Business Challenge

Field engineers routinely collected data manually to complete their work using paper forms instead of existing technology. Could this multinational utility improve data quality and personal productivity?

Transformation

By introducing smart mobile devices with access to mobile apps that connect with back-end SAP solutions via the SAP mobile platform, the utility has enabled a truly mobile workforce while also generating operational savings of more than £1 million annually.

Business benefits:

Over £1 million
annual savings through solution efficiency

Reduces costs
on time spent on return-to-base travel by field engineers

99.7% cut
in legacy manual timesheet processing times

Multinational utility company

Enabling efficient access for field teams enables annual savings of £1 million

This multinational utility company plays a vital role in delivering services to millions of people safely, reliably and efficiently.

"Working in partnership with IBM, we have proved that establishing an enterprise-wide SAP Mobile Platform can be done, and done well."

Spokesperson, Multinational utility company

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Managing paper complexity

With around 9,000 field engineers tasked to maintain its physical network, this multinational company labored to control and manage thousands of paper documents. The utility knew there had to be a better, more efficient, way to operate.

A spokesperson explains the field engineering challenge: "The overriding challenge was to improve the user experience and raise the productivity of the field engineers. Historically, their work has been based around using paper at the point of work, which required a large team to process and validate the data.

"We also need to meet our regulatory commitments for efficiency improvements through better use of data and leaner operations. To that end, we had a desire to implement a mobile capability throughout the company, and develop the business case for flexible working. Our aim was to prove the concept within a single business unit, and then roll it out across the enterprise."

The utility wanted to empower its workforce in an apps-based world, to support performance and improve its process excellence. For both field- and office-based workers, the company wanted to enable access to the information they needed to make informed decisions and execute their work safely anywhere, anytime and on any device.

Additionally, its mobile solutions needed to ensure that the bidirectional flow of information between the field and the back-office was accurate, and the capture and validation process was automated.

Challenges of the regulatory environment

The industry regulator reviews utilities' business plans and sets operational targets. In some cases, the regulator can reduce the expenditure permitted on IT support, drastically squeezing planned budgets.

"For example, the actual amount of money that was approved for IT was significantly less than we forecast it would cost to run our IT estate," says a spokesperson. "The challenge is to look at more innovative and efficient ways of delivering more for less, achieve our outputs and maintain a healthy network."

Building the proof of concept

Field engineers were very familiar with the utility's existing work management processes. Every morning they would download and print their tasks, and work through the list. When they completed all the jobs, sometimes over a couple of days, they logged in to the central system and typed in the data, as well as submitting their timesheets and related data. If jobs took longer than expected, there was no easy way to reschedule work without speaking with supervisors to determine who was available.

"Workers had laptops, but they tended to leave them in the vehicle. When they were out at the point of work, maintaining assets, they took a pad of paper and jotted down the information they needed. They would then type it up back in the van," remarks a spokesperson.

"Because of the number of errors and data validation issues, the back-office team would then have to spend a great deal of time chasing for corrections and updates. Even then, the asset management solution would often contain corrupt or incorrect data, requiring considerable data cleansing effort.

"We wanted to enable the supervisors to extend rescheduling and work management capabilities out into the field and allocating engineers as efficiently as possible. It is all about user experience, giving the guys in the field the tools to make their own decisions, and operate as a mobile office to do their job whenever they like, wherever they like."

The right strategic partner

Knowing that mobile solutions were evolving rapidly, the utility looked for a partner that could advise on current options and future strategy.

"We usually specify a delivery partner, and then run the solution in-house," says a spokesperson. "In this case, we also wanted a partner to deliver a service that would take on the operational work and carry the risk, which was quite a cultural shift. We needed confidence in the capabilities of our chosen partner, to ensure that they could provide the solution at the right level of quality and deliver to the service level agreements.

"We selected IBM on the basis of quality, and IBM put forward the most compelling case around solution knowledge and capability to deliver.

"In particular, IBM offered deep mobile environment experience, based on the use of the platform as a service concept, with global teams able to handle national and international deployment with high-level collaboration with SAP.

"Additionally, IBM scores highly in analysts' assessments of mobile solution capabilities, which helped to build trust that we would gain access to both the right solution and create an effective mobile roadmap."

Working with IBM, the utility piloted its mobile solutions by creating smart device apps that field engineers use to capture data on-site and feed it back via the SAP mobile platform to back-end systems and applications automatically. Engineers can choose from a menu of apps to suit their regular tasks.

For example, asset condition data can be entered on-site, with attached images; timesheets can be completed and returned daily; task lists are updated in real time, so managers can see when to re-assign work between engineers.

Introducing mobile applications has transformed the culture by enabling teamwork, almost by default. Engineers use instant messaging and video to share information, request help and keep managers informed of problems and over-runs, taking their mobile office with them. There is very little need for trips back to the office to update files, and data is transferred without for manual processing.

A spokesperson comments, "The overall saving predicted in the twelve months since the system went live is GBP 1 million per year, generated through solution efficiency savings.

"There are further savings by moving the back-office team away from typing up reports and error-checking, and into data quality and analysis roles to help drive efficiency throughout the business.

"In the same way that office workers sit in meetings or walk around the office with their smart device in hand, we have taken a 'mobile-first' attitude to enabling the field staff to do their jobs wherever they are.

