



Trust. Value. Velocity

G-Cloud 15

Secure API Implementation and Management 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 a context of high uncertainty and complexity while collaborating in 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:

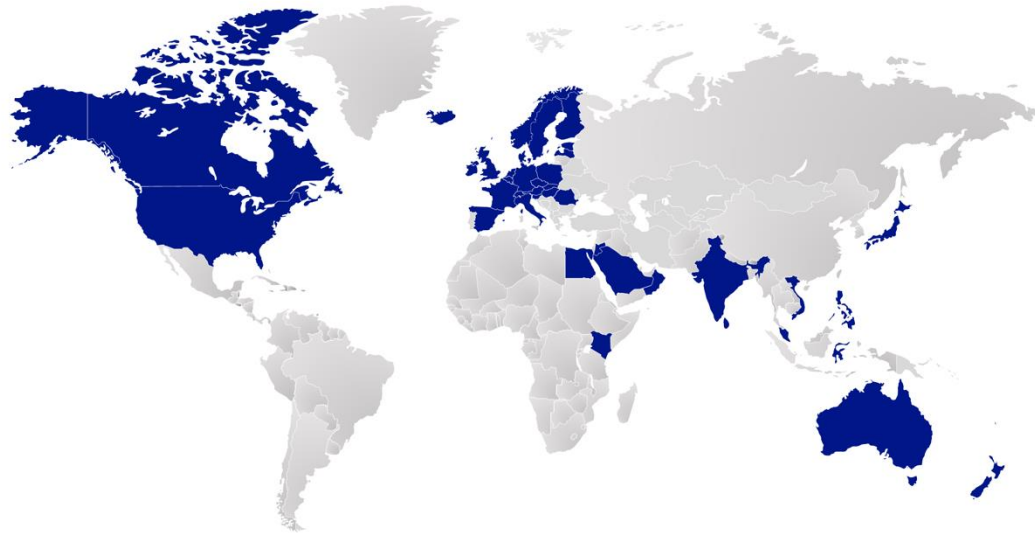
Working through a complex stakeholder landscape: We understand the importance of establishing effective communication channels, building trust, and fostering a collaborative working environment that empowers stakeholders to contribute meaningfully to the project's success. Our approach is based on a 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, Ministry of Defence and NHS, we have a proven track record of working seamlessly with large stakeholder groups, including civil servants.

Standards, compliances: We comply with >20 policies and standards, including Government Digital Standards and Government CDDO Service Toolkit covering service standards, service manuals, TCoP, 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 & 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 & 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 & migration • Legacy modernisation • Low code / no code App Dev • DevSecOps • Enterprise integration	• MACH • Digital commerce • UX & 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 & 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

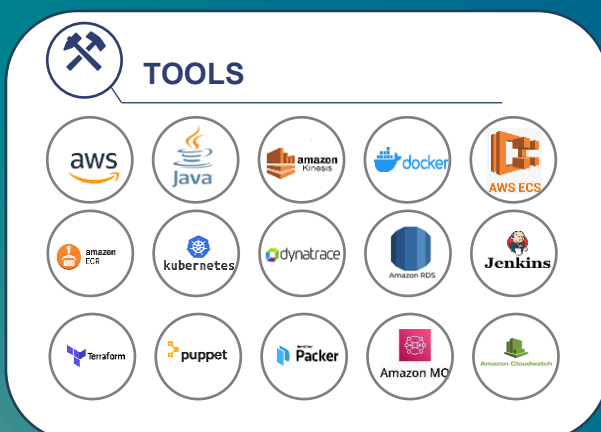
- Transition business-critical Platform services from incumbent supplier with minimal risk
- Migration from private cloud to AWS Cloud.

