



Trust. Value. Velocity

G-Cloud 15

Enterprise DevSecOps Advisory, Design and
Implementation Service

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1. About Mastek

Mastek has been delivering Critical National Infrastructure programmes in the UK Public Sector for over a decade now. We are trusted with multiple contracts for the UK Government across Central Government, Health, Local Government, Policing, Public Protection and Defence. The majority of our national services are delivered in contexts of high uncertainty and complexity, while collaborating across multi-supplier environments.

While working for these large and complex public sector organisations, we have continuously refined our management, delivery and underlying processes to reflect key learnings from the sector:

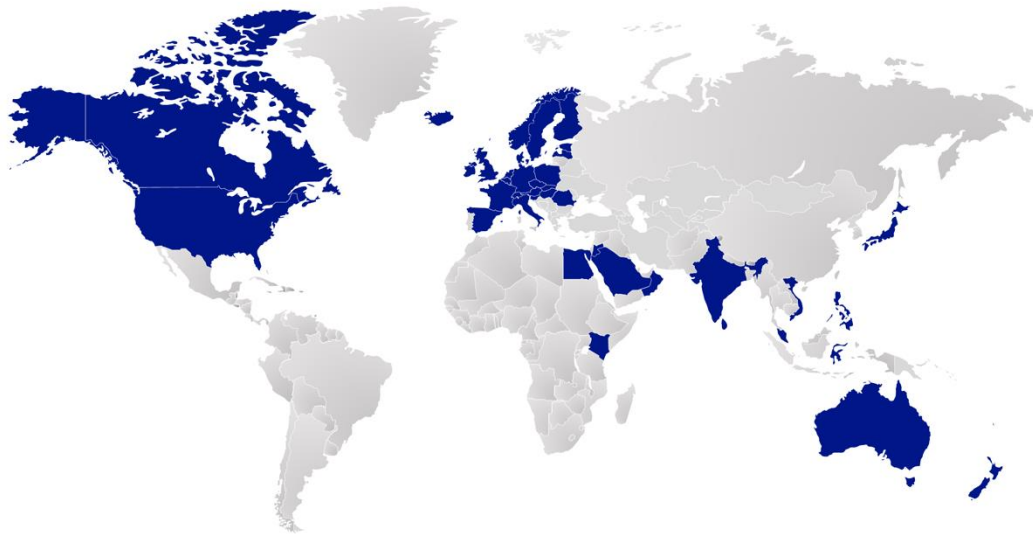
Working through a complex stakeholder landscape: We understand the importance of establishing effective communication channels, building trust and fostering a collaborative working environment that empowers stakeholders to contribute meaningfully to the project's success. Our approach is based on a deep understanding of stakeholder needs and requirements. We leverage our experience and expertise to design governance structures that promote transparency and accountability and use data-driven reporting mechanisms to ensure stakeholders have real-time visibility into project status and progress. At the Home Office, GDS, the Ministry of Defence and the NHS, we have a proven track record of working seamlessly with large stakeholder groups, including civil servants.

Standards, compliance: We comply with >20 policies and standards, including Government Digital Standards and the Government CDDO Service Toolkit, covering service standards, service manuals, TCoP and API technical and data standards. Our stringent governance, methods, playbooks and processes (manual and automated) span across service delivery phases, ensuring continuous compliance.

Policy-driven: Policies and procedures largely drive Public Sector organisations. We need to be Agile and flexible to meet demands for policy/regulatory changes, geopolitical events and ministerial commitments.

Culture: We adhere to the Civil Service core values of integrity, honesty, objectivity and impartiality. Key behaviours we promote stem from a combination of Civil Service and Mastek values. These include being passionate, accountable, sustaining predictable and repeatable outcomes, not transferring risk, transparent, leading to enable, acting with transparency, practising a no-blame culture and being flexible.

