



## DELIVERING THE BIGGER PICTURE FOR CENTRAL NETWORKS

Central Networks owns and operates the overhead lines and underground cables that provide a reliable power supply to around 10 million people in central England. It was formed in 2005 after Central Networks' parent company bought the distribution business for the West Midlands, bringing it together with its East Midlands counterpart.

Overnight it became the UK's second largest distribution network operator (DNO) merging two entirely distinct infrastructures and management systems. It was clear that the newly formed DNO had a massive consolidation task on its hands in order to continue providing the best possible service for its customers.

A critical component of this consolidation would prove to be the method by which Central Networks would visualise its networks. Knowing precisely where assets are located greatly benefits not just field engineers but also customers requiring plans to extend their own properties or make other changes. All new assets would have to be GPS tagged and tracked before being installed into the network against a more accurate background.

Central Networks inherited a Smallworld Geographic Information System (GIS) for maintaining the assets in East Midlands distribution business and a separate bespoke GIS called MIDAS which was used in the West Midlands. Everything in the east was

### GIS Data Improvement Project

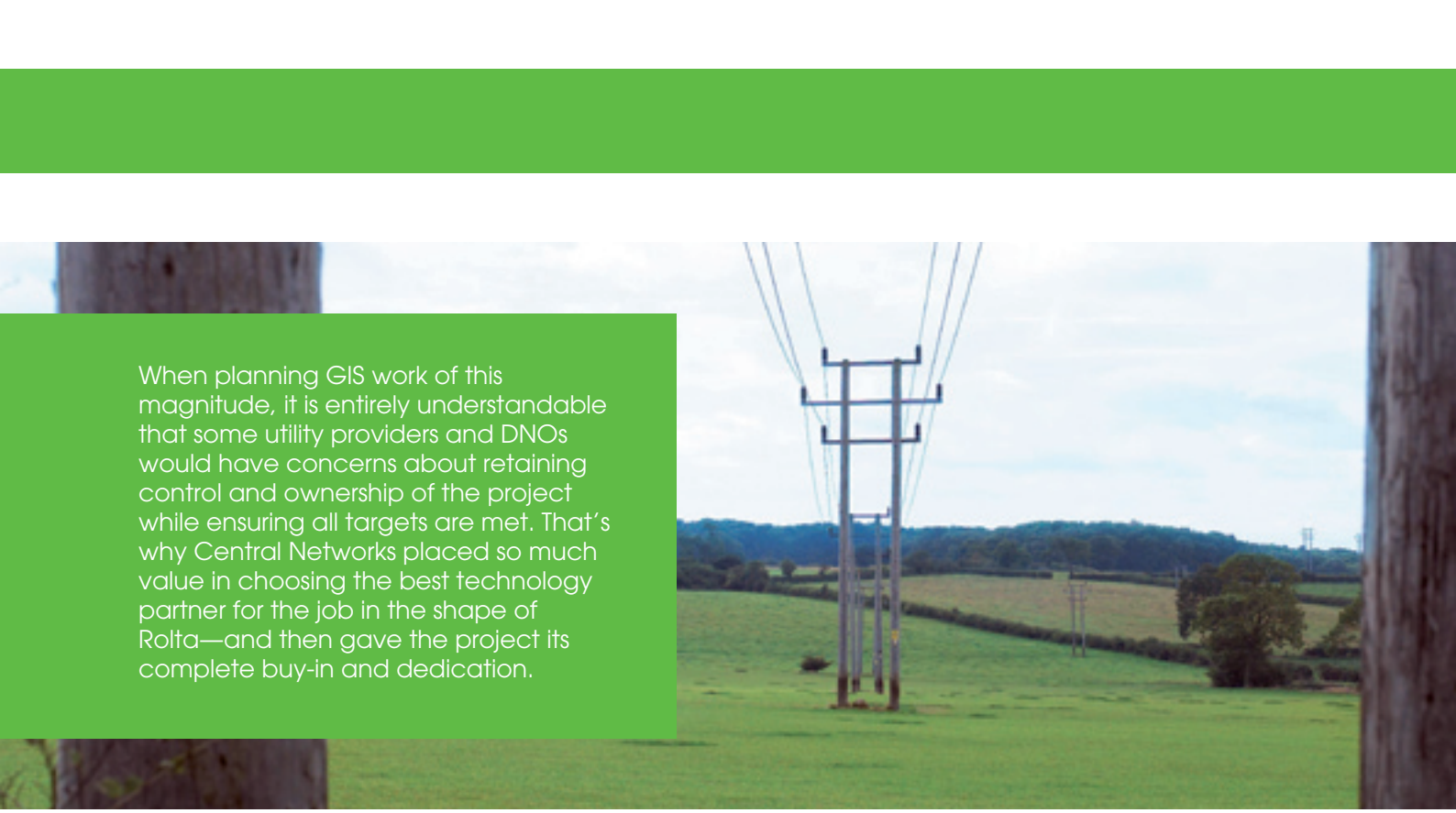
- Project duration: 36 months
- Multi-million pound budget
- Number of substations mapped: 94,000
- Overhead lines: 276,000
- Cables in network: 4,900,000
- Length of network: 82,500 miles
- Assets mapped: 17,000,000
- Rolta/Central Networks UK project workforce : 40+
- Rolta/Central Networks offshore project workforce: 400+
- Overrun on time and budget: ZERO

