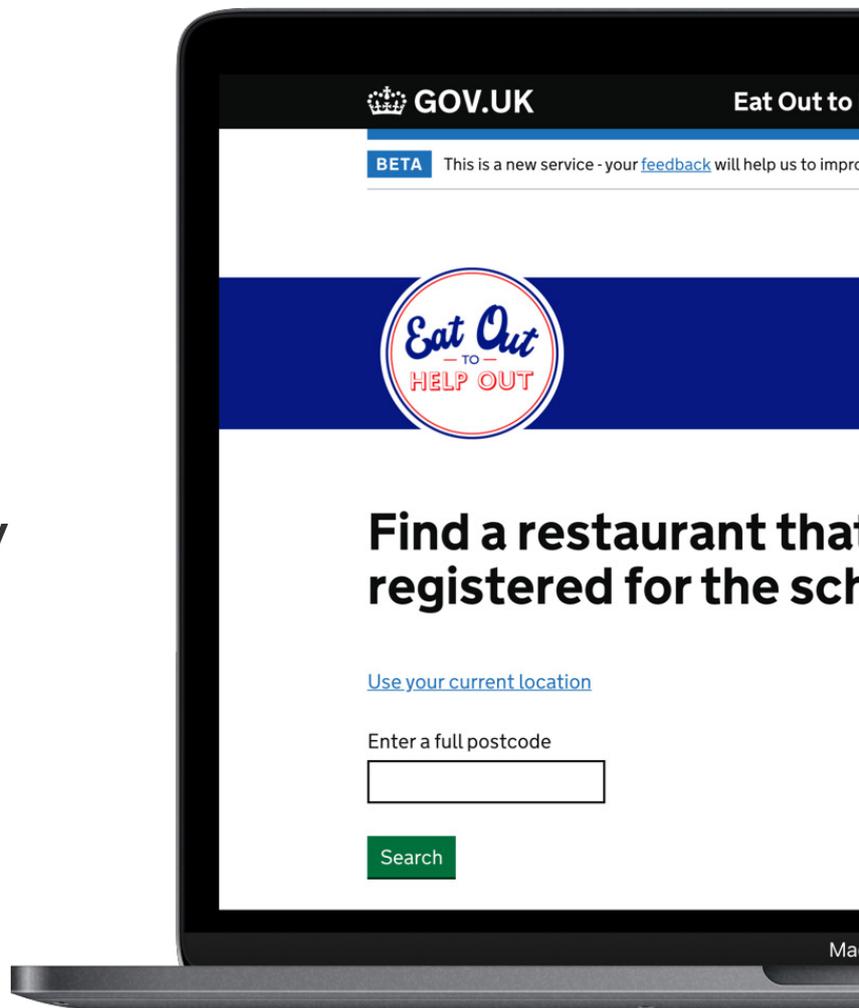


CASE STUDY

# Helping HMRC to progress the Multi-channel Digital Tax Platform

We're training apprentices and enabling teams to build on one of the largest and most highly regarded platforms in the public sector.



## Introduction

HMRC's Multi-channel Digital Tax Platform is a cloud platform for over 130 user-facing applications and 900 microservices that have been built as part of HMRC's 'making tax digital' strategy.

In December 2019, we began helping HMRC to manage, support, progress and develop the platform as part of mixed teams of Made Tech engineers, Civil Service participants and other suppliers.

Our work has involved using bleeding edge AWS technology and included a migration to ECS from home grown tools, which had been used before ECS and Kubernetes existed. The platform teams have also helped HMRC to rapidly build and deploy the key new applications used to roll out the Government's COVID-19 stimulus package.

In addition to our work on the platform, we have helped HMRC with upskilling technology capabilities amongst their apprentices. We supplied an Apprentice Lead and leveraged our experience and learning materials from the [\*\*Made Tech Academy\*\*](#) to establish a full-time academy training 10 apprentices.

# A secure and scalable digital tax platform

Her Majesty's Revenue & Customs (HMRC) is a non-ministerial department responsible for tax collection, support schemes and regulatory frameworks. It has the third highest staff headcount with over 60,000 employees and has played a leading role in the government's COVID-19 response by implementing a range of economic stimulus schemes.

The Multi-channel Digital Tax Platform (MDTP) was developed in 2014 as a common infrastructure that linked existing and new systems. It was built to be secure, reliable, flexible and scalable so that HMRC could use it to develop services quickly.

Today, it is a cloud platform for over 130 user-facing applications and 900 microservices that have been built as part of HMRC's 'making tax digital' strategy. It hosts all of HMRC's customer-facing digital services that are accessed via gov.uk, as well as services and dashboards to thousands of internal staff. It provides an easy way for teams to build and deploy an application that can scale to handle millions of requests.

In 2015, the platform won the Digital Project of the Year in the 'Project Excellence' category of the British Computer Society IT Awards.

