WHITE PAPER

Reskilling The Government Workforce

How Strategic Upskilling, ITIL-Based Service Management, and Workforce Frameworks Drive Fiscal Discipline, Cyber Resilience, and Citizen Trust

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EXECUTIVE SUMMARY

Across OECD and emerging economies alike, public-sector organisations confront a dual shock: a widening deficit in digital, cybersecurity, and data competencies, and sharpened fiscal and political scrutiny of large-scale technology programmes. The **World Economic Forum's Future of Jobs Report 2025** identifies skills gaps as the number-one barrier to business transformation, cited by 63% of employers globally[1]. In government, the challenge is even more acute: only 34% of public-administration managers express confidence that their workforce has the right skills to take advantage of AI, according to the Public First / Google Cloud study "AI & the Public Sector" (2024)[2].

Meanwhile, independent inquiries into failed megaprojects—such as the UK's National Programme for IT in the NHS, whose final cost reached an estimated £12.7 billion against an original budget of £2.3 billion[3]—trace the root cause to over-reliance on a small oligopoly of contractors, supplier lock-in, and an erosion of in-house capability[4]. In response, OECD governments are prioritising internal digital upskilling and central learning-and-development strategies, while building structured competency frameworks such as the UK's DDaT Capability Framework and the U.S. NIST NICE Workforce Framework for Cybersecurity[5].

This white paper synthesises empirical evidence from North America, Europe, the Middle East, and Asia-Pacific to show how **strategic, evidence-based reskilling—anchored in frameworks such as NIST NICE and ITIL, and enabled through modular procurement—can deliver:**

- **Significant life-cycle cost savings** by reducing external contractor dependency. The UK government estimates its DDaT profession expansion will replace 7,000 contractors and save up to £500 million per year[6].

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- **Accelerated digital transformation** through in-house teams that combine mission knowledge with technical skill—Japanese organisations report that hiring-and-onboarding takes 124% longer than upskilling existing staff[7].
- **Improved cyber resilience** at a time when the global cybersecurity workforce gap stands at 4.8 million professionals and 95% of security teams report skills shortages[8][9].
- **Stronger employee retention and institutional knowledge preservation**, as structured career pathways give civil servants reasons to stay and grow within government.

Drawing on case studies from the Judicial Council of California, the UK Government Digital Service, Japan's Digital Agency, Saudi Arabia's Vision 2030 workforce programmes, and Canada's Digital Academy, we outline a four-phase, metrics-driven roadmap for governments to close skills gaps at scale while safeguarding operational continuity and compliance.

1. INTRODUCTION: THE SKILLS CRISIS IN PUBLIC-SECTOR DIGITAL TRANSFORMATION

Demographic attrition, fast-evolving threat landscapes, and fierce pay competition from the technology sector are eroding the capability base of civil services worldwide. The **ISC2 2024 Cybersecurity Workforce Study**—based on a record 15,852 international practitioners—reports a global cybersecurity workforce gap of **4.8 million**, up 19% year over year, while 90% of respondents report skills shortages on their teams[8]. By 2025, the ISC2 follow-up study found that **95% of cybersecurity teams report at least one skills gap**, with 59% describing their needs as critical or significant[9].

The challenge extends far beyond cybersecurity. The National Skills Coalition and Federal Reserve Bank of Atlanta find that **92% of jobs now require digital skills**, yet one-third of workers lack even foundational digital competencies[10]. In the United Kingdom, the digital skills gap costs an estimated **£63 billion per year**[11], while Japan's Ministry of Economy, Trade and Industry warns of a projected **450,000 ICT worker shortage by 2030**[12].

Where legacy practice defaulted to "throw contractors at the problem," finance ministries now interrogate value for money. The U.S. Government Accountability Office reports that the federal government invests **more than $100 billion annually on IT**, yet IT acquisition and management has remained on the GAO High Risk List since 2015, with 463 of 1,881 recommendations still unimplemented as of January 2025[13]. The UK's Public Administration Select Committee characterised government IT procurement as "a recipe for rip-offs," driven by over-reliance on an "oligopoly" of large suppliers and compounded by a lack of in-house skills[4].