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:

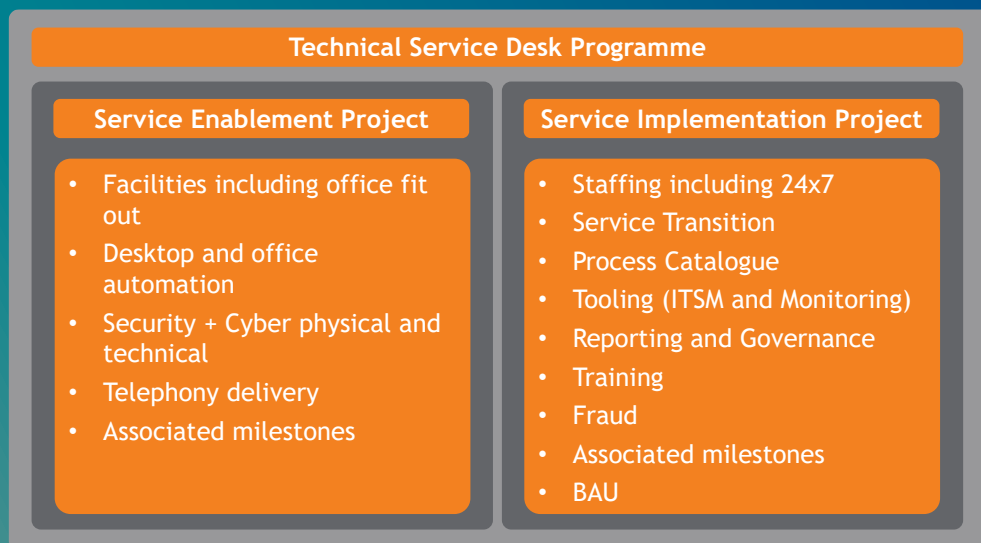
- Service Management Vice President
- Programme Director
- Chief Technology Officer
- Programme Management office lead.

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 & applications for Army Digital Services

Developed mobile app & 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.

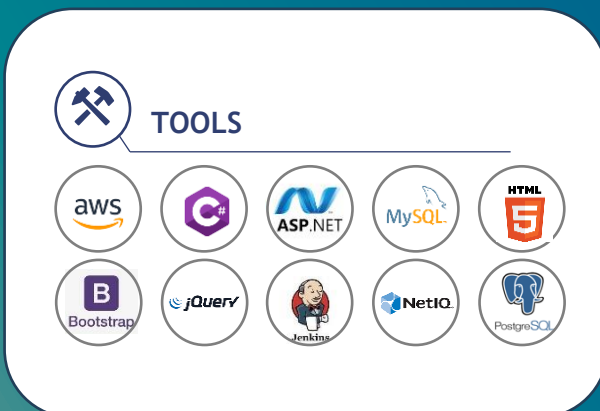
Solution

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

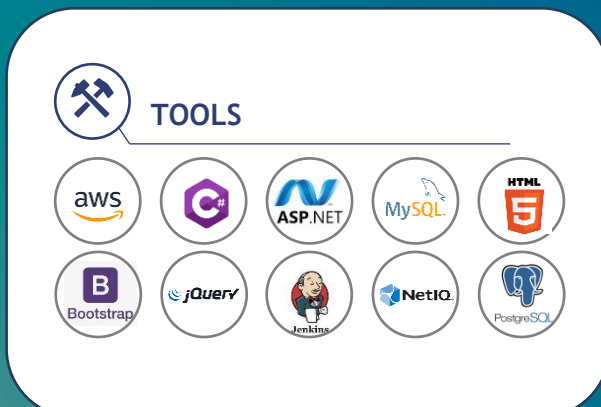
- Leveraging DevOps platform based on reusable GitHub, AWS, and Azure DevOps Pipelines
- Introduce more flexible, scalable, and reusable IaC capabilities
- Implement CI/CD pipelines.

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 **Secure API, Implementation and Management Services** enable you to build an API ecosystem by quickly unlocking the core capabilities from your legacy system and/or by rapidly launching new business features as APIs and publishing them to the customer, partner and employees to accelerate your digital transformation journey, time to business value and to drive the revenue growth.

Our services use vendor-agnostic full life cycle API management tools to help organisations change and innovate faster by making it easy to connect applications, data and devices and transact their businesses digitally through APIs.