Mastek's global presence



Australia

Austria

Bahrain

Belgium

Brunei

Canada

Denmark

Egypt

Estonia

Finland

France

Germany

Hungary

Iceland

India

Indonesia

Ireland

Italy

Japan

Jordan

Kenya

Kingdom of Saudi Arabia
(KSA)

Kuwait

Latvia

Luxembourg

Malaysia

Netherlands

New Zealand

Norway

Oman

Philippines

Poland

Romania

Singapore

Slovakia

Spain

Sri Lanka

Sweden

Switzerland

United Arab Emirates (UAE)

United Kingdom

USA

Did you know?

75%

Around three quarters of Local Authorities in the UK who run Oracle have worked with Mastek on their digital transformation journey.

300,000 Users

Supported managing up to 750,000 logins per month to MOD through Identity and Access Management

Crime reduction

We designed, built and manage the UK's Strategic National DNA Database that helps Forensics and Law Enforcement Authorities investigate and stop crime

90% faster

We enabled the National Health Service (NHS) to drive 90% faster response times with a billion pharmacy prescriptions a year.

Technical Service Desk

We provide level 2 and ITSM support for the One Login service at Government Digital Service

22k

Our systems enable 22,000 schools to function efficiently every day of the year.

Healthcare and manufacturing

We delivered Finance, HCM and Supply Chain transformations for clients across health and manufacturing globally powered by Oracle Cloud

Transformation of trade

Transforming UK's trade with the EU and rest of the World by supporting Customs Declarations Services and its trade users.

99.99% Availability

We support the Home Office Biometrics (HOB) Platform, Having migrated it to an AWS platform.

Our digital and cloud services portfolio

Powered by Glide 4.0 and value-based delivery

Industry-aligned approach with business outcomes

Digital engineering and experience	• Cloud engineering and migration • Legacy modernisation • Low code / no code App Dev • DevSecOps • Enterprise integration	• MACH • Digital commerce • UX and CX • Platform engineering • Gen AI software development.
Oracle Cloud and enterprise apps	• Oracle Cloud applications • Oracle consulting • Oracle Cloud infrastructure	• Value-based delivery • Glide 4.0.
Data, automation and AI	• Cloud data modernisation • Business Intelligence and Analytics	• Data management • Intelligent automation • Data Governance.
Salesforce	• Sales Cloud • Service Cloud • Marketing Cloud • Industry Cloud	• Experience Cloud • Mulesoft.
Innovation labs and platforms	• Enterprise workforce scheduler • Connected enterprise • icx-Pro – intelligent part assistant	• iLeaseFinPro.
Cloud enhancement managed services	• Oracle managed services • Digital managed services • Commerce managed services	• Salesforce managed services.

Home Office Biometrics (HOB)

Public sector platform modelled 24x7 with 99.99% availability

Problem

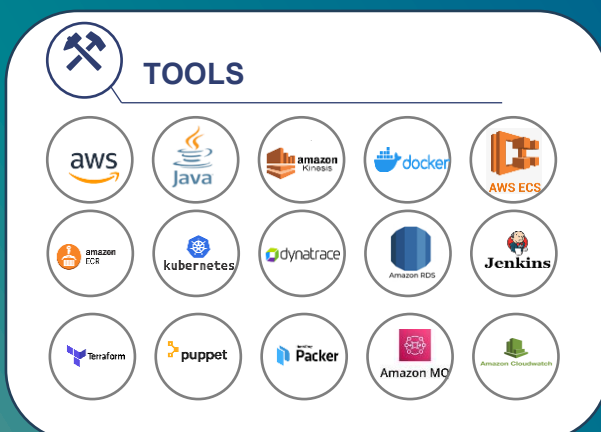
- Transition business-critical Platform services from incumbent supplier with minimal risk
- Migration from private cloud to AWS Cloud.

Solution

- Migrated the infrastructure from private cloud to AWS
- Embedding Kubernetes Containerisation
- Introduced Docker and fully-baked AMIs
- Supporting the platform's self-service functionality using Jenkins Jobs
- Applying security updates to the OS base images through pipelines
- Instituting automated patching and testing for infrastructure images
- Support of configuration, test and releasable artefacts through the pipeline.