Against this backdrop, this white paper focuses on **evidence-based reskilling architectures**—from strategic skills analytics to blended, role-based learning paths and ITIL-based service management—that have demonstrated tangible returns in multiple jurisdictions.

2. UNDERSTANDING THE GOVERNMENT SKILLS GAP: SCOPE AND IMPACT

2.1 Critical Shortage Areas

- **Cybersecurity operations, risk management, and incident response** — mapped to NIST NICE Work Roles. Top skills gaps include AI security (34%), cloud computing security (30%), and zero-trust implementation (27%)[8].
- **Data analytics, open-data stewardship, and statistical programming** — data scientists and analysts rank among the top ten hardest-to-fill IT roles globally[14].
- **Cloud engineering, DevSecOps, and site-reliability engineering** — over 70% of Japanese organisations report being understaffed in cloud-related areas, well above the global average of 47%[7].
- **Agile product and service management** (Digital, Data and Technology professional family in the UK; equivalent frameworks in the U.S. and Canada).
- **User-centred service design and citizen experience** — increasingly vital as governments move services online.
- **AI and machine-learning governance** — the EU AI Act (effective February 2025) now mandates AI literacy for all staff involved in deploying AI systems, with non-compliance penalties of up to €35 million[15].

2.2 Consequences of Inaction

1. **Financial exposure:** Only 35–36% of IT projects are delivered on time and on budget; 19–20% fail outright[16]. Federal agencies spend nearly 80% of their IT budgets maintaining outdated legacy systems rather than modernising[13].
2. **Security risk:** Skills gaps directly correlate with longer mean-time-to-contain for cyber incidents. With 74% of cybersecurity professionals saying the threat landscape is the worst in five years[8], under-skilled teams create acute organisational vulnerability.
3. **Service degradation:** Legacy, siloed teams lack the data literacy to run real-time performance dashboards or deliver the digital-first services that citizens now expect.
4. **Brain drain:** In Japan, over 60% of ICT professionals are aged 50 or older, and 28% of newly hired technical staff depart within six months[7][12]. Without structured career pathways, governments cannot compete for or retain talent.

2.3 The Business Case for Upskilling

The evidence consistently favours building internal capability over perpetual contractor dependency:

- The UK government's plan to expand digital, data, and cyber professionals from 6% to 10% of the Civil Service is expected to **replace 7,000 contractors and save up to £500 million per year**[6].
- Japanese organisations report that they are **2.8 times more likely to invest in developing ex-**

isting talent than recruiting externally, because the hiring-and-onboarding cycle takes 124% longer than upskilling[7].

- The World Economic Forum reports that 39% of workers' core skills are expected to change by 2030, making continuous reskilling a strategic necessity, not a one-time event[1].
- Boston Consulting Group finds the average half-life of skills is now less than five years—and half that in technology fields—underscoring the need for sustained investment[17].

3. THE NIST NICE FRAMEWORK: A STRATEGIC FOUNDATION FOR CYBERSECURITY READINESS

3.1 Framework Overview

The NIST Workforce Framework for Cybersecurity, known as the NICE Framework (Special Publication 800-181 Revision 1), provides a common language for describing cybersecurity work. The current framework (version 2.1.0, updated December 2025) is organised into **7 Work Role Categories and 52 Work Roles**, each defined by granular Task, Knowledge, and Skill (TKS) statements[5]. The seven categories are:

- Oversight and Governance (OG)
- Design and Development (DD)
- Implementation and Operation (IO)
- Protection and Defense (PD)
- Investigation (IN)
- Cyberspace Analysis (CA)
- Collection and Operation (CO)

Notably, the December 2025 update introduced a revised **Artificial Intelligence (AI) Security competency area**, reflecting the growing intersection of AI and cybersecurity[5]. U.S. Executive Order 13870, "America's Cybersecurity Workforce" (2019), mandates NICE alignment for federal cybersecurity workforce reporting, and the framework is increasingly adopted by EU agencies and allied nations for cross-border comparability[18].

3.2 Skills Analytics and Gap Identification

Modern talent platforms can ingest HRIS data, map existing staff to NICE Work Roles, and visualise gaps. The UK's Government Digital and Data Profession Capability Framework provides an instructive model: it has mapped approximately **30,000 digital, data, and technology professionals** across government—an 88% increase since 2020—against a structured set of roles and competency levels[6][19]. This enables pay-scale harmonisation, targeted learning-path design, and evidence-based workforce planning.

