



CGI OpenGrid360

Accelerating innovation by
unlocking the value of data

Can your organization unlock the data insight it needs to innovate and transform?

According to utilities executives we interviewed for our latest [CGI Client Global Insights](#), among their top business priorities are to improve the customer experience, optimize operations, respond to regulations and harness data analytics.

The rapidly evolving energy market—driven by decarbonization, decentralization and digitization—requires utilities to accelerate grid optimization and deploy new capabilities to compete successfully. This includes launching new products and services faster, improving asset utilization, providing flexibility services to balance the grid, and managing consumer-generated electricity more collaboratively.

Yet, developing such capabilities requires insights based on a detailed, accurate and integrated view of the network and, increasingly, of customer-generated energy sources. CGI OpenGrid360 helps utility network owners and operators achieve a holistic network view to improve data insight and accelerate innovation for the future grid.

CGI OPENGRID360 AT A GLANCE

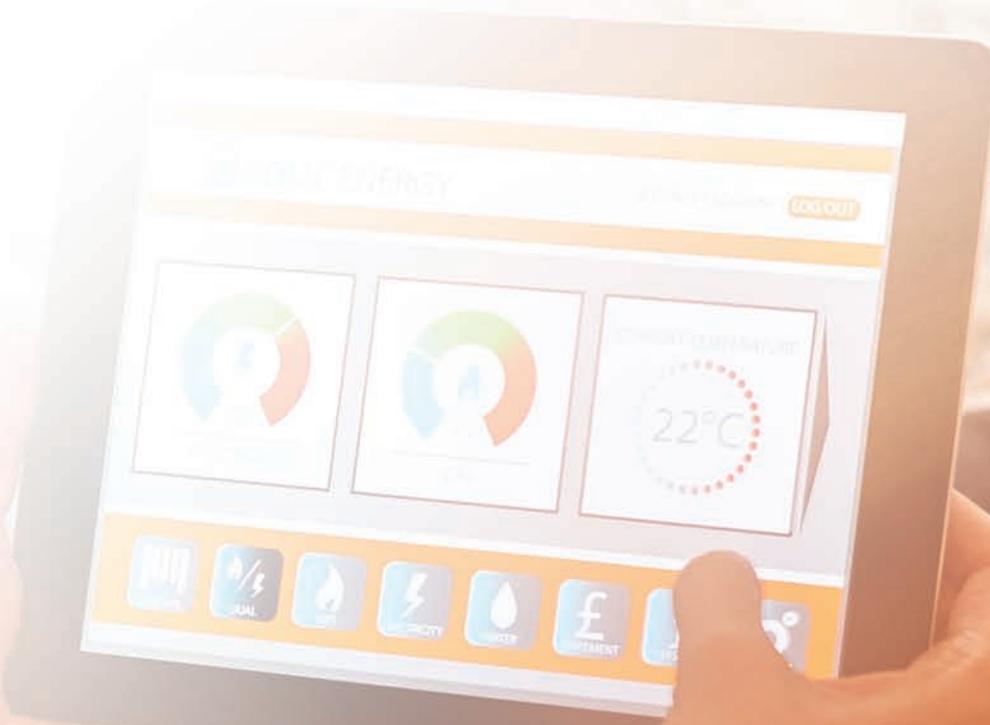
CGI OpenGrid360 is an innovative suite of solutions and services that empowers you to meet the demands of the evolving energy market.

