CGI OpenGrid Foundation Integrated Network Model (INM)

CGI

The progressive adoption of no-and-low carbon technologies into the electricity system is increasing volatility in the demands on the electricity infrastructure. Distribution system operators need to make decisions in real time to ensure effective operation of their infrastructure. Appropriate access to accurate, complete and timely data is vital to ensure the safe and reliable automation of the system.

Gaining a holistic view of the system is imperative to continue to deliver the levels of safety and reliability, consumers benefit from today. CGI OpenGrid Foundation, part of our CGI OpenGrid360 suite, enables a single view of a utility's infrastructure through master data management and data integration.
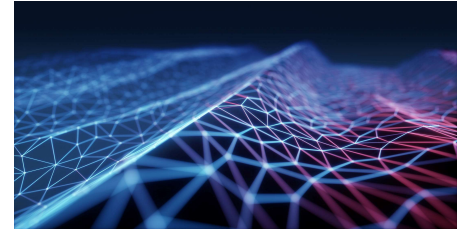
CHANGING SYSTEM DYNAMICS

The dynamics of the electricity system are changing fundamentally. Energy is being supplied into the grid at many different points from distributed energy resources (DERs). The nature of demand is becoming more volatile as no and low carbon technologies, such as electric vehicles (EVs) and battery storage, become the economically sensible choice for consumers. Appropriate access to accurate, complete and timely data from multiple systems is becoming essential to the effective operation of the electricity system.

THE DATA IMPERATIVE

Today, separate core systems for asset management, geographic information and distribution management provide disparate views of the same assets, and with varying data quality across systems. In order to operate the future grid effectively, utilities need accurate, complete and timely visibility of their network, as well as of the assets that will affect the grid.

Data-driven insight also is imperative to ensure that consumers continue to benefit from the levels of safety and reliability they experience today. This requires distribution system operators to develop their organisational capabilities in information management and use as well as implementing the tools to support this.

While some utilities are centralising unstructured data into data lakes, they also will need to integrate those sources with data they can trust across their core systems to make faster decisions and share data with internal and external systems and stakeholders across an ever expanding ecosystem.

KEY BENEFITS

- Delivers a single view of a utility's network model against which all data and applications can be assessed
- Enables data-driven insights to improve grid operation, network planning, investment and event management, and drive new business models to meet changing customer demands
- Improves data quality through automated issue identification with embedded rules and integrated issue management
- Enables faster adoption of emerging technologies and applications to deliver innovative new services more rapidly

Utilities need to rethink how they become more innovative and agile - and data is the key enabler

CGI OpenGrid360

BRINGING IT ALL TOGETHER

The CGI OpenGrid Foundation Integrated Network Model provides a network reference model and integration layer to enable a single view of a utility's network across the operational technology (OT) and the information technology (IT) domains. The solution is at the heart of our CGI OpenGrid360 suite, co-developed with distribution network operators in the UK as part of our work on smart grids innovation programmes. CGI OpenGrid360 solutions and services are designed to help network operators improve data insight and accelerate innovation to meet the evolving demands of an energy system that supports Net Zero.

CGI OpenGrid Foundation Integrated Network Model takes data from each core system and automatically correlates it with data held across all systems, notifying data stewards where data discrepancies are identified and corrections needed. Logic to correct remaining issues can be configured. Daily reporting ensures a continuous data quality initiative as opposed to a one-off migration. This is a key enabler for delivering your data governance strategy and providing an enduring, integrated digital representation of your network.

KEY FEATURES OF CGI OPENGRID FOUNDATION

- **Network model:** provides trusted reference data for your network and everything attached to it, serving as the critical mechanism to assess the network
- **Integration/middleware layer:** provides an enterprise master data management (MDM) function that connects with all of the underlying technologies from which you need to pull and to which you need to push data
- **Business process automation:** supports a data-centric approach and enables low-cost data governance across the organisation through enduring data quality reports, eliminating one-off initiatives

LOW IMPACT APPROACH

The CGI OpenGrid Foundation Integrated Network Model is compatible with your existing architecture, infrastructure and data approach and can be delivered worldwide, with onsite, onshore and offshore implementation available. It uses a technology-agnostic cloud architecture, integration techniques that comply with the Common Information Model (CIM) to facilitate data exchange, and built-in security that aligns with regulatory needs. Modular, scalable and interoperable, the solution can be deployed incrementally to deliver future capabilities, systems and functions, and can be configured to your core systems to align investment with realisation of business benefits.

ABOUT CGI

Founded in 1976, CGI is among the largest IT and business consulting services firms in the world. Operating in hundreds of locations across the globe, CGI delivers an end-to-end portfolio of capabilities, from IT and business consulting to systems integration, outsourcing services and intellectual property solutions. CGI works with clients through a local relationship model complemented by a global delivery network to help clients achieve their goals, including becoming customer-centric digital enterprises.

CGI IN UTILITIES

CGI is a pioneer of innovative technology in the utilities sector. With 6,000 consultants around the globe, we bring decades of experience in the electricity, downstream natural gas, water and waste water sectors. We work collaboratively with our clients to create and deliver solutions to their most complex business challenges, partnering for the long term to enable them to succeed in their chosen markets.

We're enabling our clients to transition to a Net Zero energy system and generate value from the growing volumes of data available to them. We help our clients create insights, employ digital enablers to diversify revenue streams, support real-time operational excellence, and enhance customer experience, all whilst keeping their business secure.

In the UK, CGI has been a leading information technology partner on a number of innovation projects, including Low Carbon London and FALCON, making us the partner of choice to enable the DNO to DSO transition and deliver Britain's smart, flexible and sustainable energy future.

For more information about CGI, visit www.cgi.com/uk/utilities/energy-networks or email us at enquiry.uk@cgi.com