Learning Tree International offers **Skills Analytics services** that help organisations assess current capability, map gaps to frameworks such as NICE and ITIL, and build role-based learning roadmaps aligned to

strategic priorities. With **180,000+ federal employees trained** and deep experience across government agencies, Learning Tree brings both the diagnostic tools and the training portfolio to move from assessment to action.

3.3 Targeted Reskilling for Compliance and Security

In jurisdictions where cybersecurity workforce requirements are statutory (e.g., U.S. FISMA, EU NIS2 Directive, U.S. DoD Directive 8140), NICE alignment de-risks audit findings. Structured learning paths—such as SOC Analyst > Incident Responder > Threat Hunter—provide clear progression routes that improve both retention and readiness.

Learning Tree's cybersecurity curriculum is fully aligned with DoD Directive 8140.03 and includes official ISC2, CompTIA, and EC-Council courseware. Courses such as **CISSP Certification Prep** (DoDM 8140.03 approved), **CompTIA Security+** (DoD 8140/8570 compliant), and **NIST Risk Management Framework Training** are designed to close specific Work Role competency gaps while preparing staff for industry-recognised certifications.

4. THE ROLE OF ITIL IN GOVERNMENT DIGITAL TRANSFORMATION

While cybersecurity frameworks address protective capability, governments also need a structured approach to **IT service delivery and management**. The Information Technology Infrastructure Library (ITIL) provides exactly this: a globally recognised framework for IT Service Management (ITSM) that helps organisations design, deliver, and continuously improve technology-enabled products and services.

4.1 Why ITIL Matters for Government

Government agencies operate in complex, multi-stakeholder environments where service reliability is non-negotiable. ITIL adoption delivers measurable benefits:

- **70% of IT professionals** identify ITIL as the most widely adopted ITSM best-practice framework[20].
- **77% of ITSM practitioners** say effective IT service management is integral to digital transformation success[20].
- **79% report that ITIL bridges organisational silos**, allowing work to flow more smoothly between departments—a persistent challenge in government[20].
- **75% of ITSM practitioners** believe retraining and upskilling will help close the emerging-technology skills gap[20].

ITIL 4, the current major version, has been updated to integrate with Lean, Agile, and DevOps practices, reflecting the reality that government digital teams increasingly operate in iterative, cross-functional environments. The forthcoming **ITIL 5 (Version 5)** further evolves the framework to address cloud-native architectures and AI-augmented service delivery.

4.2 ITIL as a Reskilling Pathway

For government workforces transitioning from legacy environments to modern digital delivery, ITIL provides a structured career lattice. The certification hierarchy—Foundation > Managing Professional > Strategic Leader > Practice Manager > Master—gives employees a visible progression route that increases both competency and retention.

As a **PeopleCert Accredited training provider**, Learning Tree International offers **30 ITIL training courses** covering the full certification journey. The **ITIL Advantage Plan** ($3,895 per individual per year) provides access to all courses on the ITIL 4 Managing Professional and Strategic Leader paths, including exam vouchers, retake options, and 90-day post-course instructor coaching—saving organisations up to 70% compared to individual course purchases.

Critically, Learning Tree also offers the **Artificial Intelligence for IT Service Management** course, which bridges ITIL and AI by teaching practitioners to automate ITSM tasks, apply AI to incident management and security monitoring, and manage AI-related risks—directly addressing one of the fastest-growing skills gaps in government IT.

5. SCALABLE RESKILLING MODELS: TRANSITIONING NON-TECHNICAL STAFF TO TECHNICAL ROLES

5.1 Strategic Rationale

- Unlock latent talent already versed in mission context and organisational culture.
- Reduce time and onboarding costs versus external hires—Japanese data shows upskilling existing staff is 124% faster than hiring and onboarding new technical talent[7].
- Retain institutional knowledge and diversify career pathways, reducing attrition.
- Build a more representative workforce: the UK's TechTrack apprenticeship programme reports 70% of participants from minority backgrounds and 60% based outside London[21].