- Unlocks the value of your data to optimize operations, improve customer and workforce experiences, and create new revenue opportunities
- Is built for utility network owners and operators, with utility network owners and operators
- Supports the complete network value chain from asset to outage management and more
- Is based on an Integrated Network Model, not just a data lake, which gives intrinsic value to the data without having to reprocess it and drives automated decision making that grid modernization demands
- Enables rapid development of new business insights, applications and business models
- Enables packaged extract, transform, load functions (ETLs) to be customized to accelerate deployment within the existing technology landscape
- Unifies traditionally separated IT and OT domains and organizational silos, with best-fit solutions
- Empowers effective roadmaps based on our comprehensive solution vision and data governance strategy
- Avoids disruption of existing systems with a non-invasive approach
- Supports efficient integration of new systems, emerging technologies and legacy investments using CIM 61968/61970 standards that promote a technology neutral representation of data assets and interoperability
- Enables your choice of deployment options with a cloud agnostic architecture
- Improves security, compliance and data governance while reducing risk
- Includes modules for asset, network and mobile workforce management, and for managing advanced smart grids and renewable operations

Data: The transformation imperative

Utilities increasingly recognize the need to invest in data assets—and some believe data assets are as important as the physical assets that provide service to their customers. Yet, the relevant operational data to support a holistic view of these internal and external assets resides in many disparate systems and is difficult to access.

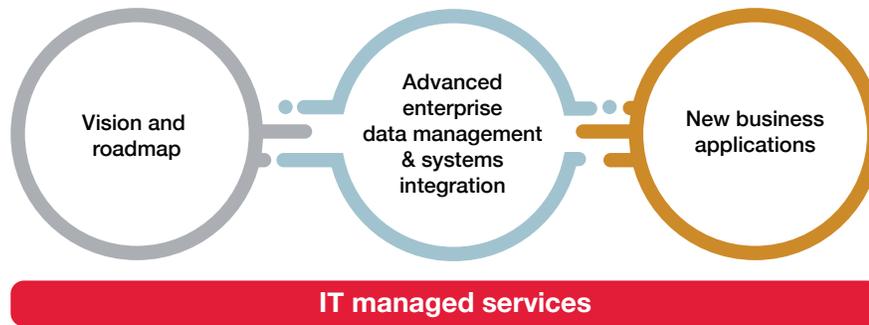
CGI OpenGrid360 is our answer to your need for data-driven transformation that will drive business decisions and outcomes. It brings together data from all sources to enable actionable insights and accelerate development of new applications. It also solves your data quality challenges, without disrupting your current IT systems, so you can improve on today's level of performance while advancing to become a future-relevant utility network owner and operator.



SUPPORT THE COMPLETE NETWORK VALUE CHAIN

An end-to-end solution suite, CGI OpenGrid360 supports the complete network value chain from asset to outage management and more. It includes strategic consulting, integration and managed services, business applications and an innovative data management approach.

CGI OpenGrid360 was developed based on expertise acquired from our work on UK smart grids innovation programs as well as with market operators, and in network management and asset modeling. We combine an Integrated Network Model, master data management, integration layer and automation—collectively, our CGI OpenGrid Foundation—to enable a single view of high-quality data across disparate enterprise systems.



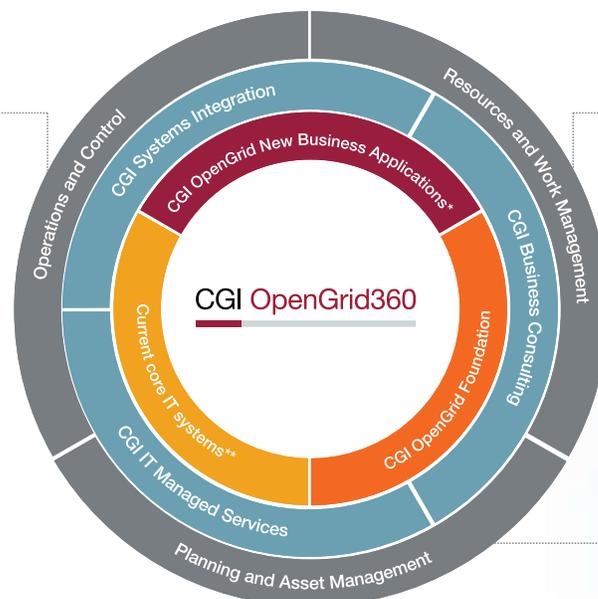
CGI OpenGrid360 offers modules for asset, network and mobile workforce management, as well as for managing advanced smart grids and renewable operations. These applications help you maximize the benefits of data from the grid and endpoints. And, while modules can be used individually, even greater value can be achieved by implementing the full CGI solution suite.

