



CASE STUDY

BT: Optimizing Adobe Experience Manager for Improved Agile Delivery

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THE AGILE AMBITION FOR THE NEW BT ENTERPRISE

Since 2015, EPAM has worked with BT, a British multi-national telecommunications holding company, operating in around 180 countries and the largest provider of fixed-line, broadband, TV and mobile services in the UK. In 2018, BT created its new business unit, BT Enterprise, which united its small and medium enterprise business with its public sector, wholesale and ventures organizations to strengthen its customer experience. BT's Enterprise unit is now one of the world's leading providers of communication and IT products and services, serving 1.2 million business and public sector organizations in the UK and Republic of Ireland as well as more than 1,400 communication providers (CPs) operating in Great Britain.

A major part of BT's existing digital ecosystem is built on Adobe Experience Manager (AEM), with several platforms supported by both Adobe Managed Services as well as in-house support on Cloud. BT recognized it needed to get new, higher-quality functionality online faster onto the marketplace in order to significantly improve its digital customer experience. BT partnered with EPAM to scale up its digital engineering organization, so it could deliver more releases with improved and consistent quality and with an improved underlying platform that could support the new customer experience it was seeking to deliver.

PARTNERSHIP OVERVIEW

GOALS:

- Transformation into an agile business
- Scalable for future releases
- Shortened lead time on new features
- Automated delivery system
- Optimized code base
- Meet quality, accessibility and stability standards
- Better utilization of out-of-the-box (OOTB) features
- Platform maintenance and upgrades (6.4 to 6.5)
- Amazon Web Services (AWS) serverless stack setup connected via Single Page Apps (SPA), Progressive Web Apps (PWA)

KEY RESULTS:

- Eight full-scale squads comprised of EPAM and BT professionals
- New two-week sprint/release cycle
- 20 new releases with 0% failure rate
- Code bugs reduced six-fold
- 55% reduction in code vulnerability

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ADDRESSING TECHNICAL AND PROCESS CHALLENGES TO DRIVE AN AGILE ROLL-OUT

BT turned to EPAM as a technology and consulting partner to address key challenges in their existing internal processes and platforms. By starting with a focused AEM technology audit covering three main workstreams—organizational structure and governance, core component library and Digital Asset Management (DAM) assessment, technology assessment & test strategy—EPAM ultimately uncovered a number of underlying issues through stakeholder interviews and code base analysis, including:

TECHNICAL:

- Non-optimized code base, which led to a surplus of technical debt that accumulated over time and slowed down innovation capabilities
- Released features were low quality and held a long lead time, increasing the regression rate and high release roll-back rate
- The release, development and quality assurance (QA) processes were either poorly defined or ad-hoc
- Duplication, complexity and stability issues arose with many components
- Accessibility and performance standards were not met

PROCESS:

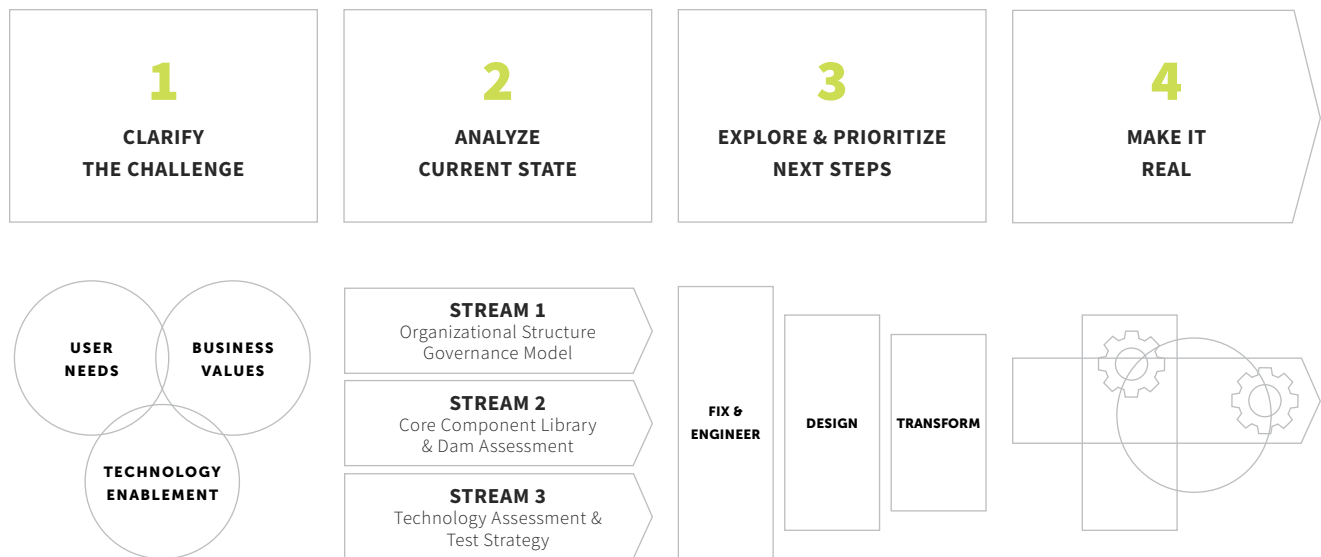
- The delivery model was built on a waterfall system and lacked the automation agile processes offer
- There had been an under investment in documentation, leading to gaps in knowledge
- Resources were over-utilized and over stretched in some key areas
- Different project management tools were used across different streams, causing gaps in communication, issues with backlog management and delay in requirements gathering



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EPAM conducted a full technical audit to create a unified view of the current practice and identify opportunities for growth and development for the BT strategy. The teams entered a 3 phase consulting approach to deliver a roadmap to build a solid platform foundation and implement a robust automated delivery pipeline to support a truly agile product roll-out.



Our approach highlights the right building blocks, experiences and steps to meet today's requirements and strategically position BT towards future challenges and opportunities.

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ENHANCING ADOBE EXPERIENCE MANAGER (AEM) TO DRIVE IMPROVED AGILE DELIVERY

Working with BT, EPAM created a roadmap for both process and technology improvements based on initial investigation results from the existing delivery state.

EPAM and BT introduced a completely new way of working, including a solid multifunctional tribe and squad model, a well-defined quality management process involving automated and manual testing, and independent release management processes. The teams kept clear communication through daily stand-ups and a modern organizational structure, including leveraging shared productivity tools, such as Atlassian Jira, Microsoft Teams, Confluence, TestRail and BrowserStack.

EPAM's extensive experience in using agile methodologies at scale with onshore and nearshore hybrid teams helped BT embed new processes and

create an effective delivery framework with a high level of technical excellence and automation.

Together with BT, EPAM re-engineered the technical landscape to be compatible with Adobe best practices and EPAM's EngX framework, allowing agile development and release processes with minimal deployment downtime and release verifications. Achieving transformation at this scale allows BT to roll out new digital initiatives quickly, so the business can respond to changes in consumer behavior and expectations.

The speed of change, quality of execution and maturity of the results are key successes of this project.

"Our partnership with EPAM has been successful and unwaveringly collaborative. They have brought strategic insight and technical precision to our formidable business challenges and were able to scale rapidly to meet increasing demands. I'm very pleased with the improvements to our engineering practice, where we have reached new levels of quality, robustness and agility."