5.2 Key Success Factors

1. **Diagnostics:** Baseline assessments using validated skills frameworks (NICE, DDaT, SFIA) to personalise learning pace and focus.
2. **Cohort-based, hands-on programmes** anchored in real product backlogs and operational scenarios, not abstract theory.
3. **Embedded coaching and post-training support** for 90 days or more following programme completion to reinforce skills and ensure application on the job.
4. **Executive sponsorship and explicit talent-mobility policy** to ensure reskilled employees are placed in roles that utilise their new competencies.

5.3 Scalability Considerations

Governments can adapt programme intensity (from two-day certifications to multi-month immersive academies), blend delivery modalities (virtual, in-person, and on-demand), and integrate with apprenticeship or continuous-learning funding models. Learning Tree's **AnyWare virtual learning platform** enables live, instructor-led training accessible from any location—critical for geographically dispersed government workforces—while the **Guaranteed-to-Run scheduling promise** eliminates the training-cancellation risk that frequently disrupts government learning plans tied to fiscal-year budgets.

6. CASE STUDIES: EVIDENCE FROM THE FIELD

6.1 Judicial Council of California: Data-Driven Court Modernisation

Challenge:

With 48 trial courts and fragmented data systems, the Judicial Council of California found that decision-makers across the court system lacked the analytics tools and skills to generate timely insights. A stakeholder assessment revealed that most staff had little confidence working with data visualisation platforms.

Solution:

Working with Learning Tree International, the Judicial Council designed and deployed a four-track Microsoft Power BI training programme (Users, Designers, Administrators, and Developers), delivered virtually across the entire state. The programme was procured through the California Multiple Award Schedule (CMAS)—a framework contract vehicle that enabled rapid contracting without lengthy solicitation cycles.

Outcomes:

- Approximately 1,000 court employees trained across all 48 trial courts.
- Significant measurable knowledge gains, with a majority applying new skills within two weeks of completion.
- High overall satisfaction rates and a marked reduction in ad-hoc data requests to central IT teams.

This case demonstrates the power of role-based segmentation, scenario-driven labs, and streamlined procurement in deploying analytics skills at scale across a complex, multi-site government system.

— Source: Learning Tree International case study, "Judicial Council of California Empowers Courts with Tailored Power BI Training."

6.2 United Kingdom: Building a 30,000-Strong Digital Profession

The UK's approach to government digital workforce development is among the most comprehensive globally. Since 2020, the Government Digital and Data Profession has grown **88% to approximately 30,000 professionals**—rising from 2.8% to 6% of total Civil Service headcount[6][19]. Key elements include:

- **The DDaT Capability Framework**: a structured set of roles and competency levels (awareness, working, practitioner, expert) that enables consistent skills assessment and targeted development

across all government departments[22].

- **The GDS Academy**: the UK's government digital skills training body, which reached 10,000 students by 2019 and has since expanded to include AI-focused courses and pop-up academies outside London[23].
- **TechTrack**: an apprenticeship programme targeting 2,000 digital apprentices by 2030, with early cohorts showing 70% from minority backgrounds[21].
- **Get Tech Certified**: a 2025 campaign for industry-recognised certifications in cloud, data, and cybersecurity[21].
- **HMRC Digital Academy**: launched October 2023 with AI simulations and proficiency pathways from foundational to expert level[21].

The UK government projects that reaching its target of 10% digital-profession headcount will **replace 7,000 contractors and save up to £500 million per year**[6], providing one of the strongest ROI demonstrations for government workforce upskilling.

6.3 Canada: The Digital Academy and Policy-Driven Upskilling

Canada's **Canada School of Public Service (CSPS)** operates a Digital Academy as one of five core business lines, offering training in digital and data literacy, service design, AI, cloud computing, product management, agile methodologies, and cybersecurity[24]. The CSPS acknowledges that digital skills are "often absent or underdeveloped in the public service" and has built its programming to address this gap systematically[25].

Canada's **Policy on Service and Digital** (2019, updated 2025) and the accompanying **Directive on Service and Digital** create a mandatory policy framework requiring departments to integrate digital capacity into their workforce planning[26]. The 2024–25 **Digital Ambition** further directs the development of Canada's first AI Strategy for the federal public service[27].

Learning Tree International holds a **Government of Canada 10-year standing offer and supply agreement**, providing Canadian federal agencies with streamlined access to its full training portfolio.