Click on the module names to link to more information on cgi.com

- ▶ CGI OpenGrid Network
- ▶ CGI OpenGrid Energy Control
- ▶ CGI OpenGrid Connect
- ▶ CGI OpenGrid Renewables

Click on the module names to link to more information on cgi.com

- ▶ CGI OpenGrid Work
- ▶ CGI OpenGrid Workforce
- ▶ CGI OpenGrid Field



Click on the module names to link to more information on cgi.com

- ▶ CGI OpenGrid Asset
- ▶ CGI OpenGrid Device Data
- ▶ CGI OpenGrid Insights

ENABLE INSIGHT, INNOVATION AND AGILITY

Unlock the value of your data

- Achieve an accurate, holistic view of your power network and improve data quality through our CGI OpenGrid Foundation, featuring an Integrated Network Model, master data management, integration layer and business process automation
- Harness the power of data to generate actionable insights for better decisions and outcomes
- Pivot more quickly to market changes by having all relevant data in one place
- Combine IT, OT and business data to address quality, system architecture and legacy investment challenges

Quickly and effectively deploy innovative new capabilities and meet future needs

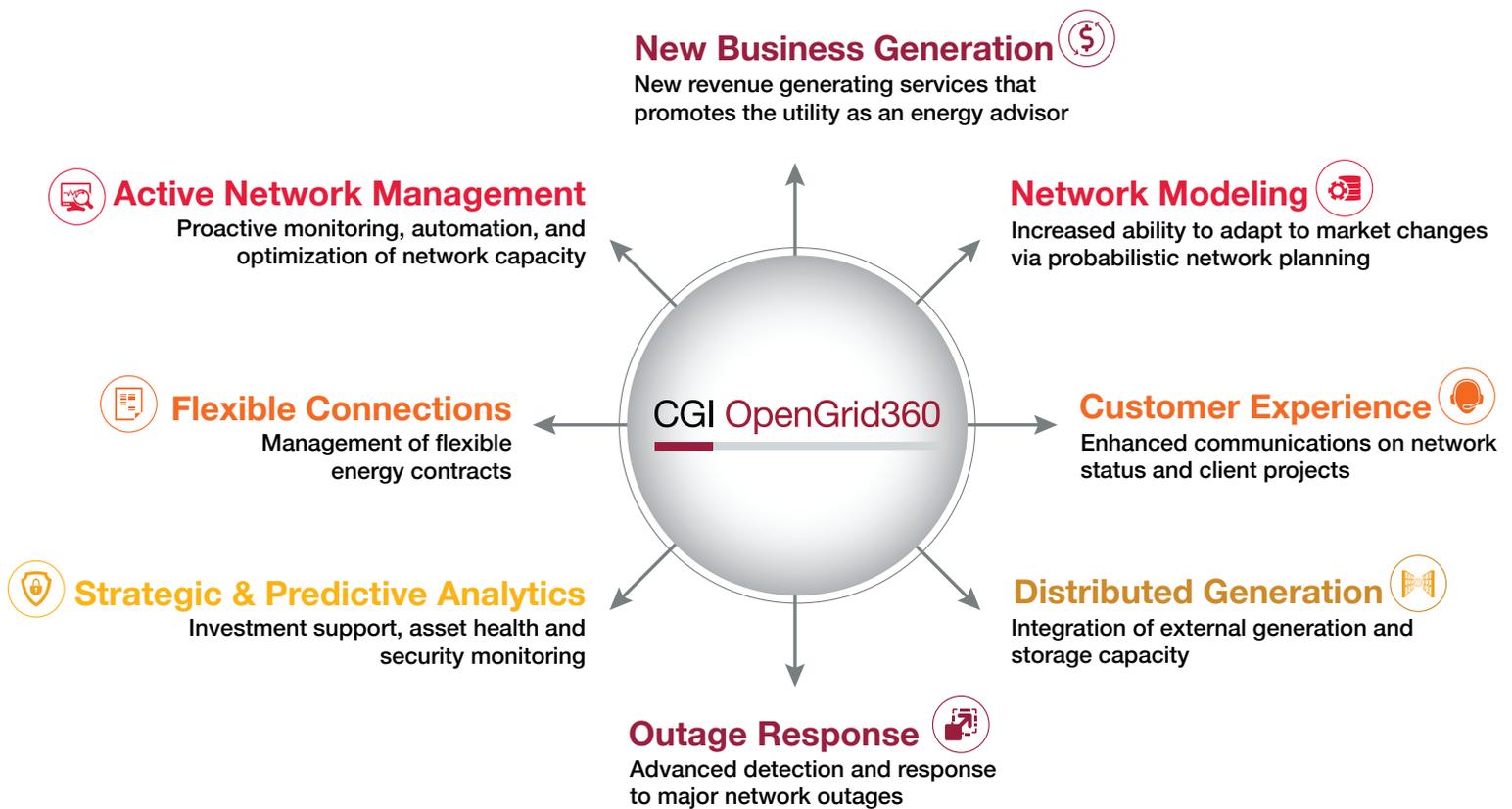
- Take advantage of automation enabled by higher quality data and an interoperable solution to eliminate the need to integrate with backend systems to launch innovative new capabilities
- Implement a pragmatic and scalable approach to delivering future capabilities and functions

