

# Utilisoft's Value in Enabling the Development of Smart Energy

Written by Mark Coyle, Corporate Development Director

## Introduction

This is an article from Utilisoft Limited, a leading solutions provider dedicated to the energy and utilities sector. The article explores the emergence of Smart Energy in helping to support our future sustainability requirements and the enabling role Utilisoft is playing through its experience and modular software suite.

## The Development of Smart Energy

As the energy industry evolves to develop initiatives in support of future sustainability, there is a revolution starting in the way we use and record our energy consumption. In the past, consumers would use all the energy they required without giving significant consideration to its environmental impact. As we have become more conscious of our environmental impact, there has been a growing recognition that proactively managing and reducing our energy consumption has a vital role to play.

To stimulate action on reducing energy consumption by consumers in the business and domestic areas greater information is needed about our usage patterns and associated cost. Once we understand our consumption, we can then take more effective action around the choice and use of energy consuming devices. With continued price rises driving the cost of energy upwards as a share of our budgets, we each have a real incentive to commence reducing our energy consumption today.

For domestic customers, getting hold of information about our energy consumption today isn't really possible and managing the energy consumption of our devices on the whole doesn't happen. To make the shift needed the energy industry will over a period of years replace our old energy meters with new ones called 'Smart Meters' for both gas and electricity.

These new meters give greater granularity of information about our consumption, provided in near real time. They can provide energy consumption data which could be deployed through our PCs and TVs or on panels stuck to fridges. By looking at these displays we will start to understand our demand pattern, how our devices contribute to this and the impact of changing the way we use energy. We will be able to answer such questions as 'what should I do to achieve a fixed budget for my energy?' and 'where can I make the optimal savings in changing my energy usage?'

In recent years we have been informed about the impact of leaving energy consuming devices such as TVs on standby, operating energy intensive items such as washing machines at peak times or leaving gadgets such as phones and portable gaming consoles on charge for extended periods. Now for the first time we will each be able to see for ourselves the benefits to both our finances and energy consumption when we take corrective action. Smart Meters also support 'top up and go' payment methods similar to those used in the mobile telecoms sector. Therefore customers currently paying by prepayment, such as students, will be able to pay for their energy flexibly via a familiar method.

As we start to take action to reduce energy consumption using information from the Smart Meters, our energy suppliers should start to see demand stabilise and ultimately fall. This will in turn enable greater accuracy in their demand forecasts and more active demand side reduction. There may therefore be benefits in reducing their exposure to the volatile wholesale markets with a consequential beneficial impact on energy prices.

Over coming years businesses will progressively be required to take responsibility for their carbon output in addition to their energy consumption. There are ongoing discussions around consumers taking some form of responsibility in this area too. It is therefore clear that consumers of energy will move from a passive role to one that is more involved in its management. Guided by the information provided from Smart Meters each of us will manage our consumption, its cost and environmental impact.

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## The Benefits of Smart Energy

The introduction of Smart Energy represents a paradigm shift in how we use and manage energy bringing many benefits:

- Greater depth of information about energy consumption provided in near real time;
- Provision of energy consumption information in a range of display devices;
- Energy billing will reflect up to date consumption volumes with the changes resulting from energy management actions reflected more quickly into bills;
- Accurate meter information provided more quickly will lead to less customer disputes;
- Development of usage pattern information enables development of energy management responses;
- Quicker identification of potential problem meters with earlier corrective action;
- Enhanced targeting of new energy tariffs and service innovations to customers with right consumption patterns;
- 'Top-up and Go' payment methods to give flexibility and convergence with widely used mobile telecommunications standards;
- Smart meters can be integrated over time with energy consuming devices to enable direct switching for automatic demand usage optimisation;
- Suppliers able to forecast demand and therefore support demand reduction more effectively reducing exposure to volatile wholesale markets.

## Establishing a Smart Energy Capability

Since the emergence of new approaches to energy management, Utilisoft has been at the forefront of providing the enabling IT based solutions required to **Bglobal Plc** and a number of dedicated Metering service providers. **Bglobal** is one of the UK's leading companies in Smart Energy, having developed the first fully operationally solution that is now servicing a rapidly growing volume of customers on behalf of energy suppliers.

Our experience shows that so far many energy suppliers have considered the IT infrastructure needed to enable Smart Energy as a 'bolt on' to their business. As the volumes grow and the millions of domestic customers also use Smart Energy, then the IT will instead need to be at the heart of the business as part of an integrated, seamless customer experience.

