as user-centred design consultants. And, to share knowledge with other internal teams, we joined communities of practice in engineering and delivery management.

Documentation

Government should ensure that their consultants prepare to progress successfully with robust documentation and artefacts, avoiding jargon and harnessing existing tooling. Technical writers can help ensure the coherence of documentation and quality, and work closely with in-house expertise to improve/expedite handover.

- Thorough documentation: runbooks, products, versions, diagrams, architectural designs and data dictionaries
- Architectural decision records, capturing context behind decisions
- Other documentation requirements as agreed in a 'definition of done'
- Backlog of assessed, roughly sized and prioritised future enhancements
- Repository of all relevant code and design artefacts
- Evidence of testing results, governance and coding standards compliance
- Sustainability plan, including retirement planning/execution of any legacy solution
- Benefits realisation plan, performance matrix and dashboards and the business continuity plans that will have been assessed/undertaken.





Better practice on design documentation

Good documentation is essential for effective large-scale content design. It streamlines processes and allows designers to track design decisions. Working on a central government project, a senior Opencast content designer created detailed design documentation, which the in-house content design lead recognised for its thoroughness. This opened up an opportunity to help two other content designers within the programme who had been struggling with their own documentation, methods and processes. Our consultant explained the importance of documentation in the design process, offering examples of great content documentation. This learning was incorporated into their own methods and processes, leading to a better content result.



Upskilling in-house DevOps capability

Amazon's open-source Elastic Kubernetes Service (EKS) automates the management, scaling and deployment of containerised applications, eliminating the need for teams to install, operate and maintain their own control planes. DevOps consultants working with a central government department's AWS Cloud and EKS service helped upskill the in-house team, sharing knowledge of AWS DevOps tech stack and tools. Documentation detailing steps and screenshots provided a comprehensive guide for in-house client teams, supporting the implementation of similar solutions for other project needs. The documentation has been successfully used by other DevOps engineers in the department and is available as a resource for ongoing learning and reference.

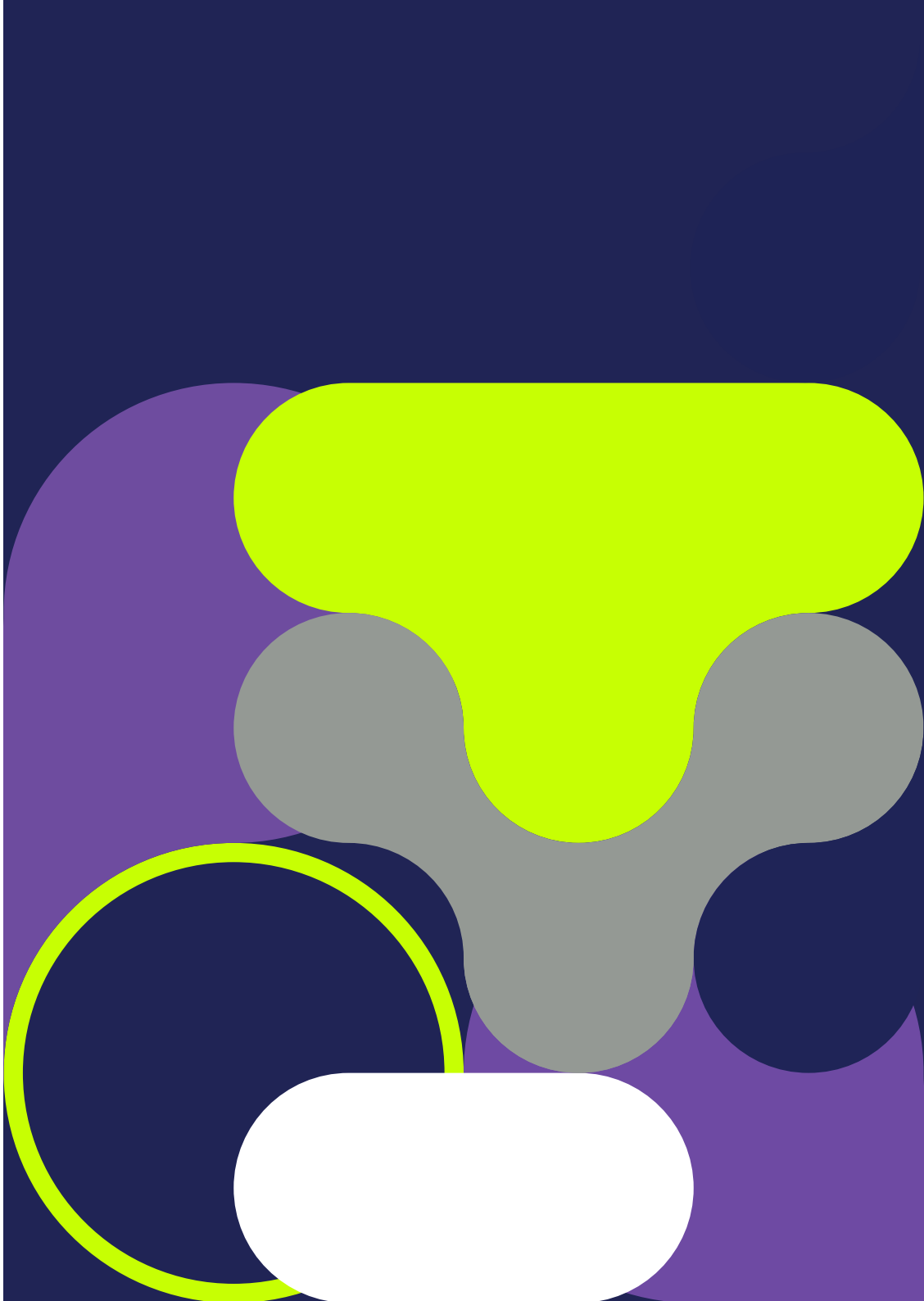
Longer-term: unlocking people's potential