We focus on your goals and follow your pace

Wherever you are on your digital journey, we help you advance by tailoring our approach to your objectives, environment and pace. CGI OpenGrid360 can be delivered globally from North America and Europe, with onsite, onshore and offshore implementation options available. Our low-impact approach is compatible with your existing systems and data environments, including data lakes, to support rapid deployment of new business capabilities and roles driven by the energy transition, without disrupting current operations. Modularity and scalability also enable you to take a pragmatic approach to delivering future capabilities.

CREATE VALUE WITH NEW BUSINESS APPLICATIONS

CGI OpenGrid Foundation speeds development of new business applications that deliver value-added services. We have built innovative applications on top of this Foundation to help you improve data analysis and insight, automate decisions, and facilitate two-way communications. The Foundation also enables your organization to build new applications more rapidly to meet evolving customer needs.



New Business Generation

- As utilities seek to offer personalized value-added services to customers, applications like our customer engagement platform allow prosumers, network owners / operators and business partners to manage meter assets and offer new services.

Network Modeling

- The network modeling business application provides a consolidated, consistent network model across your enterprise for better-informed analysis. It automatically computes changes to grid parameters or configurations and provides relevant impact information to utility engineers. It supports the shift from deterministic to probabilistic network planning.

Customer Experience

- Utilities' customer relationships are rapidly changing to two-way models involving greater collaboration and information sharing. CGI new business applications help improve the customer experience:
 - Construction project management allows external parties such as customers and contractors to interact and collaborate on the business processes of a utility construction project.
 - Event management provides a two-way channel for reporting conditions and outage events using situational awareness to filter information to affected parties and promote confidence in restoration activities. Artificial intelligence (AI) assisted analysis of social media feeds and customer application data identifies potential issue areas, while image analysis detects conditions such as a leaning or damaged poles, sparking electrical assets, etc. Automated interactions are facilitated through robotics-powered customer agents or more informed human agents who can provide targeted support and products.

Distributed Generation

- Distributed energy resources (DERs) and new loads such as EVs require centralized control within an advanced distribution management system or closely coupled system. Our distributed generation application provides a network topology view of DERs and connected loads through an aggregation platform, and enables an aggregated response based on an informed network status through a control platform.