Outcome

- **Zero impact** on live service
- **80% automation** of SIT
- Environment Provision **2 days to 1 hour**
- **5x scalability** in handling student BRPs
- Cost saving the authority circa **£9.5m/year.**
- Won the '**Best Use of Cloud Services**' award
- **35%** Incident Volume Reduction.



Government Digital Service

Problem

GDS initiated the One Login programme to create a single front door for identity verification and authentication, which could be adopted and scaled across all government departments. This would improve the user experience by providing the public with a single identification and verification service for the government, reduce costs as each department no longer required its own identity service and reduce identity fraud and identity-enabled crime.

GDS released a tender in June 2023 to provide a Technical Service Desk (TSD) managed service for the One Login service. This service would provide a single point of contact for level 1 and 2 service support as part of the wider support ecosystem. It would be provided in the UK and replace the incumbent's scaled-down non-ITIL-aligned break-fix service.

Solution

In September 2023, Mastek were successfully awarded the TSD contract to deliver TSD on behalf of GDS. GDS had an extremely aggressive programme driven by the onboarding of HMRC as a user, which was a major milestone planned for February 2024, migrating new and existing HMRC users to the One Login platform. The TSD service was expected to go live in November 2023. This was an extremely complex programme which, within this timescale, would deliver:

- The contact centre provider for level 0 directly facing the public
- The TSD supplier in place directly facing all government departments
- The TSD supplier in place providing L1 and L2 engineering support and monitoring
- Continued delivery on the One Login backlog of features
- Continued migration of smaller government departments to the platform.
- Delivery of a new ITSM toolset to be configured for use by GDS and the One Login programme, integrating level 0 to level 3 support
- Working as one team, Mastek quickly integrated into the programme, appointing the leadership team early in the engagement. We collaborated with GDS from the outset, ensuring we tailored the service to their expectations rather than delivering what was written in the contract.

Our leadership team consisted of:

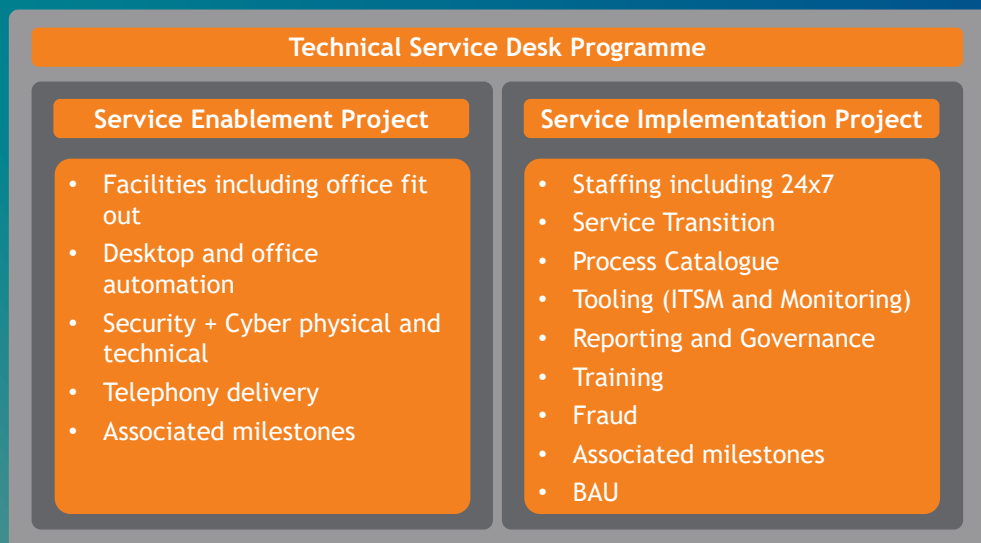
- Service Management Vice President
- Programme Director
- Chief Technology Officer
- Programme Management office lead.

Outcome

At its height, the programme team was circa 15 strong, covering programme/project delivery, PMO, architecture, fraud, security, support, omni-channel and quality assurance. The service team is currently in place providing circa 21 resources now covering end-to-end service management, service delivery and L1 and 2 engineering roles.

