



SMART METERING IMPLEMENTATION:  
PROSPECTUS RESPONSES TO:

Ofgem

September 28, 2010





## OFGEM Smart Metering Implementation Consultation Response and Questions

The following responses are on behalf of Trilliant, Inc. The answers were a collaborative effort with Trilliant's executive management and technical team working on the Centrica deployment.

### About Trilliant

Trilliant provides hardware, software, and service solutions that deliver on the smart metering and Smart Grid communication solutions to utilities and their customers worldwide. Trilliant's solutions drive improved energy efficiency, grid reliability, lower operating cost, and integration of renewable energy resources. Since its original founding in 1985, Trilliant has been a leading innovator in the delivery and implementation of energy management systems, including advanced utility wireless data collection for residential and commercial customers, demand response, time-of-use billing, and critical peak pricing initiatives. Trilliant currently has more than 200 utility customers worldwide with over 1.5 million deployed Smart endpoints including Centrica where Trilliant provides the enterprise head-end software system in support of the British Gas Smart Programme.

### **Prospectus (responses requested by 28 October except for asterisked questions, where responses are requested by 28 September)**

#### **CHAPTER 2 (responses requested by 28 October except for asterisked questions, where responses are requested by 28 September)**

##### **Question 3\*: Do you have any comments on the proposed approach to ensuring customers have a positive experience of the smart meter rollout (including the required code of practice on installation and preventing unwelcome sales activity and upfront charging)?**

Trilliant supports a hybrid model of supplier-led and area-led deployment models to achieve the best balance between encouragement of competition and provision of network coverage to all customers.

The supplier-led method of installations should be supported both now and over the long term for devices within the customer premise, including any communications interfaces. To preserve the benefits and opportunities of competition, it is essential that suppliers who have their own needs, capabilities, and timing not be prevented from moving forward to install against their own customer base at a pace they determine if it is faster than the minimum market requirements. The technologies employed should be in accordance with OFGEM standards and architecture so that supplier switching and asset interoperability is maintained over the long term. This will also preserve the existing and future meter and device installation industry, infrastructure, and systems.

Network interface equipment, on the other hand, should be proactively deployed on an area-wide basis, facilitating cost effective smart metering deployment for all suppliers. This will ensure that when a given customer meter is installed the network is already available for it to connect. This can be accomplished whether installing a public or private network for meter communications. In the case of public networks, the network may already exist. The cost of providing a dedicated base network for a metering system is a relatively small component of the total cost of a smart metering deployment (approximately £4 per customer). Therefore, the dedicated metering network can be installed in advance of customer meters without impacting the overall programme budget significantly. In addition, installing the network in advance of the meter installation will increase the pace of the rollout and remove technical and economic barriers.

Proactively installing the network overlay supports the ability to target the right network technology to different areas, creating the ability to support high quality coverage to all customers regardless of supplier choice. For example, rural customers not served by existing public networks could be provided network coverage such that their suppliers could install communications equipment utilizing the network that is appropriate for that location, without the need to drive or be limited by an individual supplier's network rollout plans.

Where mesh networks are the best technology choice because of network coverage or to optimize communications costs, there may be minimum densities required to achieve optimal network performance, though this can be largely mitigated with modest amounts of additional network collection equipment. OFGEM should preserve some ability to mandate minimum aggregate meter installations in selected areas across all suppliers with customers in that geographic area to assure adequate network capacity and coverage. This minimum requirement should not exceed 25% of total customer locations, and therefore would not significantly impact an overall supplier led rollout scheme. In addition, an area-based network infrastructure would not require that suppliers roll out by area. This preserves the supplier's ability to manage their programs and installations.

The efficiency and cost effectiveness of a proactively installed network will remove technical and economic barriers for small suppliers. The network would benefit small suppliers by eliminating that required infrastructure barrier, reducing the cost of the infrastructure, increasing bandwidth, and reducing latency for enhanced services. Trilliant's following recommendations on customer engagement are based on experience through customer installations and through very public mistakes of others. Proactive information provided to customers in the following areas is particularly important:

- 1) Customers must be informed and assured of the quality, safety, and reliability of the equipment installed. These messages should be delivered by credible sources from a public point of view.
- 2) The accuracy and reliability of meter reading, and the improved accuracy in billing (reduced estimated readings and more timely bills) should be openly discussed in order for customers to expect the changes.
- 3) The safety of the radio equipment, including personal radiation exposure, should be specifically addressed. Assurances around safety should also include assurances that the radio equipment will not interfere with customer equipment such as medical devices, televisions, and radios.
- 4) The programme benefits the customers will receive such as increase in payment and pricing options.