While improving knowledge transfer within teams and from consultancies can begin to reap benefits immediately, other changes will require a more longer-term view. This does not mean that they are less important or that they should be deferred – quite the contrary. Because these approaches will lay the foundations for future success, it's important that they are also built into plans now.

Skills development is a focus for the government and there have been encouraging initiatives in this space. These include the Workforce Digital Skills Charter, led by the Cabinet Office and Department for Science, Innovation and Technology and other partners. In "a shared statement of ambition", the charter aims to "break organisations out of silos, uniting us to build a future-fit, digitally confident workforce."

There is more that can still be done.

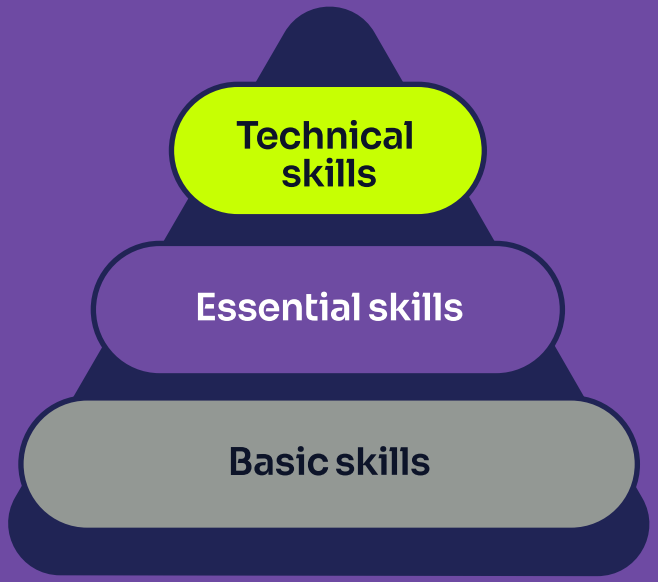
Here we outline the opportunities to increase skills across technical and non-technical roles.



Make wider use of skills frameworks

Upskilling existing civil servants' essential and technical skills involves careful planning and organisation, including developing pathways for individuals to boost both types of skills in parallel.

According to the global social enterprise Skills Builder Partnership, skills are categorised into three broad areas, all of which are critical to employability:



Technical

skills that are specific to a particular sector or role, sometimes drawing from a particular body of knowledge.

Essential

highly transferable skills that everyone needs to do almost any job, which support the application of specialist knowledge and technical skills.

Basic

literacy and numeracy, and basic digital skills.

