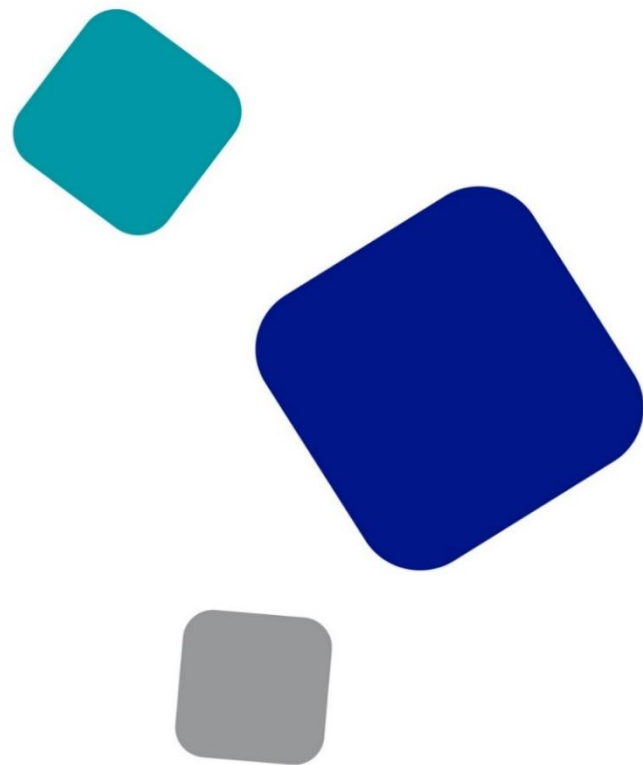




Trust. Value. Velocity

## G-Cloud 14

Managed Testing Services



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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:

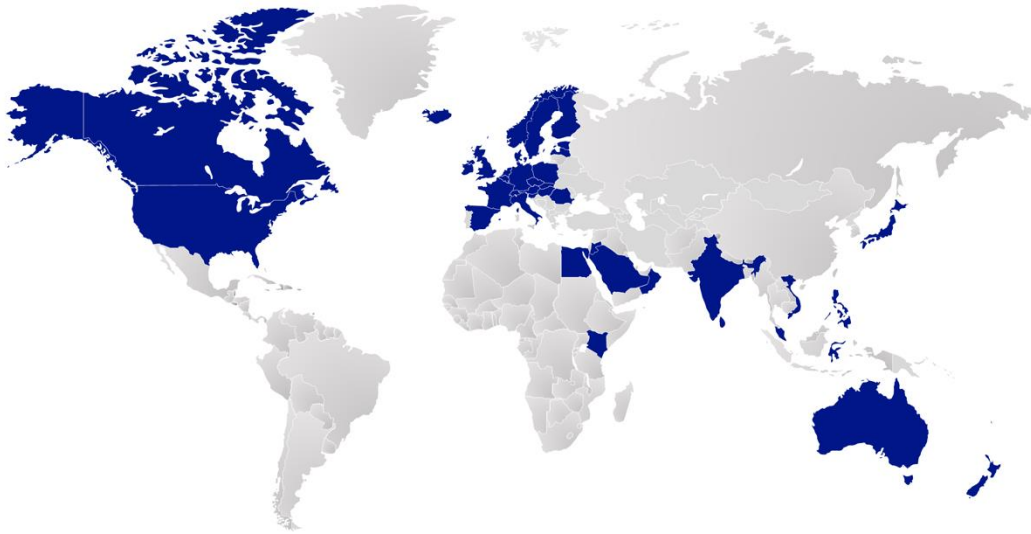
**Working through a complex stakeholder landscape:** We understand the importance of establishing effective communication channels, building trust, and fostering a collaborative working environment that empowers stakeholders to contribute meaningfully to the project's success. Our approach is based on 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 | <ul style="list-style-type: none"> <li>Cloud engineering &amp; migration</li> <li>Legacy modernisation</li> <li>Low code / no code App Dev</li> <li>DevSecOps</li> <li>Enterprise integration</li> </ul> | <ul style="list-style-type: none"> <li>MACH</li> <li>Digital commerce</li> <li>UX &amp; CX</li> <li>Platform engineering</li> <li>Gen AI software development.</li> </ul> |
| Oracle Cloud and enterprise apps   | <ul style="list-style-type: none"> <li>Oracle Cloud applications</li> <li>Oracle consulting</li> <li>Oracle Cloud infrastructure</li> </ul>                                                              | <ul style="list-style-type: none"> <li>Value-based delivery</li> <li>Glide 4.0.</li> </ul>                                                                                |
| Data, automation and AI            | <ul style="list-style-type: none"> <li>Cloud data modernisation</li> <li>Business Intelligence &amp; Analytics</li> </ul>                                                                                | <ul style="list-style-type: none"> <li>Data management</li> <li>Intelligent automation</li> <li>Data Governance.</li> </ul>                                               |
| Salesforce                         | <ul style="list-style-type: none"> <li>Sales Cloud</li> <li>Service Cloud</li> <li>Marketing Cloud</li> <li>Industry Cloud</li> </ul>                                                                    | <ul style="list-style-type: none"> <li>Experience Cloud</li> <li>Mulesoft.</li> </ul>                                                                                     |
| Innovation labs and platforms      | <ul style="list-style-type: none"> <li>Enterprise workforce scheduler</li> <li>Connected enterprise</li> <li>icx-Pro – intelligent part assistant</li> </ul>                                             | <ul style="list-style-type: none"> <li>iLeaseFinPro.</li> </ul>                                                                                                           |
| Cloud enhancement managed services | <ul style="list-style-type: none"> <li>Oracle managed services</li> <li>Digital managed services</li> <li>Commerce managed services</li> </ul>                                                           | <ul style="list-style-type: none"> <li>Salesforce managed services.</li> </ul>                                                                                            |