# The project to support and progress the platform

HMRC wanted to build and operate a Continuous Integration-Continuous Delivery (CI-CD) capability in public cloud that would continually improve MDTP's usability, operability and security, as well as simplifying the path to Production.

In December 2019, we began helping HMRC to manage, support, progress and develop the platform as part of mixed teams of Made Tech engineers, Civil Service participants and other suppliers.

Our work has involved using bleeding edge AWS technology and included a migration to ECS from home grown tools, which had been used before ECS and Kubernetes existed. Since the start of the engagement, our team has grown to seven engineers with a requirement for five more to be added.

The platform teams have helped HMRC to rapidly build and deploy the key new applications used to roll out the Government's COVID-19 stimulus package. These include the Coronavirus Job Retention Scheme, the Self Employment Income Support Scheme and the Eat Out to Help Out Scheme.

## Our approach to training apprentice engineers

In addition to our work to support, progress and develop the platform, we have also helped HMRC with upskilling technology capabilities amongst their apprentices.

The department was struggling with a lack of capacity and with an external training supplier who wasn't meeting the specific needs of the platform. We supplied an Apprentice Lead and leveraged our experience and learning materials from the [Made Tech Academy](#) to establish a full-time academy training 10 apprentices.

This has involved developing the skills required to be DevOps engineers, as well as integrating them into the platform teams. This [technology skills enablement](#) work involves a combination of pair programming exercises, mobbing, interactive lectures and guest training from HMRC members and other suppliers working in the MDTP mixed teams.

The skills and techniques we have covered include Test Driven Development, Python, Infrastructure as Code (Terraform), AWS, Agile software development, communication and collaboration.

## The results – an award winning team that excelled during COVID-19

Even when the COVID 19 pandemic struck, it didn't stop us from launching HMRC's MDTP Apprentice Academy, which included tailored course content that would have been ambitious even under normal conditions.

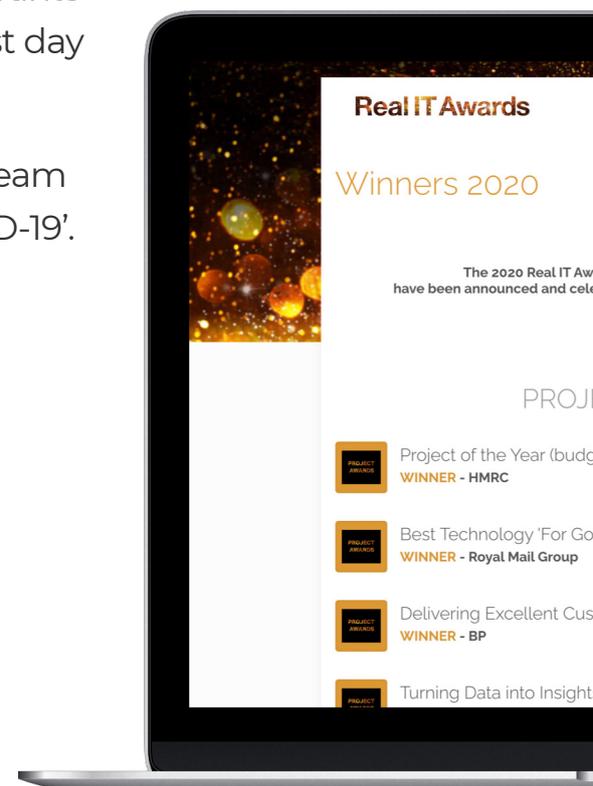
Furthermore, the Multi-channel Digital Tax Platform we are progressing has excelled during this period, as it has needed to support a range of new applications that have experienced enormous spikes in user numbers at launch and beyond.

For example, employers made 67,000 job claims within half an hour of the Job Retention Scheme going live, while more than 110,000 people applied for government grants via the Self Employment Income Scheme on the first day of its operation.

As a result of these successful launches, the HMRC team won the Real IT award for 'Best IT team during COVID-19'.

**"I am in awe of the problem-crunching fury with which HMRC and the Treasury created the furlough scheme and all the other means of support."**

**Prime Minister Boris Johnson, June 2020**



## Key results achieved

- **130 user-facing applications** supported
- **900 microservices** enabled
- Rapid scaling of **key COVID-19 services**
  
- Awarded '**Best IT team during COVID-19**'
- **Bleeding edge** AWS technology used
- **Migration of platform** to AWS ECS
  
- **Expansion of team** to 12 engineers
- **Full-time academy** launched
- Apprentices trained as **DevOps engineers**

# About Made Tech

Made Tech are public sector technology delivery experts. We provide Digital, Data and Technology services across the UK market.

We help public sector leaders to modernise legacy applications and working practices, accelerate digital service delivery, drive smarter decisions with data and enable improved technology skills within teams.

If you'd like to find out more, you may want to read about some related projects:

- [Delivering GovWifi for the Government Digital Service \(GDS\)](#)
- [Building an API platform for Hackney Council](#)
- [Technology Capability Building at Ministry of Justice](#)
- [Check out what we do at madetech.com](#)

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