3. Masteks Service

Four decades and counting, our customers trust us to deliver technology solutions that improve the lives of millions. Mastek has an impressive track record of 96% on-time delivery and 2.5 times less defect density ratio compared to the industry norms. We take a customer-centric, incremental value delivery approach to drive innovations, and work collaboratively using flexible commercial models, ensuring the highest delivery performance, quality improvements and productivity.

Mastek has successfully supported customers in the ways they compete, create, and capture value on their digital modernisation journey by delivering APIs using popular API management platforms from vendors such as Apigee, MuleSoft, Microsoft Azure, Amazon, Oracle, IBM, and CA Technologies.

Our secure API implementation and management services include:

- Business consultation to establish API strategy.
- Technology consultation, blueprints, and product evaluation based on the API maturity model.
- Design and develop APIs for user cases, consumers, channels, API Identity and security management.
- [API Monetisation](#) to enable providers to package, price, and publish APIs.
- API lifecycle governance.
- Analytics to gain real-time insights about the entire API ecosystem.
- Product expertise across multiple popular API management platforms.
- Best practices, standards and guidelines for API management.

4. Key Features

Key features of our services are:

- Business consultation to establish API strategy:
 - Discovery and assessment of existing legacy landscape, current and future business requirements, and establishing API strategy, considering internal factors such as standards and guidelines and external factors such as regulatory regulations.
- Technology consultation, blueprints, and product evaluation based on the API maturity model:
 - Technology consultation, evaluate baseline and target API maturity model, API management reference architecture and blueprints, evaluate products for full API management life cycle, POCs.
- Design and develop APIs for different user cases, consumers, and channels:
 - OpenAPI for API specifications, catalogue, search and provisioning, design and develop APIs for various use cases, consumers and channels.
- API identity and security management:
 - API key, OAuth, SAML, LDAP, proprietary IAM, multifactor, token translation and management, SSL, PKI, threat protection, schema validation, encryption, signatures.
- [API Monetisation](#) to enable providers to package, price, and publish APIs:
 - Enables enterprises to leverage their digital assets into new revenue streams and business models.
 - Creation and configuration of a broad range of API packages, revenue models, reports, payment gateways, and developer portal integrations.
- API lifecycle governance:
 - Govern the full life cycle of API management: design, develop, secure, publish, scale, monitor, analyse, and monetise.
 - API versioning.
- Analytics to gain real-time insights about the entire API ecosystem:
 - Comprehensive insights into the API ecosystem, including API traffic, identity spikes, business impact, and API patterns.
- Product expertise across popular API management platforms:
 - Product expertise across popular API management platforms from vendors such as Apigee, Mulesoft, Microsoft Azure, Amazon, Oracle, IBM, and CA Technologies.
- Enterprise repository with best practices, standards, blueprints, and a reference architecture for API management across the continuum, such as foundation, common, industry-specific, and organisation-specific.

5. Business Benefits

- Create a flexible and dynamic digital ecosystem.
- Accelerate time to business value by rapidly creating new digital assets.
- Unlock core capabilities from your legacy systems and publish digitally for the customers, partners, and developers.
- Make data-driven decisions using business insights through analytics.
- Create a seamless and connected multi-experience for your customers.
- Streamlined workflows.
- Cost efficiency.
- Improved time-to-market.
- Protection against security threats.
- Reuse of services, building blocks, and assets in the organisation.

6. Technologies, Languages, Methods and Vendor Support

- Technologies:
 - Microservices architecture
 - Containerisation and orchestration
 - API Gateways.
- Languages:
 - Java, Python, Node.js, Ruby and Go.
- Methods:
 - Agile development
 - Full life cycle API management
 - Design first approach
 - Document-driven development.
- Vendor support:
 - Apigee, Mulesoft, Microsoft Azure, Amazon, Oracle, IBM, CA Technologies
 - Open Source solutions – Kong, WSO2 offer API Gateways.

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