In 2020, Skills Builder launched a universal framework that sets out a route to help organisations and their people to develop their essential skills to succeed. Developed alongside organisations including the Careers & Enterprise Company, Business in the Community, the Chartered Institute for Personnel Development (CIPD), the Gatsby Foundation and others, Skills Builder sees the framework as a transformative approach to building the essential skills of individuals throughout their lives, in both education and employment.

The framework has been backed by UK government in statutory guidance. It has become the de facto language and method for building essential skills for millions of people across the world. And while departments such as DfE have recognised its value in a schools and education setting, it's not yet been widely adopted by government departments themselves.

Take a people-centred approach

Employee engagement is a critical enabler of skill development. For people to learn new skills they need to feel included, engaged and motivated. It's therefore critical to take a people-centred approach, listen to employees and seek to understand the level of growth mindset within your organisation and how you can nurture this.

Opencast's Chief People Officer Cate Kalson shares the company's people-centred strategies for upskilling and career switches.



At Opencast, we put considerable time and thought into how we can help our people to grow professionally and build the skills we hold valuable as an organisation overall. We're still developing our approaches and will never claim to have all the answers. But we do believe our experience can offer some lessons for others on ways to bridge the skills gap.

We have purposefully put "harnessing the potential of people" at the heart of our company mission. We believe that a winning strategy for the sustainable growth of our business is to tap into our people's biggest motivation, which is to grow personally and professionally.

There are three key ingredients to our approach to growing people's potential.

Competency clarity

We work to talk in a consistent way about competencies and skills. We use the Skills Builder universal framework to underpin the competencies we value across the organisation, from our early-career joiners right up to our CEO and across diverse roles, from finance assistants to client relationship managers, user researchers and technical architects.

These essential skills competencies provide the backbone for our focus on personal and professional development and allow everyone to use a common language with each other on how to develop communication, problem solving, creativity, mindset, teamwork and leadership skills.

For role-specific skills we then have competencies that cover the knowledge, tools and methods needed for each role. We use generative AI to create and update these role-specific competency models, referencing external frameworks such as DDaT and SFIA for digital professionals, and CIPD for people professionals. All our frameworks are published internally alongside salary bands, so our people can see potential career pathways available to them and create development plans that allow them to progress.

Supportive coaching and amazing conversations

For our people to take ownership of their own career journeys, we're building a culture of supportive coaching. All our consultants with skillsets aligned to the government digital and data framework have a 'practice lead' technical manager and a dedicated people experience partner (PEEP).

Our practice leads provide mentorship focused on technical competencies, while PEEPs offer the kind of pastoral support that can sometimes be overlooked elsewhere. Trained coaches, PEEPs deploy their skills to help our people reflect, build development plans and take action to reach their goals.

We deliver training to support everyone with leadership and management responsibility to have "amazing conversations" – everyday coaching conversations that empower everyone to focus on the outcomes they want to reach and develop options themselves.



Coaching helps internal product promotion

Learning on the job is among the most effective forms of coaching – and it helps government promote people from within with less of the time and cost of external recruitment. While working as a lead product manager to a central government digital programme, our lead product manager provided one-to-one product management coaching to help support the development of a permanent digital service manager. This coaching helped the manager move, first into a temporary promotion as lead product manager, and on the back of this, the manager successfully interviewed to progress to a permanent role as lead product manager within the programme.

Skills pathways to meet priorities

Where we know we have skills gaps and a demand for these from our clients, we develop curated skills pathways to empower our people to develop their skills. These could be linked to:

- Client priorities: if we have a new client tech stack that our consultants have not been exposed to before, we create pathways for consultants to upskill rapidly before they join delivery teams.
- Emerging technology priorities: new tooling developed by major technology partners such as Microsoft and AWS, which in turn drives client demand.
- Organisational priorities: as our business scales, we need to build our leadership capability, so have developed skills pathways to meet what colleagues tell us they need to progress their leadership skills.
- Social impact priorities: as we develop impact-oriented methodologies that cover energy use in digital infrastructure or web accessibility, we create pathways to ensure our consultants can deploy these methodologies with confidence.

These ingredients are a powerful combination for any organisation. We continue to develop our competencies, culture and curate skills pathways with an agile mindset, listening to employee feedback on how we're doing across all areas and working to improve continuously.