visualised in vectorised digital format, while the west used hand drawn maps. It was clear that a fresh approach to geographical information systems was required.

### UNDERSTANDING THE CHALLENGE

Being responsible for the smooth running of a network for a large enterprise business serving thousands of end-users running mission critical applications, demands a clear understanding of precisely where assets are located and how they are performing.

Imagine scaling that scenario up to embrace an energy infrastructure that spans the country from the edge of the Welsh border to the Lincolnshire coast and from Chesterfield to Bristol, connecting more than five million business and residential customers. It would need a network built from over 4.9



When planning GIS work of this magnitude, it is entirely understandable that some utility providers and DNOs would have concerns about retaining control and ownership of the project while ensuring all targets are met. That's why Central Networks placed so much value in choosing the best technology partner for the job in the shape of Rolta—and then gave the project its complete buy-in and dedication.

million cables, 276,000 overhead lines, 94,000 substations and over 17 million assets in total. That was the scale of the task facing Central Networks business five years ago when it first partnered with geospatial information specialist Rolta.

Enterprise Geographic Information Systems (EGIS) enable companies like Central Networks to extract insights through a geospatial view of their business and operational data. These insights strengthen strategic and operational decision-making and have a significant impact on operational performance.

Jonathan Paton was responsible for managing the GIS Data Improvement Project for Central Networks and ensuring regulatory compliance, as well as helping the business work towards OFGEM's Distribution Price Control Review 5 (DPCR5) for DNOs. Coupled with this was the obvious safety improvements to staff and customers.

"This project presented an enormous challenge that required a lot of man hours and critically had to be completed on time and to budget," he explained. "We use topographical maps that show where our assets sit in relation to houses, pavements and physical features. The Ordnance Survey was replacing its older OS Land-Line system in 2008 with OS MasterMap, undergoing a

complete reprogramming of GPS accuracy. This meant that all our relayed assets would be out of sync with the new accurate background."

The complexity was compounded by the fact that 85% of assets were in rural areas using raster, not vector, mapping and could not be realigned automatically. Asset mapping had to be shifted manually and this called for an expert EGIS partner. The project was put out to tender in 2006 with 17 companies initially interested, but Rolta was ultimately selected to take on the task.

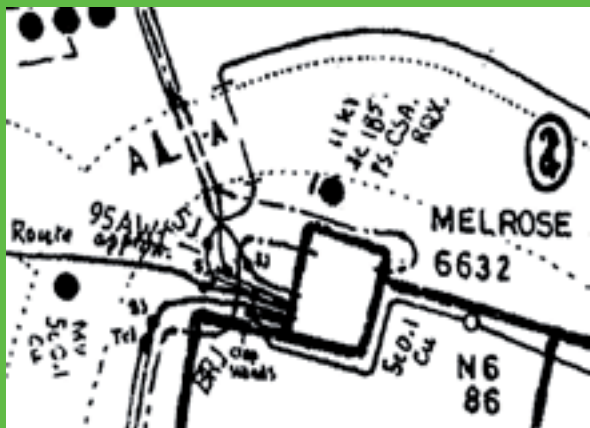
## WORKING TOGETHER TO ENSURE SUCCESS

This project was engineered and driven by a tightly integrated team of both Central Networks and Rolta personal in the UK, working in collaboration with another combined team located in India. Although some lower costs associated with off-shoring were very attractive to Central Networks, an effective knowledge transfer between the teams and locations together with the quality of the end-product and confidence in completing the job were the overriding priorities. Teams from Central Networks and Rolta UK visited India to help fine tune processes and security precautions and were completely reassured and updated on progress.