Today many energy suppliers have a portfolio of disparate applications providing specific functionality. It is therefore difficult to craft a new customer experience that offers the benefit of Smart Energy along with more flexible pricing tariffs related to consumption patterns.

In addition to their own internal applications used to service the customer, energy suppliers also have to communicate with agents who provide data collection and metering services. These communications are facilitated through data standards including the 'DTC' (Data Transfer Catalogue) in electricity and 'RGMA' (Reform of Gas Metering Arrangements) in gas.

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From this we can show a hierarchy of roles and the high level services required to deploy a full Smart Energy infrastructure.

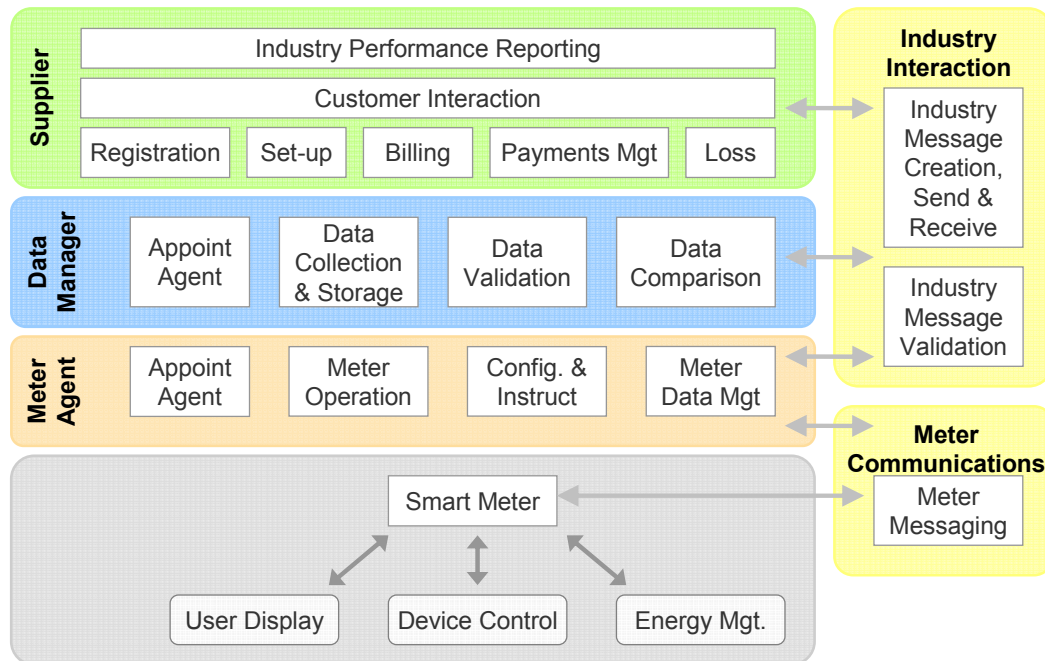


Figure 1: A sample infrastructure to deliver Smart Energy services

To provide services as a Data Collector or Meter Operator, the entity providing the service has to be accredited to ensure they can operate to the required standards of the industry. There is a two way flow of information from the Supplier through their service agents to the meter and back again to take-on a customer, set-up their account, gain meter readings, bill the customer and manage their ultimate loss. To support the development of Smart Energy, this exchange of information may evolve to include more frequent meter readings, usage pattern analysis and even device instructions that help to optimise our energy consumption.

Energy suppliers, industry service organisations and technology providers are now working to establish a practical, robust infrastructure to operate at the required scale for the mass roll out of Smart Energy to the consumer. Through our extensive work in this area, not only in industry trials but in real Smart Energy provision through our clients and partners, Utilisoft is building the next generation capability set to help deliver this paradigm shift in energy utilisation.



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## Utilisoft's Practical Experience in Enabling Smart Energy

Since the opening of the liberalised energy markets Utilisoft has been one of the leading independent solutions providers dedicated to the energy and utilities sector. Our core mission is to enable the efficient exchange and management of data within and between organisations operating within the sector. Our solutions join together and enable efficiency in energy suppliers, meter operators, traders, market providers, distribution businesses and central service providers. Through our wide ranging relationships and solution deployments we can see the Smart Metering requirements from many angles, considering the needs of each role.

Working closely with a growing client community we build standardised, 'product' oriented IT solutions using latest proven technology that can grow and scale with emerging needs. Our solution, already in operation for the service of Smart Energy, was built on existing components that are extensively used for the management of industry data, meter data management, validation of meter readings and management of metering agents. Utilisoft operates from both the UK and Australia where we are also involved heavily in the development of Smart Energy. Our client base extends across the world, including working with such blue chip companies as Wal-Mart as they move into self-supply and proactive energy management.

