

# Smart Metering

## Creating processes and systems to support smart meters in 10 million homes in one of the world's most complex deployments of its kind

### Challenge

Strict government targets for smart meter network operations demands robust and flexible business solutions

Smart metering is transforming the way consumers monitor their energy use, helping them save money. The UK, as part of a European initiative, aims to install smart meters in every home in England, Wales and Scotland by 2020, amounting to more than 26 million premises.

Smart meters communicate with energy companies through the 'Smart Grid', a wireless communications network managed by the Data Communications Company (DCC). Having implemented Smart Grid infrastructure in Scotland and Northern England, a leading company is also responsible for running the network.

Facing strict government targets and evolving requirements from the DCC, the success of the company's service relies on effective collaboration between its vendors and delivery partners.

#### About the client

As a major communications infrastructure and media services company serving broadcast, satellite and mobile communications markets in Europe and USA, the company plays a leading role in providing secure gas and electricity smart metering communications for 10 million UK homes.

#### About NTT DATA

NTT DATA (Tokyo: 9613) is your Innovation Partner anywhere around the world. Headquartered in Tokyo, with business operations in 42 countries, we put emphasis on long-term commitment and combine global reach and local intimacy to provide premier professional services from consulting, system development to business IT outsourcing.

### Solution

Working as part of the company's service management team, NTT DATA created an integrated business support system

The company asked NTT DATA to define an operating model for a new service management business unit. NTT DATA applied its expertise to develop 26 ITIL-aligned level one and level two business processes.

NTT DATA worked as part of the company's service management team to conduct workshops, focus interviews and document reviews across the business. This enabled an early agreement on integrating processes with the existing systems to support automation as much as possible.

NTT DATA then created a Business Support System (BSS) covering service management, the smart metering network, order management and supplier systems.

The BSS solution was developed using a combination of open source and vendor technologies such as JBoss Fuse, PostgreSQL, Splunk and Oracle OBIEE. It includes:

- A new data model that can scale and adapt to future requirements
- A data warehouse to produce performance management, billing, refund and service credit reports compliant with DCC contract schedules
- An integration layer for multiple service management, inventory, monitoring and operational systems
- An inventory database for in-home communication hubs and a network coverage database for network status and roll-out.

NTT DATA moved quickly, setting up a multi-disciplined team comprising onshore and offshore centres, each with its own field of expertise. Analysis and design activities were kept onshore, while development and testing were delivered from four offshore centres. This helped ensure high quality service with minimised costs and could be ramped up rapidly to triple resources when needed for the largest releases. An NTT DATA integration team deployed and transitioned to other live components of the smart metering platform, including the core communications hub manager.

## Results

### In the face of changing requirements and scope, NTT DATA collaborated to successfully deliver on all targets

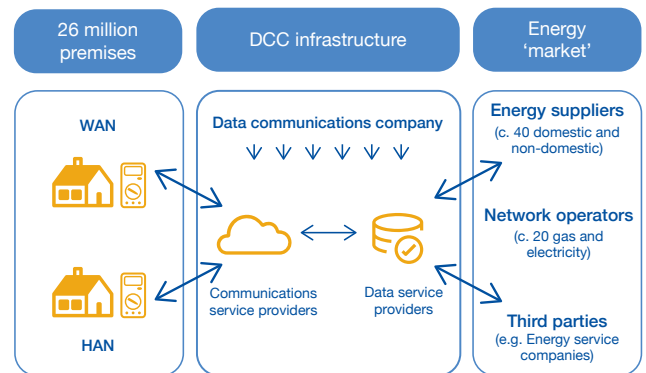
Smart meters should deliver £5.7 billion in benefits for consumers, energy suppliers and network operators, slicing £300 million off consumer bills by 2020 alone.

NTT DATA's robust, high quality and flexible BSS collects more than 550 MB of data from 25 feeds. The data uses more than 200 mappings to produce 90 user reports and eight output files. It interacts with other systems, using 11 Web Service Operations and five REST APIs.

Continual improvement and test automation achieved an average of less than 6% reported defects at client acceptance. Non-functional testing demonstrated the system's ability to process data related to 10 million households over the 10-year contract.

Close collaboration and efficient use of resources enabled NTT DATA to meet all delivery dates, despite changes and added scope:

- Up to four project iterations ran concurrently, with developers moving seamlessly between iterations, reducing cost and delivery time.
- Team collaboration with knowledge sharing, skills development and members rotating offshore and onshore, created a common understanding of goals to avoid delays.
- A release cycle aligned with the DCC roadmap (typically one major and two minor releases annually) helped keep the project on track.
- Efficient deployment and transition from test to live platform components allowed the client to meet dependencies for other third parties.



**The deal will see NTT DATA working with various leading technologies covering ERP, reporting, enterprise integration and order management.**

“NTT DATA is the natural choice for us to help build the processes that will underpin our service management capability and business support systems for our smart metering network. NTT DATA has embedded its teams in ours and this combination of expertise has created a very productive working dynamic.”

– Engineering, Implementation & Operations Director