

Transforming Situational Awareness for Multiple Business Stakeholders

Cadent

The Challenge

- Develop a more flexible, lower cost situational awareness tool that would be embraced by users across the organisation.

The Benefits

- Huge cost savings
- Enhanced cyber security
- Better stakeholder engagement
- Improved field worker productivity

Cadent's gas network plays a critical role in keeping the energy flowing to 11 million homes and businesses, safely and reliably, through targeted investment and operational management of the gas network. As part of its ongoing digital refresh to improve business processes, Cadent has used the SaaS capabilities of the ArcGIS System to create 'Cadent Maps', a company-wide mapping app transforming situational awareness for multiple business users, both internal and external.

The Challenge

With 82,000 miles of gas pipelines, Cadent is committed to keeping their customers safe and warm; their field workers keep the energy flowing to homes and businesses 24/7, 365 days a year. Gas engineers respond to emergency calls or carry out planned work to ensure customers receive gas, quickly and efficiently, so maps are vital to help them identify precisely where to dig.

Pipe networks are generally buried underground and delays in finding the correct pipe could result in health and safety issues, potentially affecting Cadent workers as well as the public at large. Digging in the wrong place means wasted time and effort, which is as frustrating for Cadent as it is for local communities and businesses. Emergencies often happen in bad weather and unpleasant conditions, so repairs need to be completed as quickly and safely as possible. Other agencies may be involved, such as Highway Authorities, who will also require maps of planned works, so high-level situational awareness for multiple stakeholders is business critical.

Cadent had been working with a turnkey mapping solution which had performed well in the past, but users were asking for a modern, easier-to-use and faster app. The old solution was too slow and impacted on productivity levels. As a turnkey solution it offered limited configuration, users could not customise it to their needs and it required ongoing workarounds. "Another challenge we faced was whether we were happy to live with the risk of a cyber vulnerability, the business could not afford in any sense to be on the back foot," said Callum Haynes, Solutions Architect, IT, Technology Strategy.

The legacy web mapping solution needed to be decommissioned and a new framework built to address the situational awareness needs of users and business demands, while being adaptable and future-proof.

The Solution

Cadent Gas (and National Grid Gas Distribution before 2016) is a long-term customer of Esri. It was looking for a plug and play, flexible solution while giving operational users more ownership of their maps. Given the configuration options offered by the ArcGIS System, Esri UK was able to support Cadent with a highly collaborative delivery approach, which meant that Cadent could take ownership of the latter delivery stages, as well as maintenance of the system, unusually quickly.

'Cadent Maps' is a complete COTS system, developed in ArcGIS Online, Esri's cloud-based SaaS mapping and analysis solution. Taking a SaaS approach has massively reduced total cost of ownership for Cadent; managed by Esri UK's Managed Services team and delivered to Cadent as 'GIS as a Service' (GISaaS), no bespoke support is required. The GISaaS approach is already proving a cost-efficient way of delivering GIS capabilities at Cadent, with flexibility to scale up as the business needs to evolve.

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“ Working with Esri was more of a partnership, supporting our agile approach. It has been an exemplar GIS project, showing how well you can work with modern GIS and the new ‘Cadent Maps’ has been very well received across the business. ”

Callum Haynes, Senior Architect, IT, Technology Strategy, Cadent



Significant parts of the project work were delivered directly by business users. ArcGIS Web AppBuilder provides an extensible framework for Cadent employees to build any web mapping apps they wish to use, seamlessly integrating data and components from other modern Esri apps running at Cadent. w

Combined with light training, several business ‘Super Users’ were chosen to use the platform as a self-service for building their own maps and mapping apps, as per their respective teams’ needs. At each stage new apps were tested, before being deployed, while the old system was run in parallel allowing new users to migrate across. As a result, the project was completed ahead of schedule, in just three months.

Cadent has also used ArcGIS Hub, for the first time, as a platform for collaborating and sharing maps and data with partners and external agencies – a regulatory compliance. Its ease of use and administration and sharing capabilities make it well suited for future collaborations and stakeholder engagement.

The Benefits

Huge Cost Savings

Total IT operational costs have been reduced by 61 per cent (the biggest impact being on IT infrastructure which, itself, reduced by 76 per cent). Maintaining the old system would also have meant buying extended support for legacy operating systems, now eliminated. The cost of the implementation project was four times cheaper than using standard ‘turnkey solution’ delivery.

Enhanced Cyber Security

By decommissioning large parts of its on-premises infrastructure, Cadent has not only reduced its BAU (Business as Usual) cost but removed a significant risk of running the legacy solution on unsupported software. The implementation of ‘Cadent Maps’ has already, within three months, eliminated one major cyber security risk and several IT infrastructure asset health risks.

Better Stakeholder Engagement

‘Cadent Maps’ has been quickly and easily adopted by the business. Having effectively been built and owned by operational users, they have fully embraced the innovative delivery methodology leading to greater positive engagement between operations and IT.

Improved Field Worker Productivity

Enhanced situational awareness means that field workers and gas engineers have more precise information about each job-in-hand, helping Cadent to push the boundaries of efficiency from the field to the office. From reduced travel time to safer sites, customers and communities will also benefit from faster and better customer service.

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