As the One Login migrations continue, Mastek is supporting Government departments onboarding to the platform as they transition into the new service and provide One Login a secure Technical Service Desk managed service with:

- Omni channel access for other government departments via telephony, email and web form
- Provision of L1 and L2 engineering support
- 24x7, 365 days a week cover
- 24x7x365 eyes on monitoring service
- Fraud detection and security, GDPR compliant
- End-to-end (L0-3) incident and problem management
- End-to-end 24x7 Major incident management (MIM)
- On-call/call-out engineering support, incident and MI management
- Adherence to stringent SLAs on incident response, call handling and fix times
- End-to-end monthly service reporting alongside TSD KPI and SLA reporting.
- A shift left culture and mindset, reducing the impact of service on product teams (L3)
- Support with service maturity in the programme, preparing GDS to run critical national infrastructure.



Internet-facing platform and applications for Army Digital Services

Developed mobile app and web app with 24*7 high availability

Problem

- New Defence Gateway Portal
- Combine all internet-facing applications into one
- Easy to use
- Enable easier access to the MySeries portfolio of products.

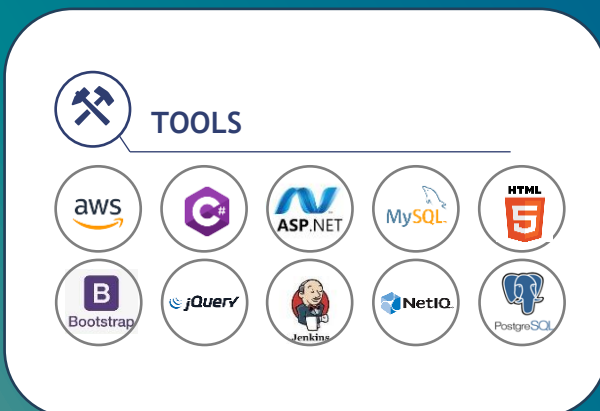
Solution

Designed and developed the following easy-use Progressive Web Apps:

- Defence Gateway Landing Page
- My Leave App
- My Expenses App
- My Health App
- My Details App
- My Appraisal App
- My Admin App
- COVID-19 Reporting Tool
- Commanders' COVID-19 Tool.

Outcome

- Delivered 20+ successful projects
- Deployment Automation
- £7.5m in savings annually
- Zero Downtime
- Environment creation in hours.



Delivered a platform for the Department for Health and Social Care

Delivered capability supporting 200k+ tests in a day,
traced millions of COVID-19 infections

Problem

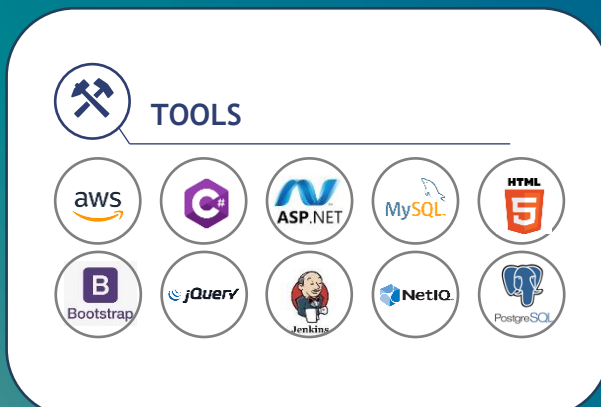
- Leveraging DevOps platform based on reusable GitHub, AWS and Azure DevOps Pipelines
- Introduce more flexible, scalable and reusable IaC capabilities
- Implement CI/CD pipelines.

Solution

- Uplifted from Cloud Formation into Terraform (IaC)
- Pre-built the AMIs using Packer, with automated security checks
- Immutable infrastructure, thus eliminating the risks of partial upgrades and patches
- Continual Cost Optimisation processes and other service functions, such as Change and Risk management
- Migrated into an organisation-wide collaboration toolset. This included Jira, Confluence, Trello, Miro, Teams, SharePoint, O365, Slack, etc.