6.4 Saudi Arabia: Vision 2030 and the Saudi Digital Academy

Saudi Arabia's **Vision 2030 National Transformation Program** has driven rapid digitisation of government services, with over 6,000 digital services now available—representing 97% of all government services. The Kingdom ranks first in the MENA region for digital government services and second among G20 countries in the European Center for Digital Competitiveness index[28].

The **Saudi Digital Academy (SDA)**, operating under the Ministry of Communications and Information Technology, offers bootcamps and certification tracks in data science, cloud computing, AI, cybersecurity, and software development. The SDA has adopted the Skills Framework for the Information Age (SFIA) as its digital skills reference standard and partners with global training providers including Microsoft, Cisco, and Oracle[29]. The Ministry of Human Resources and Social Development has established Sector Skills Councils across 12+ sectors, including dedicated digital and cybersecurity skills frameworks[30].

A peer-reviewed empirical study of Saudi digital government transformation identifies "institutional coordination, progress-tracking systems, and long-term investment in digital skills and infrastructure" as the

three essential success factors[31].

6.5 Japan: Confronting the "Digital Cliff"

Japan faces what the Ministry of Economy, Trade and Industry has termed the "2025 Digital Cliff": potential economic losses of up to **12 trillion yen per year** if organisations fail to commit to digital transformation[32]. The challenge is deeply rooted in workforce demographics: Japan projects a **shortage of 450,000 ICT workers by 2030**, with over 60% of current ICT professionals aged 50 or older[12].

The **Linux Foundation's 2025 State of Tech Talent Japan Report** provides particularly relevant findings for the upskilling argument:

- Over 70% of Japanese organisations are understaffed in cloud-related roles, compared to 47% in other regions.
- 85% report AI is reshaping technical work, requiring continuous upskilling.
- Organisations are 2.8 times more likely to invest in developing existing talent than recruiting externally.
- 95% recognise technical training as effective for retention; 94% view upskilling as a strategic priority[7].

Japan's **Digital Agency**, established in September 2021, serves as the government's command centre for digital society, leading cross-government transformation in partnership with national and local authorities[33].

7. OPTIMISING ROI VIA FRAMEWORK CONTRACTS AND STRATEGIC PROCUREMENT

7.1 Government Procurement Vehicles

Framework contracts pre-vet suppliers, compress procurement lead times, and lock in ceiling rates, mitigating both cost and scheduling risk. Combining **skills analytics to target training spend** with these vehicles ensures scarce budgets flow to the highest-impact competencies. Key procurement channels include:

- **U.S. GSA Multiple Award Schedule (MAS)**: Learning Tree holds GSA MAS contract **GS-35F-369CA**, with NAICS codes 611420 (Software Application Training) and 611430 (Professional Development Training). No proposal or solicitation is required for purchases up to $250,000.
- **U.S. State-level contracts**: California CMAS (3-22-06-1063), Texas DIR (DIR-CPO-5045), and others.
- **Canada**: Government of Canada 10-year standing offer and supply agreement.
- **NATO**: NATO Communications and Information Agency training contract.
- **UK Crown Commercial Service** and equivalent European procurement frameworks.

7.2 Cross-Fiscal-Year Flexibility

Government agencies frequently face "use it or lose it" budget pressure that leads to poorly timed or poorly targeted training purchases. Learning Tree's **Government Training Account** addresses this directly: agencies can deposit current fiscal-year funds and apply them to training in the following fiscal year (per Comptroller General Decision B-238940), with real-time usage tracking and GSA pre-negotiated rates.

7.3 Data-Driven Investment

Agencies should institutionalise **pre- and post-training skill assessments and application audits** to feed continuous improvement loops and satisfy oversight requirements. Canada's Policy on Service and Digital provides a useful model, requiring departments to integrate digital capacity metrics into their workforce planning[26]. The GAO has also recommended that agencies improve guidance on setting and prioritising training investments[34].