Outage Response

- Our outage response system detects outages and automatically routes electricity to avoid power loss. It prioritizes and manages restoration efforts based on location of emergency facilities, size of outages and forecast duration. It provides incident location and restoration estimates, dispatches crews, tracks customer impact, and informs other systems. AI-assisted analysis of previous events increases accuracy and speed of estimates.

Strategic & Predictive Analytics

- Strategic analysis of your vast operational data can provide regulators and customers with better data insight and accuracy and help you optimize spend on infrastructure improvements. CGI brings together leading research and business institutions to develop applications using AI to optimize utility operations—such as for predictive storm impact planning and route optimization that takes into account weather forecasts, traffic and road conditions, and asset health optimization.

Flexible Connections

- This application helps you manage different connection types and gain insights about allocation and network capacity to prioritize potential usage. For example, you could offer consumers lower rates based on certain energy supply restrictions (i.e. time of usage).

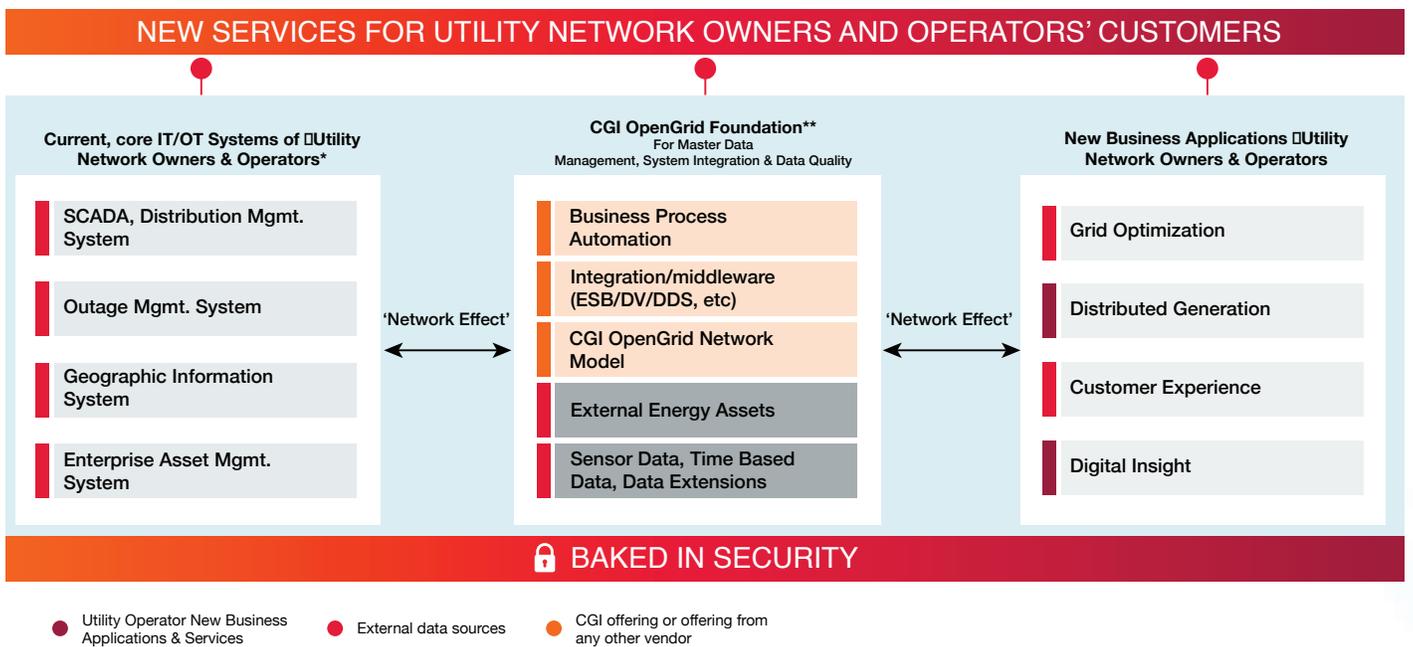
Active Network Management

- The active network management system collects and monitors relevant network data for every node connected to the network, detects grid congestion and takes necessary action to auto-restore (self-heal). It maintains a common store of collected data for post-event analysis and can provide generation forecasting, aggregate data from small-scale reserves (e.g., heating and cooling devices) and manage and configure in-line power regulators (IPRs).