Utilisoft works in partnership with consultants, system integrators, complementary solutions providers, technology innovators and industry groups. Our product suite can be deployed in a modular way integrated into a wider enterprise level solution. Our applications sit upon an adaptive Service Oriented Architecture (SOA) allowing for the coupling and interfacing of IT applications at a process level.

Smart Energy is one of the biggest programmes of work ever to face the energy industry, so Utilisoft welcomes working in partnership to define and deploy the systems required. The choices of each supplier will be different in establishing their infrastructure for Smart Energy, so our open, modular approach means we can provide the applications right for their business in combination with other providers, focused on working together to realise the practical delivery of early benefits.

Our standard solution set can be shown with its three modules on the following diagram.

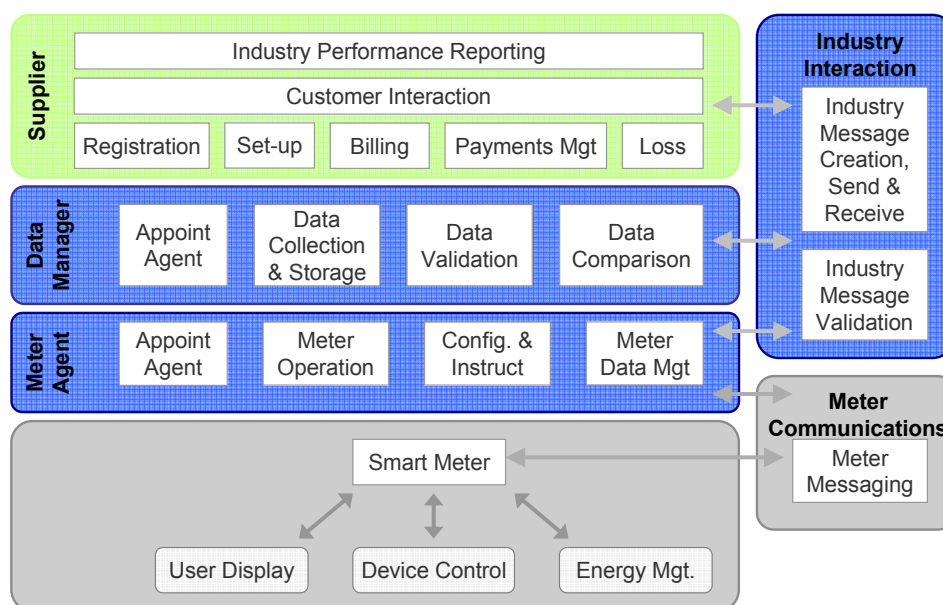


Figure 2: Utilisoft's modular software suite for Smart Energy

### Key

Internal infrastructure to an energy supplier is shown in light green;  
 Utilisoft available modular components are shown in dark blue;  
 Metering technology provider components are in grey.

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### The Value Utilisoft Brings to Enabling Smart Energy

- An experienced, respected solutions developer from the UK dedicated to the energy and utilities sector;
- Solutions set and experience across the various roles required in the sector, including the directly relevant roles of energy supplier, data collector and meter operator;
- Proven software components using open standards and latest architectural design, built upon an existing software suite used widely across the energy and utilities sector;
- Our solutions are already operational in Smart Energy being used to service real end customers;
- Working in partnership with many companies to define and deploy the infrastructure for the mass roll out of Smart Energy;
- A modular, flexible approach allowing our clients to integrate software components together to deliver their mix of solutions;
- Solutions can be deployed to support the various roles as energy supplier, data collector or meter operator;
- All our software has up to date UK accreditation success across the range of roles and is designed to operate in multiple energy markets;
- Our solutions are already deployed to support the growth of Smart Energy for both energy suppliers and directly with the largest consumers of energy;
- By working with energy industry participants, their agents and the largest consumers of energy we have a deep understanding of the Smart Energy value chain and the synergistic benefits these parties can bring to the optimal use of energy;
- We operate from within the sector, with close relationships across the industry and presence at key industry groups;
- We are absolutely committed to and ready to work in partnership to enable this paradigm shift in energy use.

### Contact Utilisoft

Enabling the development and efficient operation of Smart Energy is core to our strategy. We welcome all interested parties contacting us to explore how we can bring value together in enabling the paradigm shift in energy use.

To discuss the development of Smart Energy, our value or working in collaboration, please contact us today using the following details:



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Check out our website for the latest Utilisoft news, our work to enable Smart Energy or to receive our newsletter at <http://www.utilisoft.co.uk>