# Home Office Biometrics (HOB)

Public sector platform modelled 24x7 with 99.99% availability

## Problem

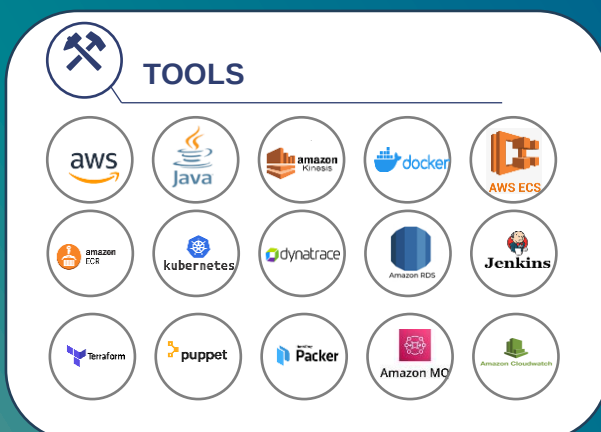
- Transition business-critical Platform services from incumbent supplier with minimal risk
- Migration from private cloud to AWS Cloud.

## 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:

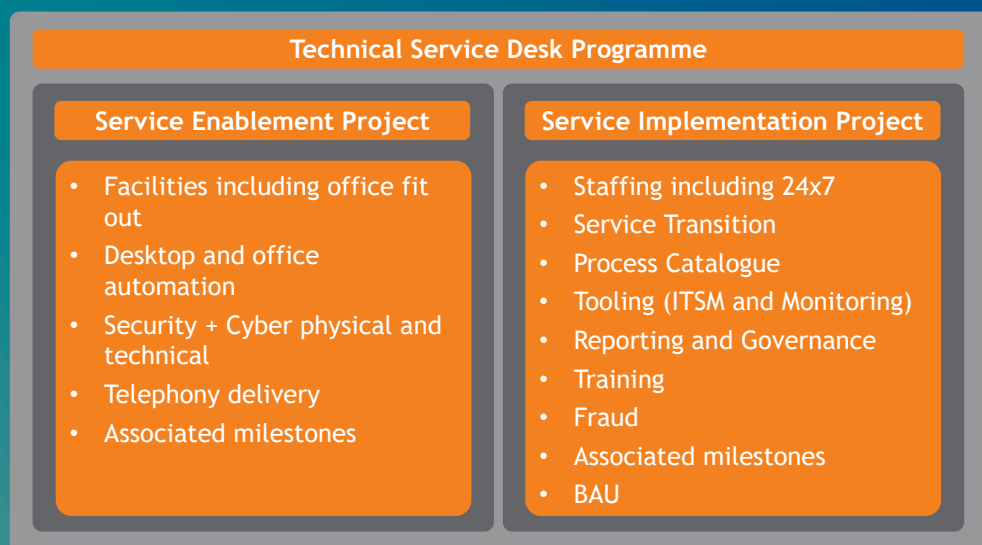
- Service Management Vice President
- Programme Director
- Chief Technology Officer
- Programme Management office lead.