HOW CGI OPENGRID360 WORKS

At the heart of CGI OpenGrid360 is the CGI OpenGrid Foundation. Unlike traditional relational databases or unstructured data lakes, the Foundation enables an accurate, holistic view of data across disparate enterprise systems. It takes data from each core system and automatically correlates it across all systems, notifying data stewards to the vast majority of 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 enduring, integrated digital representation of your network, which are integral to successful adoption of data governance.

Review the innovative business applications built on top of the CGI OpenGrid Foundation on pages 6 and 7.



CGI OPENGRID360 IN ACTION

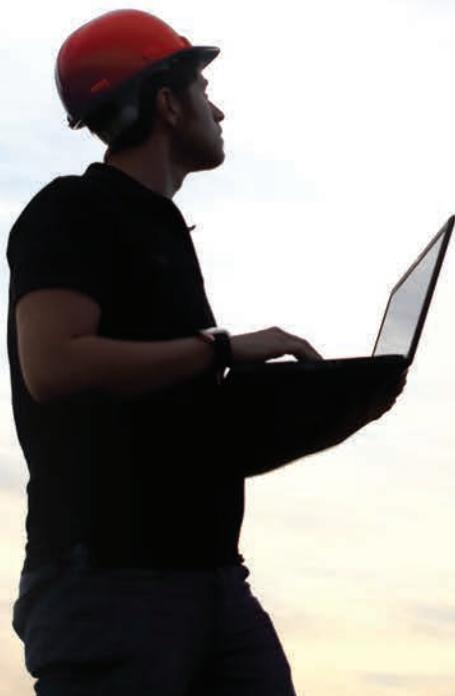
SP Energy Networks delivers innovative real-time digital model of its network

SP Energy Networks has partnered with CGI to assist in delivery of its Smart Data Integration Fabric (SDIF) project—a key enabler not only for its transition to distribution system operator (DSO), but crucially to help it support its communities and customers on the journey to net zero. The strategic platform to be built by CGI, incorporating its innovative Integrated Network Model (INM) solution, will help SP Energy Networks to address these challenges as part of its digitalization strategy. At its heart, the solution will provide a trusted, multi-purpose and reusable digital master model of the network—combining and correlating existing geospatial, connectivity, asset and telemetry data to create a platform on which SP Energy Networks can build its digital future.

