



OneWeb

Satellite provider goes stellar
in six weeks with DataOps platform

Customer

OneWeb is a data-driven global communications company delivering high speed low-latency services via a growing constellation of satellites in low Earth orbit.

Requirement

Deliver great service and an optimally performing network through complete visibility of operations: this means bringing data together from multiple sources and giving data engineers easy data access plus self-service tools for Oneweb people.

Solution

DataOps.live and Snowflake solution based on multiple Snowflake tenants: orchestrated data pipelines, with a massively scalable data hub for telemetry and other business needs, all built in only six weeks.

Outcome

Self service data hub: a new culture of self-service analytics enabling OneWeb people to access, consume and share data: greater visibility and faster decision making for improved operations.

A DataOps.live platform and Snowflake are enabling this pioneering global communications provider to govern every item of data, automate every data pipeline, and create a powerful culture of self-service analytics.

With its network set to supply broadband-style data speeds to every part of the world, OneWeb worked with DataOps.live, delivery partner Datalytx and Snowflake technology to revolutionise its approach to data. DataOps.live currently manages at least three billion rows of data each day, serving five autonomous business areas.

Background

The COVID-19 pandemic accelerated digital transformation, underscoring the need for individuals, businesses and governments to be online for education, work, access to healthcare, and to enable the IoT future and a pathway to 5G. Yet half of the world's population still lacks Internet access and, in many other areas, performance is patchy.

With such access critical for growing economies, in areas such as b2b communications, expanding healthcare access

and for education opportunities, OneWeb is working to solve these and other issues by building out a global network that will be powered by 650 low Earth orbit satellites, enabling high-speed, low latency connectivity.

Offering enterprise-grade managed connectivity with its partners, OneWeb will enable communities, government, business and mobility sectors such as aviation and maritime to easily connect to the cloud, applications and private networks.

Requirements

With OneWeb a data-driven business, its network is complex, including satellites, network ground stations, interconnecting ground network and user terminals. Data relates to how the business operates, its partners, customers, and IoT telemetry data on the status and health of millions of devices 24/7.

To deliver outstanding service with an optimally performing network therefore requires constant visibility of every aspect of operations, gaining new insights and solving problems by bringing together data from multiple areas.

Without access to this data, it's impossible to understand what is happening across all the moving parts. Even

understanding each data set is a hugely specialised task, let alone helping others at OneWeb to understand.

For example, a spacecraft payload engineer has very different specialist knowledge to a resource allocation algorithm developer.

In addition to these realities, which conspire to stifle collaboration and keep both data and knowledge in silos, data can also be regulated and export controlled.

The fear of losing control of data can lead to both over-classification and 'all or nothing' data sharing. This can lead to slow internal processes for approval.

The data hub is a self-service business tool that is helping us to understand and optimise the operational complexities of the amazing network we are building.

This approach delivers strong governance, the necessary geo restrictions, departmental autonomy, and that all-important innovation at speed.



A vision for a ‘totally new data-driven operating model’

“We started with a vision for a totally new data-driven operating model,” says David Bath, VP of Platforms, OneWeb. “A vision of self-service democratized data, where data owners are in control of their data, they know who is using it, and where data can be explored and consumed safely across the boundaries of geography, department, supplier and so on.

And one where the price of admittance to this ‘open data club’ is that you must steward your data, you describe it, you publish for everybody else, and you commit to contributing back the derived data sets so we don’t keep solving the same problems over and over again. We wanted strong governance without stifling the creativity of individual engineers.”

Solution

OneWeb uses many disparate data sources, and wanted a way to merge these to build an overview of its entire network and operations.

The solution had to be agile to drive fast response to new data demands and questions from the business, and to empower individual users and departments to answer their own questions and share data securely.

The opportunity was to build, test and deploy data environments in the same way as software is developed: the agility of a DataOps approach that applies DevOps thinking, while offering all the governance also required.

DataOps.live and Datalytx proposed Snowflake, the only data platform built for the cloud.

Separate Snowflake tenants were set up, one for each department, delivering high levels of governance and private data exchange capabilities.

Following this, the data itself—billions of records per day—were brought into Snowflake using DataOps.live: the powerful cloud-based platform that enables orchestration and automation of data flows, with DevOps techniques, to create data pipelines and empower users.

“DataOps is a one-stop platform for the entire DataOps lifecycle, enabling agility and responsiveness, and with no compromise on data security and governance,” says Justin Mullen, co-founder and CEO, DataOps.live.

“It delivers end-to-end orchestration, environment management, CI/CD, automated testing, and ELT in an elegant user interface.”



About DataOps.live

“The DataOps.live SaaS platform is the leading solution for Snowflake environment management, end-to-end orchestration, CI/CD, automated testing and observability, and code management, wrapped in an elegant developer interface.

Faster development, parallel collaboration, developer efficiencies, data assurance, simplified orchestration, and data product lifecycle management are the result.”

Free trial

Outcomes

“Super-fast time to value was achieved by delivering this next-generation platform in such a short space of time, only six weeks,” adds Mullen. “It actively facilitates cross-functional analytics and places the power of data directly in the hands of the people who need it, and can add the most value.”

With this self-service hub, OneWeb data engineers can easily access the data they need from multiple sources and departments, carry out their work, add value, and share back enriched data sets.

The Snowflake tenant + DataOps.live approach means strong governance, with necessary geo restrictions—some data is geographically sensitive, with access control over this made straightforward yet powerful—together with departmental autonomy and that all-important innovation at speed.

OneWeb’s David Bath adds, “Data consumers are also producers; the supply chain becomes bi-directional. We’ve worked to infuse our internal team with extra capability to empower our domain knowledge. This has proven to be really successful in answering questions more quickly.”

We started with a vision for a totally new data-driven operating model. A vision of self-service democratised data... We wanted strong governance without stifling the creativity of individual engineers.

DataOps.live and Snowflake have got us from vision to production in a frankly terrifyingly short time.

David Bath
VP of Platforms, OneWeb