Upskilling apprentices to become QAs

Our government health client needed support to help upskill its in-house apprentices and developers to become quality assurance engineers. We ran two five-day, off-site interactive training courses,taking into account accessibility needs. Using an agile approach, we created the training with the business tech stack, adding user stories for each task. We presented the fundamentals of testing and how to create a new framework using best practice, then supported each person as they completed each story. The trainees were then able to create their own test framework, debugging and executing tests on the integrated development environment. We then offered ongoing project support to all involved.

Upskilling to help move into the cloud

Bringing teams together to learn agile principles, improve software and embrace new frameworks can be a highly effective way of boosting in-house capability. Partnering with an English county council to take its tech infrastructure into the cloud, we recognised an in-house skills gap in cloud technologies and cyber resilience. We helped develop an upskilling programme for council staff, designing a training curriculum using theoretical presentations, hands-on workshops and real-world case studies. We encouraged collaborative learning to foster peer-to-peer learning and problem-solving. This has helped the council team to successfully migrate its service into the cloud, enhancing operational efficiency, security and scalability.

Bringing in digital talent from elsewhere

The Cabinet Office runs an award-winning scheme for industry to second people into digital and data roles in government departments. The digital secondments programme offers an opportunity for people with digital skills from the private sector to join the civil service for up to 12 months.

The Cabinet Office's goal is "to build a partnership with organisations to identify candidates for a secondment and source suitable placements... working with experienced civil servants and subject matter experts within government to tackle unique and large scale challenges."

Departmental buy-in to the scheme is good, with roles at including the Foreign Office, Land Registry, Department for Business and Trade, Office for National Statistics, Home Office and HMRC.

In March 2025, the secondments programme team accepted the Commissioners Mark of Excellence Award recognising the positive impact the programme is having across government.

Opencast has placed expert consultants from its team on to the secondments programme, including at HMRC, Cabinet Office and the Department for Education.



Apprenticeships help add technical skills

Apprenticeships offer the opportunity for people to add technical skills to the essential skills they already hold. Our central government client was committed to growing its apprentices, creating a need to on-board people into development roles with no programming experience. It would have been unfeasible for our delivery teams to manage this - so we ran a 12-week bootcamp-style course to give the apprentices sufficient knowledge to work in teams. The course offered basics in procedural programming, functional techniques, test-driven development, agile coding and modern delivery lifecycle practices. Most of the apprentices have now been promoted into technical roles in their teams.

Supporting people looking to move in technical roles

The future of skills not only depends on people already in technical roles, but also on people looking to change career.

Government recognises the value of this and has programmes that enable existing civil servants to move around the service. Around 5% of the UK's nearly 500,000 civil servants – 20,000 people - transfer into both tech and non-tech roles to another government department every year.

There are several ways people can make the move between government departments. The 'staff transfer process' allows people to move without having to resign from their existing role and, in October 2023, a small number of government departments began piloting a new employee transfer service, which aims to simplify, streamline and automate moves. People can also use Career Matcher, an online questionnaire that enables users to "self-assess their transferrable skills and interests to see where they could be a good fit to work in the civil service".

But despite the existence of these systems and processes, a question for government is whether a culture exists that encourages switches into digital roles specifically.

Cate Kalson, Chief People Officer at Opencast, definitely sees the benefit of bringing in people from non-technical backgrounds. She says: "We've also seen an increase in successful 'squiggly' career moves, supported by these ingredients. For example, a member of our recruitment team created a development plan for the knowledge, tools and methods required to be a software developer. They successfully moved role and are now working for one of our UK government clients as a developer.

"To increase the talent pool available to us and help us recruit from diverse talent pools. we've welcomed new colleagues who have been teachers, academics, scientists and creative industry professionals and supported them to transfer their skills into government digital and data roles. We value the significant essential skills they have brought and focus their development on the knowledge, tools and methods they need."

Other ways you can bridge the skills gap

The challenge of skills is multi-faceted and, while knowledge transfer and skills development will go a long way to help with this, there are other challenges that are impacting skills within government.



One of the key areas is legacy systems. It is vital that the civil service has the capability and specialist skills to address technical debt and legacy systems in particular. The government is acutely aware of the skills challenges that are required to address this critical issue.

In a 2023 report, the National Audit Office stated that the cost of outdated legacy systems not only was for the system itself but also the "hidden costs arising from the people and processes needed to make services work". They recommended that departments gained "a better understanding of the additional business and people costs of the continued use of unmodernised digital services".