"For example, if you want to reach someone and need their details, whether you are at the water cooler or at a field site, you can search the corporate directory. Everybody wants an app, and I can see demand and usage growing in the years to come."

Scalable, enterprise mobility

A key challenge was to create a mobile strategy that fits the company's larger corporate strategy, within the regulatory environment. The need to deliver cost savings and productivity improvements combined with maintaining extraordinarily high availability of the network places unique requirements on the utility. IBM set up a safe, secure corporate app store on SAP Mobile Platform cloud edition solutions, managed and maintained by IBM.

This enables enterprise-level standards of quality control, such as using IBM® AppScan® to check for code vulnerabilities and staged testing and deployment. IBM offers defined service levels for application availability and service, and carries the operational risk of maintaining and managing the platform.

The IBM offering covers critical points for enterprise mobility projects. It includes the flexibility to utilize multiple mobile app developers on one platform, and with the controls in place to ensure mobile app code meets quality requirements and limitations on access to the platform, and to minimize risk of malware. The central platform approach enables management and control of mobile devices across the enterprise in line with company policies, integrated with controlled access to back-end systems to support end-to-end business processes.

Apps are managed in a corporate app store. IBM hosting includes management to monitor the platform and minimize the risk of downtime, based on a highly resilient cloud infrastructure.

This is delivered to the utility via a service-based contract, showing a cost per device per month. The pricing model provides transparency that enables IS departments to identify which devices are being used, and allocate appropriate costs to each business unit. IBM is responsible for maintaining and managing every aspect of the service.

The services deliver mobile device management and mobile applications runtime based on SAP Mobile Platform and SAP Afaria solutions, and provides a flexible integrated development environment for third-party developers. Cloud services are provided through IBM Cloud Managed Services for SAP Applications.

"By outsourcing operations and delivery to IBM, we have eliminated many of the traditional headaches associated with introducing new technologies and services within a large enterprise," says

Benefits in detail

- Saves more than £1 million annually through solution efficiency.

- Cut return-to-base costs (time spent on travel by field engineers).

- Cut legacy timesheet process that typically took around 60 minutes to less than 10 seconds, a 99.7 percent gain.

Key components

Applications: SAP® Mobile Platform, SAP Afaria, SAP ERP, IBM Cloud Managed Services for SAP Applications

Software: IBM® AppScan®

Services: IBM Global Business Services®

a spokesperson. "We had planned to enroll some 1,500 users in our first year, and already nearly 3,000 users have signed up. With IBM managing the solution delivery, we can easily manage scalability issues, up to the forecast of 8,800 users.

"Additionally, the app store strategy means that we can monitor downloads and subsequent usage of each app. If an app is a popular download, but people don't actually use it, we know that there is work to do, to learn what users really want."

The utility and its software development partners have also created apps that appear to the user as a single interface, yet in reality draw data and interact with several different back-end systems. App integration has helped to eliminate screen-hopping and cut-and-paste errors, reducing the need for office staff to check and chase for missing or corrections to data.

Cloud as a cultural shift

Selecting IBM as the delivery partner to provide cloud solutions is an important step for the utility. IBM runs the production environment for these new apps, as well as the development, testing and quality assurance environments.

Each new app is moved through the process, and when it is ready for release the IBM team manages the download permissions and enablement. "We now use IBM for the SAP Mobile Platform and for additional software services," says a spokesperson.

"IBM has proved that the technology works and is robust. Where we needed support from SAP, IBM was able to make the right connections and find the right resources to fix all the issues that arose. We had concerns about latency, but IBM showed that implemented in the right way there are no latency challenges, and made sure that the end-to-end design was going to work, which it does."

Among the planned benefits, the utility has refreshed and enhanced the mobile experience for its field users, with efficiency gains and improved quality of data capture. The new willingness to use mobile solutions has resulted in enhanced control, visibility and management of overtime, time off in lieu and flexible working hours arrangements. To date, the utility has improved its time management process by 50 percent for 1,800 users, and cut its return-to-base costs (the time spent on travel by field engineers) by the equivalent of £1 million a year.

Similarly, the legacy timesheet process typically took around 60 minutes to submit and complete, and now takes less than 10 seconds, a 99.7 percent gain – so great that it barely makes sense. Greater data quality has also produced unplanned benefits, principally through the reduction of work orders (WOs) that were no longer valid. Some 3,000 unnecessary WOs have been eliminated, along with the associated back-office processing and management tasks. Based on these successes, the utility is targeting additional opportunities for cost savings and efficiencies.

These include elimination of redundant WOs, time capture at the point of work, and optimal use of auto-scheduling for field engineers to minimize manual processing.

Partnership to drive progress

A spokesperson concludes, "Additionally, the project shows that it is possible to transfer risk to an external partner. Selecting IBM has removed the need to glue multiple vendors together in terms of solution, integration, connectivity and data center. Placing our confidence in IBM to host the solution as a cloud service reduces risk and

effort, and the pain and hassle of joining it all together and making it work was taken by IBM.

"Our success has opened a lot of eyes across the information services team and across the business and has shown that a cloud-based approach can deliver real solutions. From our beginnings using a traditional model with on-premise users, the default position is now that cloud services should be the preferred option.

"Working in partnership with IBM, we have proved that exploiting cloud technology to establish an enterprise-wide SAP Mobile Platform can be done, and done well."

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