Western Power Distribution puts data at the heart of its distribution strategy

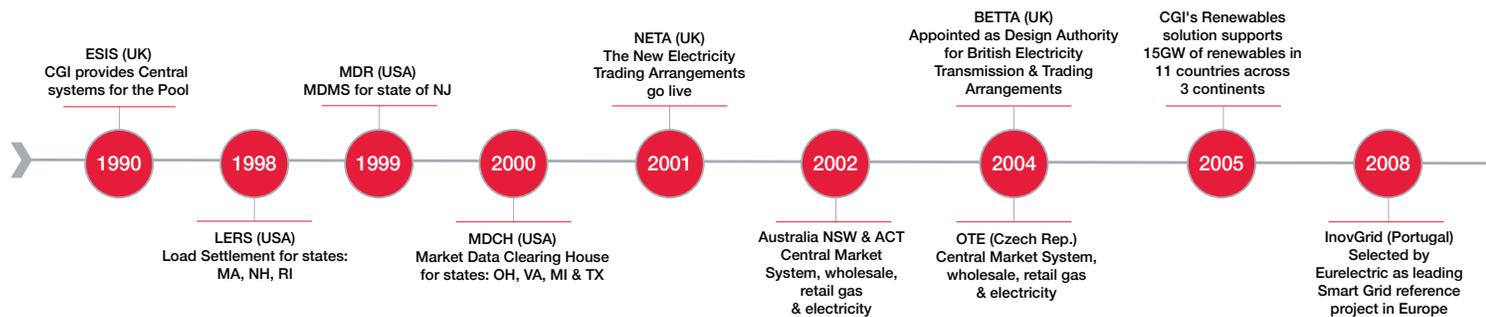
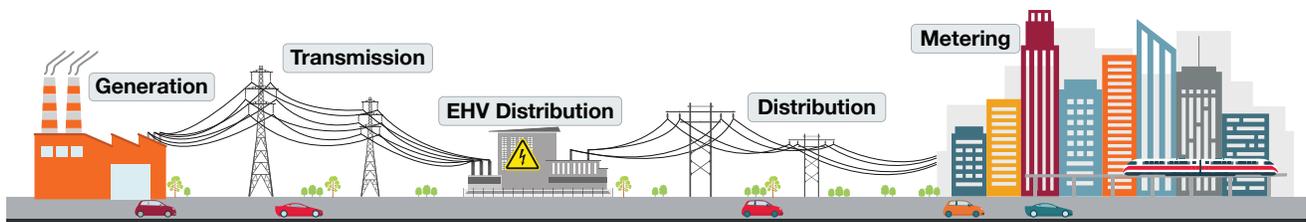
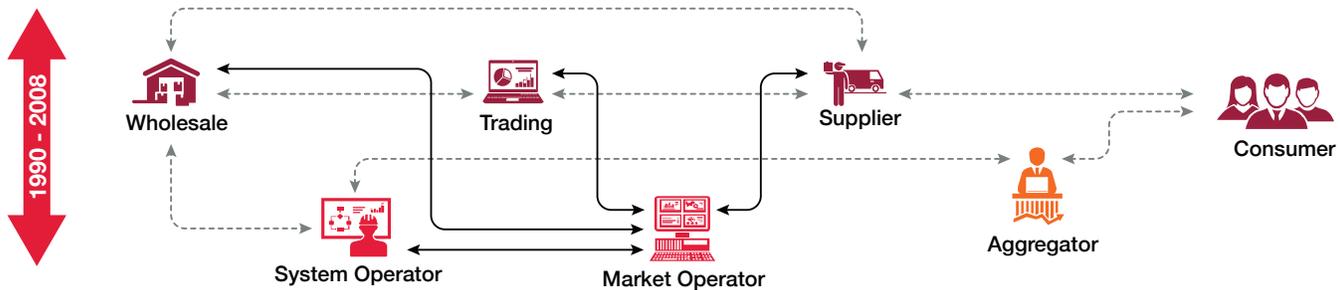
CGI is working with Western Power Distribution (WPD), the distribution network operator (DNO) for the Midlands, South West and South Wales in the UK, to build a digital network model for the future using CGI's Integrated Network Model solution. This will support WPD's transition from a DNO to a DSO to drive performance and efficiency from the electricity network and meet the future energy demands of customers. Following its inception on WPD's FALCON innovation project in 2011, the INM solution has been underway since early 2019 and is expected to go live in the South West in early 2020. INM puts network data at the heart of DSO transition by providing a data integration platform that will present a digital reference model of the WPD network. This approach will ensure a consistent and robust reference model at any point in time.

The Integrated Network Model is at the heart of the CGI OpenGrid Foundation (see page 5).