Trilliant believes that the prioritization of customers should be left to the suppliers to determine.

Trilliant supports a supplier-developed code of practice to assure a consistent customer experience across the programme. The following are some related comments based on Trilliant's experience:

- In general, modern equipment has a much better ability to resist and detect tampering than existing meters. While some issues may persist, they will be greatly reduced and be far more detectable than existing meters.
- A proactive program should be developed for minimizing any cost impacts that occur when prior billing issues are discovered by smart metering. As has been demonstrated, these have the potential to create ill will among the consumer base and should be proactively handled with sensitivity and understanding for the overall good of the programme.
- From a physical installation perspective, the communications infrastructure is of modest size and relatively easy to install and Trilliant does not expect this to be a significant issue. We are currently developing a range of device packaging and installation procedures to minimize installation challenges.
- We recommend that programme teams establish guidelines and procedures for the key building types and environments to assure consistent and efficient methods for installation.

**Question 6\*: Do you have any comments on the functional requirements for the smart metering system we have set out in the Functional Requirements Catalogue?**

Trilliant is in support of the functional requirements for the smart metering system.

**Question 7\*: Do you see any issues with the proposed approach to developing technical specifications for the smart metering system?**

Trilliant agrees with the proposed approach to defining the requirements for the smart metering system.

**Question 16\*: Do you have any comments on the proposals for requiring suppliers to deliver the rollout of smart meters (including the use of targets and potential future obligations on local coordination)?**

Trilliant believes that the prioritization of customers should be left to the suppliers to determine.

Trilliant suggests that here should be specific numerical targets assigned to all suppliers based on their relative market share. These targets should be set and then adjusted annually to take account of varying market share among the suppliers.

With proactive installation of the network infrastructure, it will not be a burden on suppliers to set specific targets. In the very short term, installations can focus on areas appropriate for public networks, with a shift to dedicated network installations once the supplier-wide mandates are in place and the network infrastructure can be deployed. A suggested schedule is listed as follows:

- 2011-2013: Installations dominated by public network installs
- 2012-2014: Dedicated network infrastructure installation
- 2013: Public network installations can shift to dedicated networks as appropriate

#### **CHAPTER 4 (responses requested by 28 September)**

**Question 17\*: Do you have any comments on our implementation strategy? In particular, do you have any comments on the staged approach, with rollout starting before DCC services are available?**

Trilliant supports the use of an interim approach for the following reasons:

- 1) To bring the benefits as quickly as possible to consumers,
- 2) To gain experience with rollout and technology, and
- 3) To provide more time for the industry supply chain and associated required systems and interfaces to be developed and mature.

This should both accelerate the ultimate rollout by several years as well as dramatically reduce the programme risks and costs.

**Question 18\*: Do you have any other suggestions on how the rollout could be brought forward? If so, do you have any evidence on how such measures would impact on the time, cost and risk associated with the programme?**

Trilliant believes this is an important topic for the expert groups. Trilliant believes that promoting facilitated forums for driving discussion, awareness, and action on interoperability standards will greatly assist the parties in avoiding any stranded investment. Standards development will also need to be accelerated. In addition, proactively installing the network infrastructure as described in the response to Chapter 2, Question 3 will enable the rollout to be brought forward whilst removing technical and economic barriers.

**Question 19\*: The proposed timeline set out for agreement of the technical specifications is very dependent on industry expertise. Do you think that the technical specifications can be agreed more quickly than the plan currently assumes and, if so, how?**

Trilliant is prepared to work aggressively to support an accelerated time frame, but with a scheme of this size, the time frame is realistic.

**Question 20\*: Do you have any comments on our proposed governance and management principles or on how they can best be delivered in the context of this programme?**

Trilliant agrees with the proposed approach of expert groups across industry stakeholders (both energy suppliers and technology providers) to advise on the governance and implementation of the programme. Although Great Britain is implementing an aggressive programme, Trilliant and other stakeholders have extensive experience to draw from to facilitate the smart metering implementation.

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