Outcome

- 75% reduction in lead time due to pre-built AMIs
- Zero Downtime Deployments
- Delivered a Platform - Secured, multi-tenanted hosted on Azure and AWS in 5 weeks
- Cost reduction achieved through close monitoring of resource utilisation.



Mastek and Technology in the Public Sector

Technical Capabilities	Relevant Technology Capability	Mastek Scale
Software Development Continuous Integration, Platform - Other Products, Cloud Collaboration Tools		Software Engineering 2354 FTE
QA and Test; API, Automated Functional and Compatibility, Accessibility & Performance		QA and Testing 774 FTE
Cloud Platforms Amazon Web Services AWS Microsoft Azure		Cloud Platforms 1046 FTE
Data BI/MI Components, Integration		BI and Visualisation 725 FTE
User-Centered Design		UCD 25 FTE
Office Automation Tools		Collaboration 4565 FTE

2. Summary

Mastek's **Enterprise DevSecOps Service** leverage our extensive experience delivering complex digital transformational services.

We focus on embedding a continuous security culture into existing or new DevOps services.

We provide advisory, service design, maturity assessment and DevSecOps implementation services to help our clients reduce the risk of Cyber threats, accelerate delivery and maintain high-quality business services.

3. Masteks Service

We prepare organisations for DevSecOps readiness with our comprehensive assessment and consulting services, including enterprise-level assessments of culture, technologies and processes and recommendations for organisational culture transformation.

Leveraging our extensive DevSecOps experience in delivering complex, GSC-accredited digital services enables us to support our clients by embedding best-practice security into the DevOps culture and accelerating their transformation journey.

Our accelerators help organisations adopt a DevSecOps culture faster, achieve greater cost-effectiveness and enjoy early benefits. These accelerators jump-start DevSecOps adoption, optimise automation and continuous monitoring and assure the integrity and security of business services delivered and supported.

Our key Enterprise DevSecOps Services include:

- Advisory and consultancy services to assess the current maturity and capability of existing DevOps/DevSecOps services, providing strategy, service improvement, tooling and roadmap recommendations.
- DevSecOps service design for establishing and developing new organisational capabilities.
- Delivery services to support in-flight projects or new programme initiatives requiring DevSecOps experience and capability to accelerate and reduce risk in delivering business outcomes.
- Migration services include on-premise to cloud migration and setting up the DevSecOps platform.
- Building internal business DevSecOps capabilities through training, knowledge transfer, coaching and ongoing service assessment.
- Establishing accelerators for the quick implementation of DevSecOps best practices and cultural adoption.
- Implementing, deploying and managing Generative AI services.

4. Key Features

Our flexible DevSecOps delivery model allows our services to be tailored to meet each client's needs, from addressing specific capability or maturity aspects of existing services to establishing new service models and capabilities in greenfield sites.

Key features across the breadth of our DevSecOps service offerings are outlined below:

- Embedding SecOps best practices and tooling in existing DevOps services.
- Security by design approach, ensuring full delivery lifecycle coverage.
- Establishing automated guard rails for quality and compliance.
- Experienced professionals with depth in DevSecOps culture and tooling.
- Public Cloud, Private Cloud, on-premise and Hybrid solutions.
- Design, automation, tooling, process and governance implementation services.
- Compliance models for ISO27001, Cyber Essentials, NCSC, NIST, Cloud Security, GDPR, CIS AWS Benchmark, CIS Azure Benchmark, PCI DSS, HIPAA.
- DevSecOps maturity assessments, recommendations and strategy development.
- Establishing self-service capabilities with the DevSecOps platform.
- Implementing automated monitoring and feedback loops.
- Integration of various tools.
- Training and knowledge transfer to accelerate internal capability development.
- Design innovation to embrace new technologies and solutions, including Generative AI.
- Public and private cloud agnostic solutions and services.

5. Business Benefits

By providing a tailored, pragmatic approach to addressing a client's DevSecOps needs, we can rapidly accelerate the delivery of agreed benefits to their business, supporting the secure, high-quality delivery of the required operational outcomes.

