

SOFTSERVE HELPS BDUK AUTOMATE, INTEGRATE, AND SCALE

to boost data quality, accuracy

Case Study



Building Digital UK

softserve

Google Cloud

Business challenges

Building Digital UK (BDUK) the government's delivery team responsible for improving the nation's digital connectivity, needed faster and higher-quality data to improve a range of business processes. These included geospatial data and analysis, more timely subsidy allocation and supplier payments, and clearer programme monitoring.

BDUK is part of the Department for Science, Innovation and Technology (DSIT) and is responsible for the rollout of gigabit-capable broadband and the expansion of 4G mobile coverage in hard-to-reach areas of the U.K.

As the programme scaled to connect hundreds of thousands of premises underserved by the existing broadband market, BDUK needed to upgrade their data infrastructure to be capable of supporting one of the UK's largest digital infrastructure programmes. BDUK's unique role as both a funder and delivery enabler, coordinating between government, suppliers, and communities, requires sophisticated digital systems and data management at scale.



Modernisation opportunity

As BDUK's programmes expanded to meet the UK's ambitious digital infrastructure goals, the organisation identified an opportunity to modernise its data systems.

Like many organisations managing complex, large-scale programmes, BDUK's existing systems had evolved over time and included legacy technologies which, whilst functional for earlier programme phases, would need enhancement to efficiently process the volume and complexity of data required for nationwide gigabit rollout.

Project Gigabit

BDUK's leadership recognised the need for a cloud-native solution and consulted Google Cloud, who recommended creating a cloud-based semantic layer with a single source of truth, based on their industry-leading flagship data product, BigQuery, to provide data-as-a-service for all stakeholders. With BDUK managing the live delivery of [Project Gigabit](#), the team successfully delivered the transformation in tandem with programme delivery, demonstrating strong programme management capabilities.

To be a success, this would mean:



Replacing manual payment assurance with automated, standardised processes.



Ensuring scalability for growing volumes of supplier payments.



Replacing manual, pipelines with automated ingestion and validation.



Delivering data in accessible formats so geospatial data analysts had more time to solve high-value problems.



Ensuring robust data governance and compliance with information security standards.



Providing real-time transparency into data quality and reporting.

Google and SoftServe together

Google Cloud recommended SoftServe, an existing BDUK delivery partner, as the specialists to deploy and integrate the required cloud infrastructure and technologies, after it demonstrated the credibility and capability to meet BDUK's complex requirements. Working together on Project Gigabit, SoftServe would provide business analysts, data architects, developers, and DevOps expertise, while Google Cloud would supply the cloud architecture support.

By embedding assurance in systemised workflows, payments would become more efficient. It would enable faster and more accurate decisions about relevant properties, stronger programme governance, and improved supplier confidence.



Modern platform

Under BDUK's strategic direction, SoftServe placed "Agile delivery" at the project foundations, starting with mapping the existing systems and processes and incrementally automating key assurance steps. There was then a phased rollout across key data and payment validation pipelines.

The first step was the development of Data Backbone, a modern, cloud-native ingestion and validation platform created collaboratively by SoftServe & BDUK, with BDUK defining requirements and ensuring alignment with programme needs. This would enable GIS Payments Automation, using Data Backbone as the core assurance tool.

Next, the team worked to extend Data Backbone pipelines to ingest, validate, and reconcile payment data and then automate further key programme data assurance checks to reduce manual effort. Dashboards were built for real-time monitoring of assurance process status.

This meant the collaboration built a single source of truth across all BDUK functions, which enabled business users to directly query the data through the new semantic layer. It laid the groundwork for BDUK to embark on building AI tools and agents, and it automated hundreds of data quality and assurance checks at the point of submission.



Standardised workflows

The introduction of standardised workflows provided efficiencies across finance and commercial teams and replaced manual reviews with structured, validated data. It also improved visibility with end-to-end dashboards and clearer ownership.

Together, this produced a substantial reduction in manual effort that allowed staff focus to shift from manual data validation to higher-value activities, such as property identification and treating exceptions, rather than repetitive checks. Pipeline acceleration significantly reduced ingestion times.

The technology used to bring this about included:



Google Cloud

BigQuery, Dataplex,
Dataform, Cloud Storage,
Cloud Composer (Airflow)



Data Validation & ETL

DataBackbone — a BDUK and
SoftServe-co-developed custom
ETL/validation framework



Analytics/Dashboards

Tableau



Governance

Comprehensive data protection
measures including secure
architecture, backups,
and audit capabilities

Modular design

The modular design ensures reusability for future programmes, all because of strong tri-partner collaboration between BDUK, SoftServe, and Google Cloud.

It facilitates continued transparency in one of the U.K.'s largest public digital infrastructure programmes, while Data Backbone, initially built for supplier data ingestion, proved flexible enough to directly address a need for greater internal data consistencies.

The success of the Data Backbone project demonstrated how a modular, cloud-native architecture can pivot to not only meet new assurance challenges but also incorporate robust security measures for the sensitive data that was being processed, in line with robust UK government standards.

Better governance

Access to faster, even more reliable data has led to even more informed and robust governance of the programme and reduced operational risk. BDUK has been able to more quickly scope and define its interventions and has improved the speed of supplier payments.

Demonstrating BDUK's commitment to cross-government efficiency and innovation, the organisation plans to make the Data Backbone available (on request) for other Public Sector entities.

SoftServe was invited to the BDUK project as it is a **Premier Google Cloud Services Partner with a track record of proven results**. This status recognises our deep and established expertise in enabling clients to develop cloud-native applications through leveraging advanced technologies like AI/ML and data analytics. **With over 700 certified Google Cloud professionals, we've successfully delivered hundreds of Google Cloud projects** ranging from Fortune 100 enterprises to digital-native startups.



Contact us

SoftServe is a premier IT consulting and digital services provider. We expand the horizon of new technologies to solve today's complex business challenges and achieve meaningful outcomes for our clients. Our boundless curiosity drives us to explore and reimagine the art of the possible. Clients confidently rely on SoftServe to architect and execute mature and innovative capabilities, such as digital engineering, data and analytics, cloud, and AI/ML.

Our global reputation is gained from more than 32 years of experience delivering superior digital solutions at exceptional speed by top-tier engineering talent to enterprise industries, including high tech, financial services, healthcare, life sciences, retail, energy, and manufacturing. Visit our [website](#), [blog](#), [LinkedIn](#), [Facebook](#), and [X \(Twitter\)](#) pages for more information, or follow this [link](#) to arrange a personal meeting with one of our experts.

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