

# Automation Logic Met Office AWS Cloud Adoption



## Executive Summary

A key driver for the Met Offices “Cloud First” strategy is the huge data volumes they deal with. This, coupled with their need to deliver world-leading science and weather services to their users, makes cloud an essential technology choice.

Automation Logic and Met Office established a partnership with DevOps principles at its core. The purpose, to develop and operate a Met Office cloud platform on AWS, delivered significant benefits in speed to market, cost reduction and increased security.

A critical outcome of this partnership has been equipping the Met Offices Cloud Team with the DevOps and Agile delivery skills they need to continue this success into the future and become self-sustaining.

## Customer Challenge

Met Office made the strategic decision to follow best practice and establish a central Cloud Team to evangelise, drive and support cloud adoption across the organisation.

Initially they populated this team exclusively with engineers from their existing Infrastructure and Operations team. While an intuitive move, this effectively resulted in a group lacking experience and diversity of skills and therefore feeling overloaded.

In 2019 – 2020 AL was engaged to help accelerate cloud adoption by helping form and lead a DevOps-focussed Cloud Team. The goal was to help the Met Office mitigate risks of using cloud while simultaneously increasing the speed with which products and services were delivered to the AWS platform.

## Partner Solution

AL’s team worked with Met Office to provide technical leadership, co-creating their public cloud vision and developed a scorecard to drive people, process, and technology KPI’s, ensuring AL was accountable for delivery excellence and to help technical teams demonstrate value and pinpoint how to continuously improve.

The team worked to;

- Create, collect, and curate common code, patterns, and best practice
- Automate common platform activities such as user management and account provisioning
- Develop centralised, reusable services
- Provide consultancy, reviews, and assurance to other teams
- Empower teams to develop the knowledge, skills and expertise to adopt DevOps practices and develop sustainable cloud-based services


## About Met Office



**The Met Office is the national meteorological service for the UK.**

**Met Office provides weather and climates forecast to enable people and organisations to make decisions based on the weather so that they can be safe, well, and prosperous.**

**Crucial to Met Office is using technology and data to provide insight and advice.**



During 'Alpha' the AL team established a Cloud Community of Practice and repeatable patterns and processes to be used in the implementation of cloud technologies. AL coordinated an event led by consulting engineers deploying public cloud at other clients such as MoJ & Waitrose, to showcase best practice with AWS.

The team also helped to aid the transition of developed applications into operations and continued to enhance cloud maturity and DevOps skills across the team.

During the 'Beta' phase, AL and the Met Office worked to ensure the Cloud Team spent less time on business-as-usual activities through automation of common request types. They also put a focus on financial management and several cost reduction measures, including rightsizing and automated switching-off of development resources overnight, helped realise significant infrastructure cost savings.

AWS services included – EC2, CodePipeline, CodeCommit, IAM, S3, CloudWatch, Lambda, Consolidated Billing.

### **We help to migrate services into the cloud:**

- Monolithic application which was refactored to leverage the cloud environment. The application was initially running full time on VMs but only processing weather forecast (flood risk alerts) data twice a day for a couple of hours which was too costly. To save money and make it faster we broke the application into an Event-driven and Serverless architecture to process the data now in S3 Objects. For this we used AWS S3, SQS, SNS, CloudWatch, IAM, KMS
- We deployed central managed Firewall and WAFs for the applications to replace and improve the old (per project) security appliances. This was implemented using AWS WAF, Firewall and Shield.
- We help less technical scientist to migrate the Kubernetes Cluster they were using into EKS since it was consuming a big amount of time and they were lacking Kubernetes management skills.
- The programme is now 'Live' with plans to scale enterprise-wide as MO continues to transition to a "cloud-first" approach. Better use of cloud automation coupled with DevOps practices will allow MO to spend more time on innovation whilst continuing to save costs

The programme is now 'Live' with plans to scale enterprise-wide as MO continues to transition to a "cloud-first" approach. Better use of cloud automation coupled with DevOps practices will allow MO to spend more time on innovation whilst continuing to save costs

### **Results and Benefits**

- Adoption of Agile and DevOps best practice in the Cloud Team
- Faster delivery through production of common code, patterns, components
- Faster projects start up and development through consultancy, knowledge sharing and assurance
- Increased skills across the organisation through training, mentoring and knowledge transfer
- Establishing a Cloud Community of Practice to encourage a culture of knowledge sharing and cross-functional collaboration
- Reduced cloud costs through more mature financial management

MO's Head of IT Infrastructure and Operations summarised the strength of the partnership when he reviewed AL's work for AWS's client satisfaction survey commenting that AL delivered "Excellent engagement, open, honest and understands the challenges we are trying to address."

## About Automation Logic

Automation Logic is proud to be an Advanced AWS Consulting Partner and part of the AWS Public Sector Programme.

We hold over 50 AWS certifications. Our team of expert consulting engineers embody our common mission, to share with our clients everything we know about DevOps and build them the new kind of teams and infrastructure they need to thrive in the digital economy.