—Rob Wright, Head of Digital Engineering, BT

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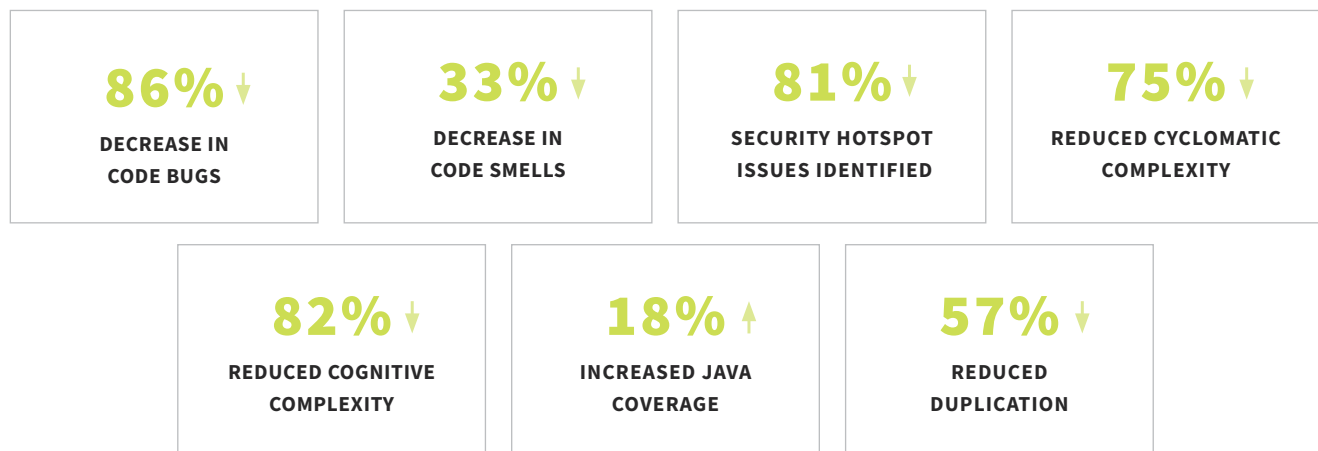
BUILDING THE RIGHT FOUNDATION: PLATFORM STABILITY AND IMPROVED PERFORMANCE

BT wanted to ensure that their AEM platform was stable and scalable for future releases to meet the growing expectations of consumers by using data to deliver a seamless experience. By working with EPAM, the business was able to resolve the long feature lead time and technical debt issues while also implementing a robust automated delivery pipeline and creating a solid platform foundation for the future.

The current composition of the team includes eight full-scale squads consisting of both BT and EPAM employees, with the total number of people reaching 160 across the EPAM engineering, BT technology, content management, UI/UX teams and digital product and leadership teams.

The new two-week release cycle was introduced with a fully-automated CI/CD pipeline. Twenty releases were carried out with a release success rate of 100%.

Consistent technical debt elimination process was introduced with the following results:



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In addition to the development improvements, the EPAM DevOps team focused on automating key functions, including:

- AEM continuous integration with code quality gates
- AWS serverless infrastructure provisioning using Terraform
- Tasks for monitoring the health of the platform

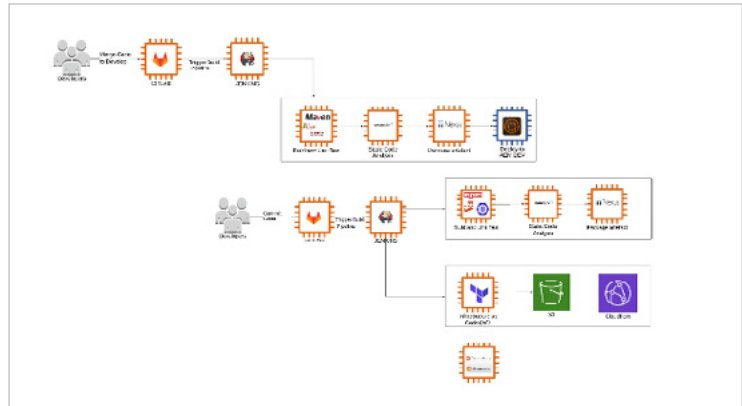


Figure 1: BT Enterprise's new, fully automated code and infrastructure provision process after working with EPAM

By working with EPAM, BT was able to improve both the quality and usability of its AEM platform, increase the throughput and quality of releases and focus on providing a superior customer experience.



Figure 2: Dashboards for Code analysis

QUESTIONS?

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