The root of the problem is the fact that legacy systems frequently require more developers to work on them because of the specialist nature of the work and the changes required to coding languages that are no longer widely used. This work requires specialist developers who can code in these languages, and they aren't as easy to find. External specialists can help bridge the gap here.

These legacy systems impact the skills gap, as they often require specialist skills to maintain, and these skill sets are increasingly rare and costly. The work itself also tends to be less attractive to some developers, which impacts recruitment and retention. Working on new modern systems also tends to require fewer people.

Dame Meg Hillier, former Chair of the Public Accounts Committee, said in 2024 that "the increasing costs of maintaining legacy systems and loss of associated specialist skills is unsustainable in the long term."

Decommissioning legacy systems can address some aspects of the skills challenge. However, legacy migration is a skill in itself, something that was recently acknowledged in a House of Commons Report:

"Redesigning services requires a more fundamental look at processes, not just the digital and technology elements... this needs people not just with skills in technology, but also those who understand end-to-end processes, have the ability and willingness to analyse organisational structures, and the right capability and credibility to make the level of change required.

"Some departments can describe the benefits gained from transformation but struggle to systematically identify the opportunity costs of failing to transform. Incremental change is government's fall-back response to things which are deemed 'too difficult' and when transformation gets de-scoped. If senior leaders do not understand how transformation would reduce future operating costs, they will continue to under-invest."

Although the Cabinet Office has previously initiated efforts to address the challenges of legacy, change will inevitably take time. In the meantime, consultancies can support with upskilling on older systems, building the skills to meet emerging technology developments or even supporting with migration of the legacy estate.

10 ways to boost government skills

In producing this report, we've drawn on our experience over more than a decade of working with government, and our understanding of what works when it comes to transferring knowledge.

We do not claim to hold all of the solutions to the government skills challenge, nor all of the answers for good knowledge transfer. So much of what works is about understanding and responding to different context. But our experience does put us in a good position to offer 10 pointers towards boosting government skills through knowledge transfer that we hope offer useful takeaways to this report.

1. **Make use of consultancies for knowledge transfer:** government departments are growing their skills capacity but can use consultancies to take their in-house digital skills. Build knowledge transfer into every project to get the most value.

2. **Ensure knowledge transfer is included in statements of work:** this allows it to be documented and to have clear milestones and KPIs.

3. **Knowledge transfer needs to encompass all aspects of a project:** make sure everyone is clear on timelines, responsibilities and tasks required throughout the project to ensure a successful transition.

4. **Build a discovery mindset with a clear project understanding:** create an environment to explore and challenge together against a clear vision, goals and outcomes.

5. **Grow communities of practice:** bring all specialists together (both in-house and consultants) to share knowledge, open up access to leaders and offer opportunities for discussing ways of working.

6. **Ensure consultancies have prepared for exit and handover:** plan for this early to ensure everyone has the right information and knowledge transfer can be continuous. Make sure you know what's needed to support live services in-house where necessary.

7. **Make wider use of skills frameworks:** use these to plan for skills development and for evaluation of existing skillsets, which can help people move from non-technical to technical roles . Having a standardised framework and skills pathways makes development more transparent, fairer and more consistent. Ask consultancies for advice on skills frameworks.

8. **Take a people-centred approach:** look beyond pure skills to embrace coaching and pastoral care.

9. **Add value from consultancies by seeking strategic advice from their executive teams:** talk to your consultants' chief people officers on future talent and learning strategies or to chief technology officers about technology trends. Ask them to share good practice and approaches they may have adopted themselves.

10. **Other solutions may exist to the skills problem that lay beyond building skills:** legacy systems, for instance, frequently require specialist developers who can code in less commonly used languages. Decommissioning legacy systems can offer a fix to the skills challenge by taking the pressure off other work. External specialists can help bridge the gap.

Making a difference together.

Opencast is an independent UK technology consultancy working at the heart of government, healthcare and business to make a positive difference to people's lives.

We specialise in designing and building digital solutions that are easy for people and businesses to use. We work to make an impact at scale, deploying cutting-edge technology to deliver better digital experiences and performance in services that support millions of people. And we share what we know to help our partners succeed.