8. IMPLEMENTATION ROADMAP

Phase	Key Actions	Success Metrics
1 Assess	Map roles to NIST NICE, DDaT, SFIA, or local frameworks Run baseline skills diagnostics using validated assessment tools Secure C-suite sponsorship and define strategic priorities	Completion of skills heat map Signed programme charter Budget allocation secured
2 Design & Pilot	Co-create role-based curricula aligned to frameworks Launch 25–50 person pilot cohort Collect formative feedback and iterate	Measurable skill improvement (≥25% delta) ≥80% learner satisfaction (NPS) Lessons-learned report
3 Scale	Roll out blended cohorts via virtual and in-person delivery Enable train-the-trainer capacity building Integrate learning records with HRIS and career frameworks	Time-to-competence vs. baseline Contractor FTE displacement Certification pass rates
4 Sustain	Establish communities of practice Refresh curriculum quarterly (technology evolves, skills decay) Publish impact dashboards for oversight and continuous improvement	Retention uplift Audit compliance scores Citizen satisfaction index

9. OVERCOMING COMMON CHALLENGES

- **Budget constraints:** Phase-gated pilots funded via existing operations and maintenance lines demonstrate quick wins that justify supplemental appropriations. Learning Tree's Government Training Account enables cross-fiscal-year budget flexibility without requiring a new solicitation.
- **Resistance to change:** Showcase peer success stories. The UK's GDS Talent Programme has enabled civil servants to transition from policy roles to Senior Delivery Manager positions within 12 months[35]. Align upskilling with visible career-path incentives.
- **Operational continuity:** Modular formats—from half-day workshops to multi-day certifications—minimise disruption. Virtual delivery via Learning Tree's AnyWare platform eliminates travel time, while Guaranteed-to-Run scheduling ensures courses are never cancelled.
- **Measurement:** Embed analytics from day one. Pre- and post-training assessments, 90-day application audits, and certification pass rates create the evidence base needed to demonstrate ROI and satisfy oversight bodies.
- **Geographic dispersion:** Blended learning models combining live virtual instruction with asynchronous content can serve workforces spread across multiple time zones and locations—as demonstrated by the Judicial Council of California's statewide deployment.

10. FUTURE-FACING SKILL DOMAINS

The World Economic Forum projects that demand for AI, big data, cybersecurity, and technological literacy skills will surge through 2030, with 39% of workers' core skills expected to change[1]. For government, four domains require particular attention:

1. **AI/ML Governance and Literacy:** Bias mitigation, model operations (MLOps), prompt engineering, and AI-specific risk management. The EU AI Act's Article 4 AI literacy mandate (effective February 2025) makes this a compliance issue, not just a capability aspiration[15]. Learning Tree's Applied AI for Government IT course and AI for IT Service Management training directly address this need.
2. **Cloud-Native and Edge Computing:** Zero-touch provisioning, service-mesh observability, and multi-cloud management. Learning Tree offers 42 Azure courses, is an AWS Authorized Training Partner, and provides cloud security certifications aligned to government requirements.
3. **Zero-Trust Security Architecture:** Continuous adaptive access, micro-segmentation, and identity-centric security models. With 27% of cybersecurity professionals citing zero-trust implementation as a top skills gap[8], this domain demands targeted training investment.
4. **Service Management and Automation:** ITIL-aligned service management, ServiceNow administration, and workflow automation. As government services become more digital, the ability to manage IT service delivery at scale becomes mission-critical. Learning Tree offers 30 ITIL courses and 25 ServiceNow courses to address this need.

11. CONCLUSION: INVESTING IN PEOPLE TO SECURE THE FUTURE

The evidence across six continents is clear: **governments that institutionalise strategic reskilling realise superior fiscal discipline, cyber resilience, and citizen trust**. Whether through the UK's 88% growth in digital professionals, Japan's recognition that upskilling outperforms hiring by a factor of 2.8, or California's statewide analytics training programme, the pattern holds—internal talent development outperforms perpetual contractor dependency on cost, agility, and mission alignment.

With defence-grade frameworks like NIST NICE, globally recognised service management standards like ITIL, and agile procurement channels already in place, the remaining variable is institutional will. Agencies that act within the next budget cycle will capture first-mover advantages in recruitment markets and regulatory compliance. Those that delay risk compounding technical debt, widening the global cybersecurity workforce gap of 4.8 million, and eroding public confidence in government's ability to deliver secure, modern services.

The time to act is now. Launch a pilot, measure rigorously, scale what works, and cultivate a culture where learning is mission-critical infrastructure.

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