## 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.

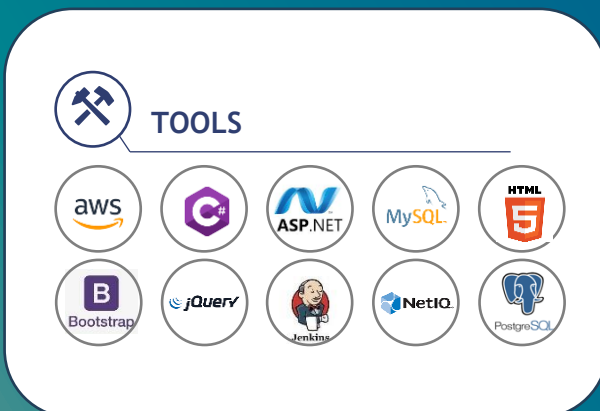
## Solution

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

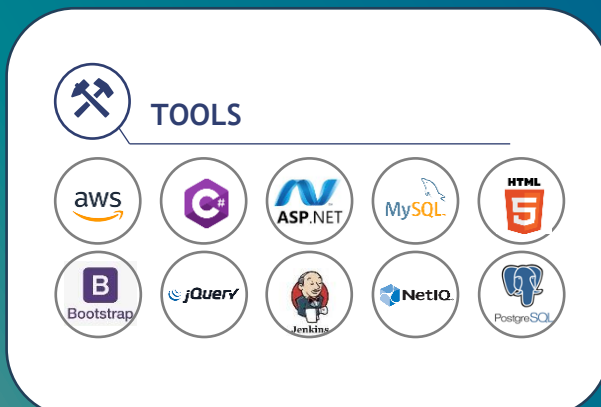
- Leveraging DevOps platform based on reusable GitHub, AWS, and Azure DevOps Pipelines
- Introduce more flexible, scalable, and reusable IaC capabilities
- Implement CI/CD pipelines.

## 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                            |
|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------|
| <b>Software Development</b><br>Continuous Integration,<br>Platform - Other Products,<br>Cloud Collaboration Tools |   | <b>Software Engineering</b><br>2354 FTE |
| <b>QA and Test;</b> API, Automated<br>Functional and Compatibility,<br>Accessibility & Performance                |   | <b>QA and Testing</b><br>774 FTE        |
| <b>Cloud Platforms</b><br>Amazon Web Services AWS<br>Microsoft Azure                                              |   | <b>Cloud Platforms</b><br>1046 FTE      |
| <b>Data BI/MI</b><br>Components, Integration                                                                      |   | <b>BI and Visualisation</b><br>725 FTE  |
| <b>User-Centered Design</b>                                                                                       |   | <b>UCD</b><br>25 FTE                    |
| <b>Office Automation Tools</b>                                                                                    |  | <b>Collaboration</b><br>4565 FTE        |

## 2. Summary

Mastek has significant experience providing its customer's Test Organisations with the right operating model and structured and harmonised test processes, enabling customers to achieve an optimised, cost-efficient, Agile and scalable approach to testing. Mastek is acutely aware of the importance of speed-to-market and takes a responsive and proactive approach to testing.

Our Managed Testing Services are designed to streamline your Quality Assurance (QA) processes and ensure exceptional software quality. We act as an extension of your team, providing dedicated testing resources, industry-leading expertise, and a scalable testing infrastructure tailored to your specific project needs. Regardless of your industry, project size, or delivery model, we offer a comprehensive suite of testing services to empower your success.

### 3. Masteks Service

Our Managed Testing Services offer a flexible and cost-effective approach to quality assurance. We take ownership of your entire testing process or specific aspects as needed, allowing you to focus on core development activities.

Our services include:

- **Test planning and strategy:** We collaborate with your team to define testing goals, scope, and methodologies, ensuring alignment with project objectives.
- **Test case design and execution:** Our skilled testers create comprehensive test cases covering functionality, usability, performance, and security, followed by meticulous test execution.
- **Defect management and reporting:** We utilise a robust defect management system to track identified issues, prioritise remediation efforts, and generate clear and actionable reports.
- **Test automation development and implementation:** We leverage automation tools and frameworks to streamline repetitive test cases, optimising testing efficiency.
- **Environment management:** We manage and maintain testing environments, ensuring access to the necessary infrastructure for effective testing.
- **Integration with development lifecycle (DevSecOps):** We seamlessly integrate with your DevOps pipeline, facilitating continuous testing and feedback throughout development.
- **Test result analysis and reporting:** We provide comprehensive test reports with insightful analysis, enabling data-driven decision-making and ensuring project progress.
- **Ongoing support and expertise:** Throughout the project lifecycle, you receive ongoing support from our experienced testing professionals, ready to address your concerns and provide expert guidance.

