

# Sm@rtering – smart enough to power up your grid



A new energy world is coming as energy and utility businesses change radically. It's a world where consumers can generate power as well as use it more responsibly; where sustainability really matters and behavior helps control energy costs. It's a world where vehicles are powered by electricity; where demand and supply are efficiently balanced.

## The challenge

Smart Meters are enablers of Smart Grids. They will become the norm over the next few years as an answer to the challenges posed by climate change and regulators. They will facilitate suppliers with more information and consumers with more choice. This will create opportunities to streamline operations, improve quality of service and customer engagement.

Meanwhile, their adoption will pose new challenges like:

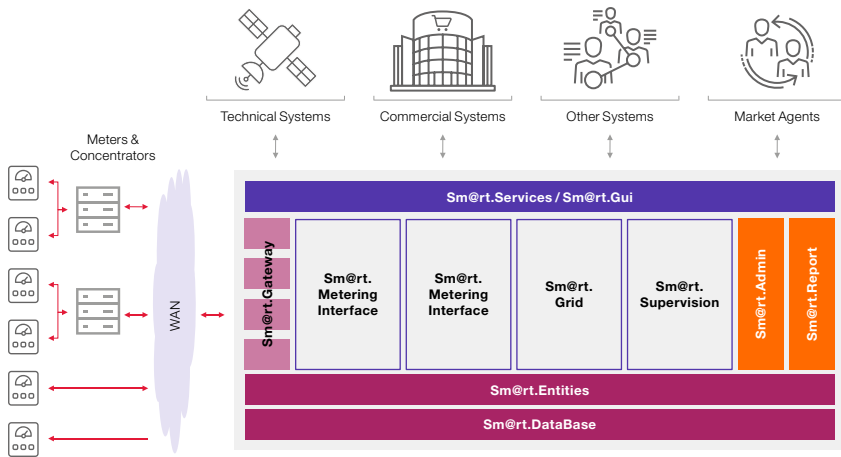
- Many manufacturers; many protocols; few standards
- New types of data including: load profiles, events, quality of service (QoS), configurations, firmware versions
- Huge volumes of events and soft real time data
- Integration on the utility Smart Grid path (like micro generation and electric vehicles)

Utilities need new Meter Data Management (MDM) architectures to address these challenges. At the same time, they have to respond to the growing need for integration with the commercial and technical systems, and with other market players like suppliers and transmission system operators (TSO).



## Key Benefits

- Support active distribution network management
- Support the extension to use of micro generation and electric vehicle charging
- Understand customer usage patterns to manage demand and peak usage periods through demand side management mechanisms and advanced tariff-plans and new services that reflect customer usage
- Improve customer service and operational savings through increased efficiencies (including the network planning, maintenance and operation)
- Reduce cost-to-serve for utilities by decreasing non-technical losses, customer complaints and customer debt



## Our answer

Sm@rtering is a new generation MDM solution developed by CGI. It offers data collection, energy data management (EDM), supervision and smart grid capabilities on an integrated platform.

Our solution is web-based with a user-friendly interface, developed using market standards, and modern, flexible technologies. It allows utilities to rapidly adapt to the new business environment and to integrate water, gas and electricity meters as well as residential, commercial and industrial C&I clients. Sm@rtering can be readily implemented in multiple geographies.

### Flexible Machine to Machine Interfaces (M2M)

Sm@rtering is based on service oriented architecture (SOA). All the operations can be performed through graphical user interface (GUI) or an M2M interface. Interfaces and business workflows are easily implemented using a graphic tool. Enterprise service bus (ESB), a fundamental tool for interfacing with legacy systems, enables quick conversion of data formats.

### Interoperability

Sm@rtering presents a single interface to end-users. It manages the two-way communications with different Smart Meter infrastructures and protocols. New protocols can be quickly implemented. Priority, repetition and automatic tasks are standard features as well as monitor and control mechanisms.

### Energy Data Management – event-driven Validation and Estimation Engine (VEE)

Sm@rtering stores and publishes all the different data types registered by smart meters, including events, load profiles, network quality data, meter configuration values, firmware and low voltage substation measurements. Our solution is ready to integrate with specific time series solutions. Validation and estimation is based on event-driven processes, configurable rules and workflows.

### Sm@rtering responds to the new paradigms imposed on an MDM solution through:

- Interoperability for multiple Smart Meter technologies
- Event-driven and real-time operations
- Strong integration capabilities
- Ability to handle high volumes of data of different types
- Supervision and monitoring of infrastructure
- Modular and scalable architecture

## Supervision and control – ITIL compliant

Utilities will require specific meter operation centers supported by tools to monitor and control the new Smart infrastructure and guarantee performance according to KPIs. Sm@rtering's Supervision module includes functionalities and features specific to address this need, compliant with ITIL® best practices.

## Smart Grid for active network management

Sm@rtering has real-time processes to analyze data and events relevant to electrical network management like confirmation of network topology and services to improve energy fault detection and repair.

Sm@rtering is a Smart Grid enabler. Utilities can move forward on their Smart Grid programs to actively manage the network.

## Why CGI

We have been at the forefront of the AMI (Advanced Meter Infrastructure) revolution ever since it was just an idea. We displayed unmatched, solid credentials in our ongoing involvement in the EDP Distribuição InovGrid project, where the Sm@rtering solution is a key module. Working with leading companies in industry and research, we've been a key partner in developing a world-leading SmartGrid in Portugal. It has been selected by the European Union Commission and Eurelectric as a leading smart grids reference project in Europe. It automates grid management, improves service quality, reduces operating costs, promotes energy efficiency and increases the penetration of renewable energies and electric vehicles.

We understand the implications of different economic and social circumstances, as well as different legal and regulatory regimes. And have a flexible, collaborative culture. Our innovative, practical solutions are tailored to your needs. We deliver a blended service model that combines local knowledge with global resourcing.

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## About CGI

### Insights you can act on

Founded in 1976, CGI is one of the largest providers of IT and business process services in the world. Our consultants have deep technology and industry expertise. They specialize in solving complex challenges in a practical way.

We develop blueprints that map your industry's operational architecture with our offering roadmap to ensure we customize and apply solutions for your unique needs. As the lines between industries continue to grow indistinct, we also bring experience and innovative solutions from our cross-industry work – relying entirely on collaborative partnerships. To build lasting and trusting relationships with our customers, we rely on our metro market model. Our local experts have a global network at their disposal, so we can provide the right talent, innovation and resources for every project.

### For more information:

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