Opencast believes in making life better through the power of people and technology. Our vision is to make a positive impact on society through solutions that are simpler, more sustainable and fairer for all.

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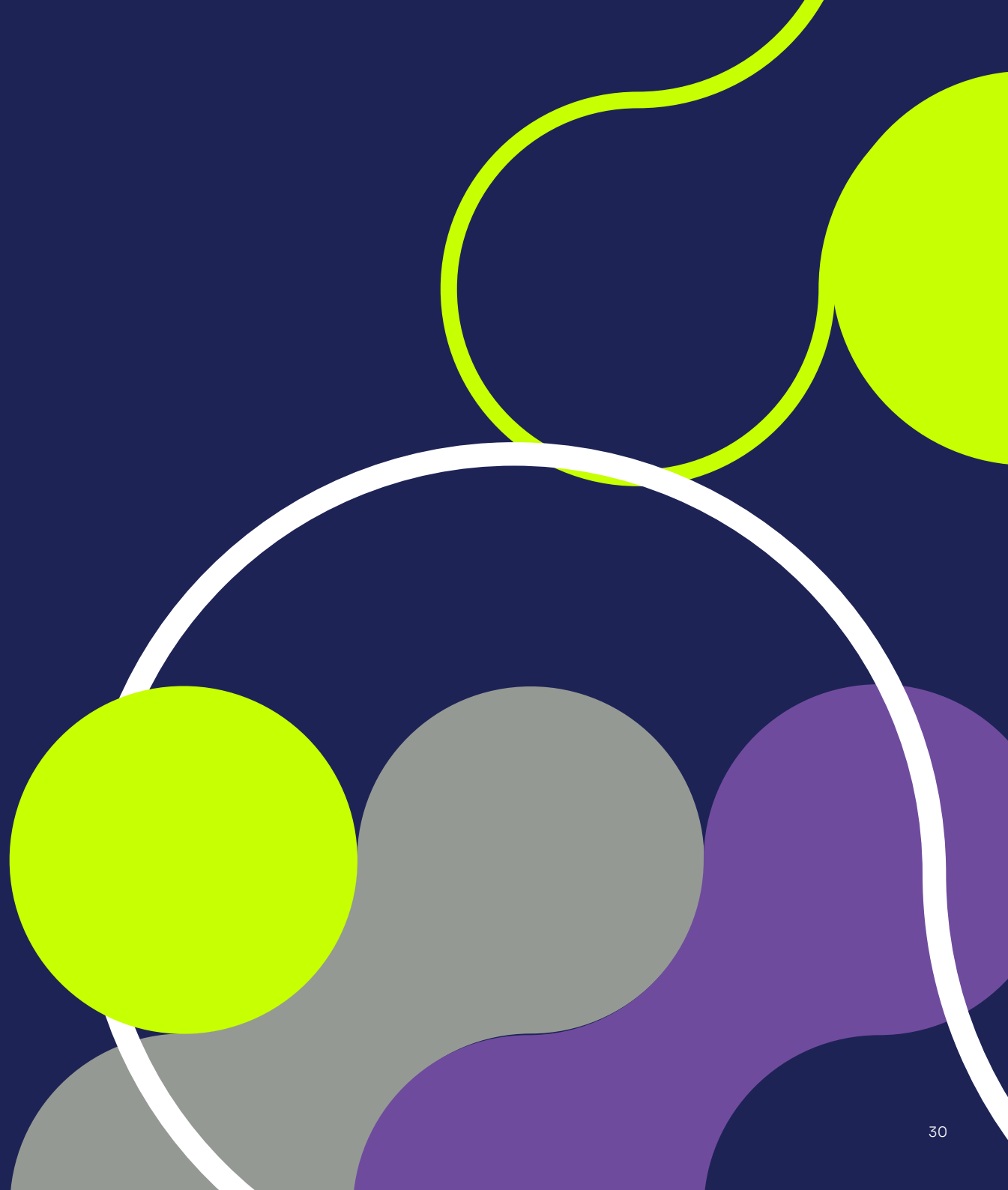

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Want to know more?

Andy Foskett, Chief Client Officer
andrew.foskett@opencastsoftware.com

Henry Rex, Government Relations Director
henry.rex@opencastsoftware.com

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