Mastek delivers Managed Testing Services to its customers through a predictive, proactive and collaborative assurance model (Illustrated below) focussed on transforming the test function and realising business goals.

The model is underpinned by catalogue-based testing services, industrialised test processes, industry-standard tools, frameworks and accelerators, SLA-based governance, and a structured approach to demand management and transformation through ongoing improvements.



Figure 1: Predictive, proactive and collaborative assurance model

## 4. Key Features

To ensure a successful testing experience tailored to your specific needs, we offer a comprehensive range of features:

- **Dedicated testing team:** We provide a dedicated team of experienced testers with expertise in various testing methodologies and tools, covering functional and non-functional testing, maturity assessments, automation, continuous integration, and continuous delivery.
- **Scalable resources and delivery flexibility:** Our services are scalable to meet your project's evolving needs, allowing you to increase or decrease testing resources as required. We offer flexible delivery models, including onshore, nearshore, and offshore options and flexible pricing models to suit your budget.
- **Enhanced testing expertise and tools:** Gain access to a wealth of resources, including industry-standard best practices, tools, frameworks, and accelerators. We also offer customised automation frameworks tailored to your specific needs. Our highly skilled test professionals are available in a core flex model, providing the right expertise at the right time.
- **Delivery focused on business outcomes:** Our testing approach is driven by business outcomes, ensuring your software meets technical requirements and overall business goals. We foster a collaborative approach to transformation, working closely with you to achieve jointly agreed-upon objectives.
- **Thought leadership and advisory services:** Benefit from our thought leadership and advisory services. We stay ahead of the curve in the testing landscape and share valuable insights to keep your QA practices at the forefront.

## 5. Business Benefits

By implementing our Managed Testing Services, you unlock a multitude of benefits that drive efficiency, quality, and success for your software projects:

- **Business-centric, outcome-focused approach:** We align our testing strategy with your business goals, ensuring testing activities directly contribute to achieving desired outcomes.
- **Structured, risk-free, and planned delivery:** We leverage a well-defined methodology and structured approach, minimising risks and ensuring predictable, on-time delivery.
- **Cost-effective with flexible scaling:** Our services are cost-effective yet offer the flexibility to scale resources up or down to meet your project demands.
- **Enhanced governance with SLAs:** We implement a robust 3-layered governance structure driven by Service Level Agreements (SLAs), ensuring transparency and accountability throughout the testing process.
- **Measurable quality improvement:** We utilise industrialised testing processes and a data-driven approach to deliver quantifiable improvements in software quality.
- **Knowledge transfer and team integration:** Our knowledgeable testing professionals become integral to your organisation, fostering knowledge transfer and building long-term testing expertise within your team.
- **Specialist skills for diverse needs:** We offer a comprehensive range of specialist skills encompassing automation, mobile, performance, and accessibility testing to address your specific requirements.
- **Predictable quality and reduced defects:** Our rigorous testing processes help prevent defect leakage into production, ensuring predictable software quality and minimising post-release issues.
- **Skills gap bridging:** We address your skill shortages by providing access to specialised testing knowledge, allowing you to focus on core competencies within your organisation.

## 6. Technologies, Languages and Methods

| # | Technologies                                          | Languages                           | Methods                       |
|---|-------------------------------------------------------|-------------------------------------|-------------------------------|
| 1 | Selenium, Appium, Cypress, TestNG, Cucumber, Specflow | Java, Python, JavaScript, C#        | Agile Testing (Scrum, Kanban) |
| 2 | SoapUI, Postman, Rest Assured                         | Python, JavaScript, Shell Scripting | Waterfall testing             |
| 3 | JMeter, LoadRunner, Neoload                           |                                     | Exploratory testing           |
| 4 | Appium                                                |                                     | Shift-Left testing            |
| 5 | JIRA, TestRail, Azure DevOps, Zephyr                  |                                     |                               |
| 6 | Sauce Labs, BrowserStack                              |                                     |                               |

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