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Geospatial Integration -
providing a self service location-based reporting tool

CGI

Introduction

The Coal Authority works to make a better future for people and the environment in mining areas. It manages the effects of past coal mining, including subsidence damage claims, which are not the responsibility of licensed coal mine operators. It treats over 122 billion litres of mine water every year to prevent pollution and deals with other mining legacy issues. In the UK, 25% of all properties and businesses sit within a coalfield area.

To help to understand the impact that former coal mining activities may have on residential and commercial properties, the Coal Authority provides a mining report service usually accessed during the conveyancing process as part of a property purchase.

The Coal Authority wanted to redevelop the service to take advantage of the dynamic market conditions, the opportunity to self-serve and exploit new delivery channels.

"With over 1 million mining reports now issued by the Inferis system it is refreshing to work with a partner that has proactively adapted their service offering to suit our evolving business needs combining both innovation and excellence in service delivery."

Paul Frammingham
Chief Finance and Information Officer of the Coal Authority
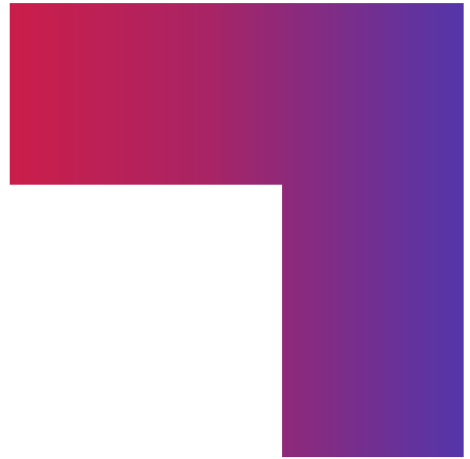
The solution

The Coal Authority commissioned CGI to undertake a technology-led business transformation programme and deliver a new digital mining report service as part of the wider refresh of its business systems. A key requirement was the ability to exploit multiple digital channels more efficiently to ensure:

- The new service had a web interface
- A B2B channel
- A tie into the NLIS https://www.nlis.org.uk

This approach facilitated smarter working via intelligent business automation, service reuse and corporate data sharing. As a result, complex processes were automated. This enabled a seamless customer experience integrating property boundary capture in line with traditional web forms for mining report production.

Key design aspects were service-oriented architecture with good extensibility and service reuse, enabling a configurable mining report generator. This solution integrated geospatial and traditional software tools to provide a location-based service delivered through a self-service portal https://www.groundstability.com/public/web/home.xhtml. This meant:

- Better user experience for the customer
- More accurate data capture as input by the customer who knows it best
- More automation
- A streamlined process for the Coal Authority

Technically, all this was underpinned by the same set of web services and offered more channels for a little additional cost.

By focussing on user needs, the service was designed to ensure maximum usability while only developing elements of the system that were not already supplied by others. For example, the base mapping was from the Ordnance Survey OnDemand feed, and a commercial partner provided the address validation.

The benefits

CGI designed a solution to a complex set of challenges using intelligent automation. The process was now end-to-end automated with mining reports issued in minutes or even seconds.

In addition, intelligent automation ensured that no or low-risk applications were now seamlessly delivered without the need for human intervention. Higher risk reports could be diverted for review by a mining engineer; making the best use of this valuable human resource. The use of intelligent automation meant the new digital service brought about a number of benefits for the end user and the Coal Authority, including:

- A reduction in transaction costs for the Coal Authority and end user if they engaged 100% digitally
- Increased transaction speeds, reports now took minutes, sometimes seconds to produce
- Reports despatched in Inferis equalled 2.553,444
- 86% of report boundaries digitised by customers (public portal) average for 2019
- 93% of report boundaries digitised by customers (all channels) for 2019
- The ability for the Coal Authority to focus key mining engineer resources on higher-value activities
- An estimated cost saving of £1 million over five years
- The ability to exploit emerging digital channels.

THE OUTCOMES WERE:

1 100% increase in mining report productivity – 600 reports daily

2 98% of reports ordered were returned electronically

3 44 seconds – was the time taken for a person to process a report (assuming 600 per day)

4 Self-service using web mapping – delivered within minutes or seconds

5 New bulk channels – resulted in delivery efficiency

6 59% of users now rate the service as excellent.

About CGI

Founded in 1976, CGI is among the largest IT and business consulting services firms in the world.

We are insights-driven and outcomes-based to help accelerate returns on your investments. Across 17 industries in 400 locations worldwide, our 76,000 professionals provide comprehensive, scalable and sustainable IT and business consulting services that are informed globally and delivered locally.

Our commitment: Insights you can act on.

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The project referenced in this case study was delivered by SCISYS, which CGI acquired in December 2019.

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