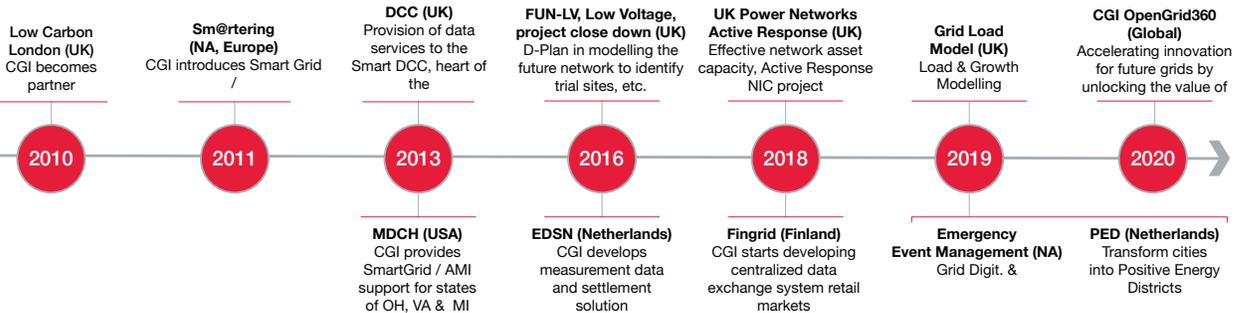
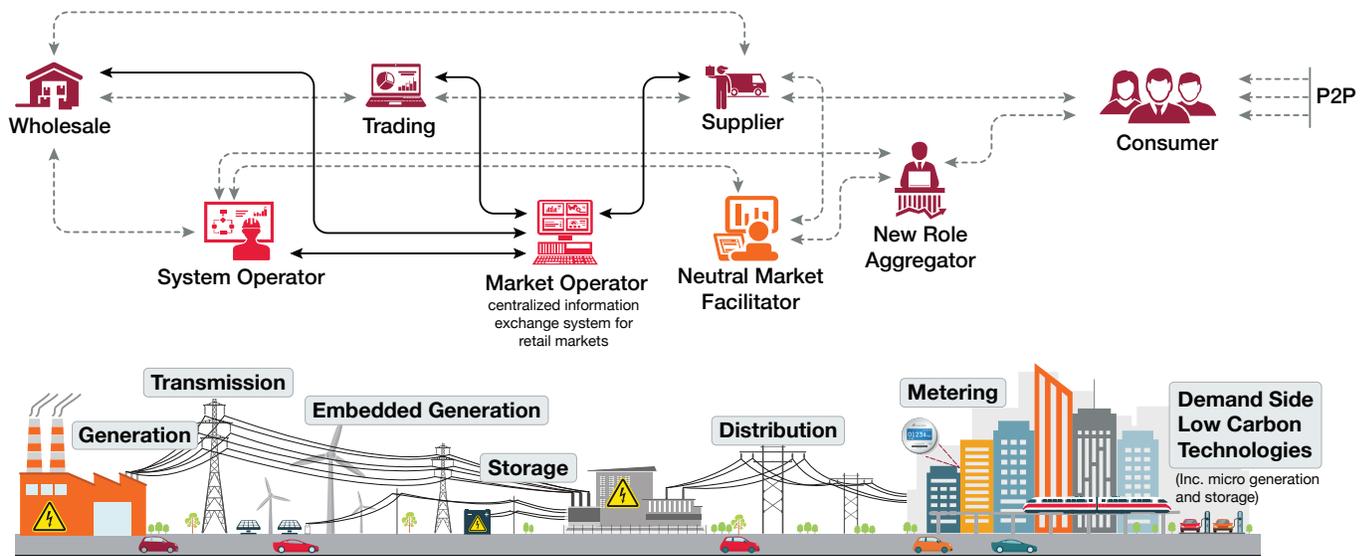


TRUSTED PARTNER FOCUSED ON YOUR NEEDS FOR MORE THAN THREE DECADES

CGI is trusted by the world's leading utilities to implement their most complex and mission-critical systems. Drawing on more than 30 years of industry experience as an end-to-end services provider, we have co-developed successful industry solutions with our clients. CGI OpenGrid360 is designed to meet the unique needs of utility network owners and operators. View the timeline below to see how CGI has helped evolve the industry over the decades.



— Straight line: Market driven transaction and data flow
 - - - Dotted line: Bilateral transaction and data flow





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 end-to-end services and solutions, including strategic IT and business consulting, systems integration, intellectual property, and managed IT and business process services. 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.

Learn more at [cgi.com](https://www.cgi.com).

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