



CHALLENGE

- Ensure that assets data is accurate and complete for supporting safe and cost-effective maintenance and replacement programmes
- Achieve high levels of confidence around regulatory compliance and reporting

SOLUTION

Trillium Software System[®]
SAP

RESULT

- Reduced asset data analysis from months to minutes by automating the data quality process for 500,000 asset management records
- Satisfying critical government and industry compliance and regulatory requirements while ensuring public safety
- Automating asset management data reporting

INDUSTRY

Utilities/asset management

Wales & West Utilities

Wales & West Utilities (WWU) is a regulated gas distribution business with around 35,000 km of gas distribution pipelines located in Wales and the South West of England. Formerly part of National Grid Transco and covering 1/6th of the UK, WWU serves a catchment area with a population of 7.5 million. Its primary role - undertaken on behalf of “gas suppliers” - is to transport gas to the gas meters of homes and businesses - from the Northern Welsh border to Cornwall. WWU does not sell gas but it does ensure that it is piped in a safe and efficient way.

Asset management, mains replacement and reporting

As well as gas distribution, WWU is also responsible for dealing with gas escapes, laying new gas pipes, and replacing and moving pipes and meters.

“We have some 11 million records covering many thousands of assets such as gas pipes, pumps, valves and meters. On behalf of the people that live in our area, we must maintain these assets efficiently and ensure they are safe. To satisfy the stringent requirements of our industry regulator, OFGEM¹, we must also periodically report on our asset management activities as well as disclose our gas distribution income and costs. We must also show that our operational and financial governance meets defined performance criteria,” said Martin Malin, business applications manager at WWU. “It’s vital that the information upon which we operate our business, and which we report to the regulator, is accurate and indeed proven to be accurate.”

Over a period of 30 years, all metallic pipes in the WWU area must be replaced with plastic ones, these being considered safer and more durable. Currently, the company is working towards a five-year plan to replace some £300m of metallic pipes, translating to around 420km of old mains pipes per year.

To progress the mains replacement programme effectively, from both a safety and a cost perspective, WWU has implemented what it calls a Mains Replacement Prioritisation System (MRPS). This software application accesses the company’s SAP-based asset repository to extract and analyse information such as where and when pipes were laid, how they were laid, their dimensions, date and material of manufacture, pressure rating, repair history, and other data.

¹ OFGEM is the UK Office of the Gas and Electricity Markets

Data Quality Challenge

“Any errors or gaps in our asset data could potentially have a serious impact on the safety and cost effectiveness of our distribution network and ability to comply with regulatory compliance requirements,” said Malin. “We recognise that the asset data in our systems must be accurate and complete.”

A detailed, labour-intensive analysis of data relating to a sample of metallic pipes was undertaken in May 2009. A project was established to correct any inaccuracies identified, primarily through manual investigation and correction. This analysis took months to complete and was an expensive exercise.

WWU recognised that data quality assurance necessitates a continual process and that manual projects are lengthy and costly. The company required an automated data quality solution that would enable it to rapidly expand the program across its enterprise data.

Solution Selection

A project to evaluate the data quality products from five vendors was initiated. This included a detailed demonstration of the functionality and performance of the solutions against a large test file of asset data.

Following an extensive evaluation and comparison, the Trillium Software System was selected. A key strength was the broad set of ‘built-in’ data quality rules and ability to extend these across the enterprise. The Trillium Software System provided considerable insight into the accuracy and completeness of the test data right “out of the box”, providing reports and metrics on data issues. Business subject matter experts responsible for asset management were then easily able to create and test their own business rules, without relying on the IT department. Not only would directly empowering subject matter experts save time and money, it would also reduce the risk of business rules definitions being “lost in translation” when interpreted by IT.

In addition, WWU cited other factors which validated that the Trillium Software System was the right solution for its needs:

- Compliance with WWU functional and technical constraints including security standards
- Ability for business users to utilise the software to perform their own analysis and data validation
- The expertise and services of Trillium Consulting and the support offered by Trillium Software
- The Trillium Software System has SAP certification
- Scalability to extend across the enterprise, across multiple data types and integration with other systems



Implementation

In a period of just 18 weeks, the Trillium Software System was implemented and an initial project completed to validate the metallic mains pipes asset data held in SAP, MRPS and also in ESRI (a geographical information system). This amounted to a total of some 500,000 records.

During this period, WWU's business subject matter experts used the Trillium Software System to define some 250 business specific rules, then test and implement them. They also defined the thresholds for data quality acceptability, recognising that this should be very high, perhaps 100 percent, for data where errors could risk safety, whilst seeking levels fit for purpose where perfection wasn't a necessity.

"Using the Trillium Software System we are able to define and test for compliance with our business rules," said Malin. "Not only can we now test rule compliance of single attributes, like diameter, but for the correlation of interdependent data values such as pipe diameter, material and pressure rating."

Solution benefits

WWU has proven the value of selecting a data quality platform its business users can work with directly, versus one requiring technical expertise from IT.

"The Trillium Software System enables us to ensure high data quality on an ongoing basis," said Malin. "It now takes minutes to check our asset data resources for rule compliance, when a similar exercise conducted manually used to consume months."

Management at WWU are kept aware of data quality levels in key business areas via the data quality dashboard component of the Trillium Software System. A governance team consisting of senior managers from relevant business areas and IT, now meets regularly. The group analyses the comprehensive reporting and trending of metrics provided, taking action as necessary.

Today, monitoring and maintaining the quality of data for its metallic pipe assets is 'business as usual' at WWU and consideration is being given to extending the scope to ensure the quality of the full 11 million asset records.





“The Trillium Software System is helping us to deliver substantial cost savings across our enterprise data quality process,” concluded Malin. “Ultimately, the higher levels of data accuracy we are achieving is adding to the effectiveness of our asset management operations by both reducing costs and enabling us to further ensure the safety of our mains gas pipe network for the people in our area.”

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