The business benefits we can support the client in delivering service capabilities include:

- Reduce vulnerabilities using OWASP and ASVS-aligned secure practices.
- Secure by design services to minimise security threats.
- Fully integrates DevSecOps squad culture at scale.
- Accelerate Agile transformation through secure delivery frameworks and tooling.
- Maximises security automation practices.
- Enforces continuous monitoring principles.
- Optimised automation to reduce defect and incident levels.
- Improved delivery velocity and quality of business service outcomes.
- Rapidly build DevSecOps platform and services.
- Embedded proportionate DevSecOps service management regimes.
- Accelerated security solutions innovation and adoption.
- Innovation and adoption models to keep pace with threats.
- Scalable DevSecOps squad operating models, supported by AI-driven insights into flow, quality and team performance.
- Accelerated Agile transformation, enabled through AI-assisted delivery frameworks, tooling and pipeline optimisation.
- Maximised security automation, using intelligent scanning, threat analysis and automated remediation guidance powered by CTEM.
- Rapid build and evolution of DevSecOps platforms, incorporating AI-enabled monitoring, testing and security capabilities.
- Continuous monitoring and observability, enhanced by AIOps-based anomaly detection and root-cause analysis.
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6. Technologies, Tools and Vendor Support

The vast DevOps/DevSecOps landscape offers a plethora of tools for every stage of the software delivery pipeline. Here's a glimpse of 50 such tools across various categories that we have vast experience with:

- **Version control:** Git, Subversion, Mercurial, GitHub, GitLab, Azure Repos, BitBucket.
- **Configuration management:** Ansible, Puppet, Chef, SaltStack.
- **CI/CD:** Jenkins, CircleCI, Travis CI, GitLab CI/CD, Bamboo, Azure DevOps, Azure Pipelines, AWS CodeBuild, CodePipeline, CodeDeploy.
- **Infrastructure as code:** Terraform, CloudFormation (AWS), Azure Resource Manager (ARM).
- **Containerization:** Docker, Kubernetes, Podman, Rancher.
- **Container orchestration:** Kubernetes, Docker Swarm, Nomad, HELM.
- **Package management:** npm (JavaScript), yum/dnf (RedHat), apt (Debian/Ubuntu).
- **Testing:** JUnit, Selenium, Cypress, Jest, Gatling.
- **Monitoring:** Prometheus, Grafana, Datadog, New Relic, ELK Stack, Dynatrace.
- **Security:** Aqua Security, Snyk, Qualys, snyOps.
- **Communication and collaboration:** Slack, Microsoft Teams, PagerDuty.
- **AI for CI/CD Optimisation:** Harness Continuous Delivery – ML-driven deployment verification and rollback, Spinnaker (ML plugins) – Intelligent release analysis, Azure DevOps AI (Insights) – Pipeline optimisation and failure prediction, CircleCI Insights – Predictive pipeline analytics
- **AI for Security and DevSecOps:** Snyk AI – Intelligent vulnerability prioritisation, Aqua Security AI – Container and runtime threat detection, CTEM through Rapid7, Tenable, Qualys VMDR, Checkmarx AI – Interactive application security testing,
- **DevSecOps AI tools:** Spacelift, Snyk, Amazon Q Developer, GitHub Copilot, Dynatrace, Jenkins with AI plugins
- **Threat modelling:** Microsoft Threat Modelling tool, IriusRisk
- **Secrets management:** HashiCorp Vault, AWS Secrets Manager, Azure Key Vault, CyberArk, Arcon
- **API management:** Apigee, APIM, Postman, Kong.
- **Logging and aggregation:** Elasticsearch, Logstash, Kibana (ELK Stack), Splunk, Sentinel, Rapid7
- **Service management:** ServiceNow, Jira Service Desk.

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Mastek UK Ltd.
100 Brook Drive, Green Park,
Reading, Berkshire
RG2 6UJ
+44 (0)118 903 5700
Email: g-cloud@mastek.com