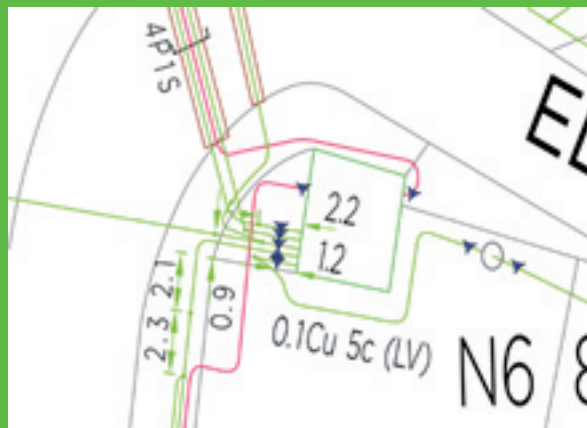
## Simplifying Geospatial Interaction

The network is captured against GPS accurate maps resulting in clearer mapping and safer working.

### Before



### After



Paton explained: "The project was conducted by two co-operative teams in the UK and India, with Rolta conducting the bulk of vector realignment while our own specialists at Central Networks prepared and verified new data before making it live. The combined teams began work with around 25 people involved in the UK and 50 offshore, but at the project's peak around 400 people were working together to ensure targets were met."

After 36 months of hard work by specialists at both Rolta and Central Networks, the last data for Central Networks' GIS data improvement project was delivered at the end of December 2009, going live in January 2010 according to the original three-year plan set out after tender was awarded to Rolta in January 2007. Despite many unforeseen complexities during the project, Central Network's relationship with Rolta remained as strong as ever.

Paton concluded: "We knew Rolta had successfully performed this work in the past in partnership with other companies. And as work progressed Rolta's dedication was proven. Everyone pulled together as an effective team and went that extra mile to ensure we maintained a 24/7 schedule to meet deadlines and get that data completed."

"At Central Networks our customers are at the heart of everything we do and Rolta genuinely understands this. Through a powerful partnership with one of the world's most innovative geospatial technology providers, we completed this critical consolidation project on time and in budget and ensured the continuous state-of-the-art delivery of electricity through our network of overhead and underground cables to over five million customers in homes and business across Central England."

John Glasgow,  
Director of Operations & Asset  
Management,  
Central Networks

End customer satisfaction is as critical to Rolta as it is for Central Networks, which is why the two organisations worked hand-in-hand so successfully to ensure the tightest possible integration of their project workforces, both at home in the UK and in India. Only with regular mutual targets and complete knowledge transfer between two focused partners could a project of this size be delivered on time and on budget.

## PROJECT BENEFITS

Central Networks is rightly proud to believe that as a result of the GIS Data Improvement Project it is the first UK DNO with a single geospatial asset repository. Importantly, the successful completion of this complex and demanding project has created a number of significant and practical benefits for the business.

The new database allows better internal planning and communications. It drives efficiencies in operations which provide crisp, clearer mapping for engineers working in the field. This results in improved service levels, both internally and with customers, increasing response times, confidence and, importantly, safety.

As a direct result of partnership with Rolta, Central Networks is now able to drive its business more efficiently and improve service and safety levels. Whether better managing the network at an operational level or simply helping an engineer or customer pinpoint and rectify a fault, the GIS Data Improvement Project is already having a far-reaching impact across the business.

## Why ROLTA?

At ROLTA, we envision a world where geospatial data, business data and analysis converge without the nightmare of custom programming or the replacement of legacy applications.

We envision a world in which businesses assimilate, analyse and visualise complex relationships, operational status and trends in mere seconds rather than days or weeks.

We envision a world in which information accessibility is no longer the constraint to informed decisions.

This is the world of remarkable technology innovation, a world enabled by ROLTA's Enterprise Geospatial Information Solutions.

## About Central Networks

Central Networks, the electricity distribution business of E.ON in the UK, enables the delivery of business and residential electricity to millions of customers across central England through a network that comprises 94,000 substations and 82,500 miles of underground and overhead cables—enough to go round the Earth more than three times.

The E.ON group is one of the world's largest investor-owned power and gas companies. In the UK, E.ON is one of the leading integrated power and gas companies. It generates and distributes electricity as well as retailing power and gas and owns the second largest distribution network in the country.

Copyright © 2010 Rolta UK Limited. All rights reserved. Other brands and their products are trademarks or registered trademarks of the respective companies and should be noted as such.

### ROLTA UK LTD

Suite No.2, 100 Longwater Avenue,  
Green Park, Reading, RG2 6GP,  
United Kingdom  
Tel: +44 (0) 1189 45 00 11  
[www.rolta-europe.com](http://www.rolta-europe.com)



**Enterprise Geospatial  
Information Solutions**

