Many of today’s enabling technologies – Smart Grid, Smart Metering, Demand Response, Home Automation and Home Area Network, Distributed Renewable Resources, Plug-in Hybrid Electric Vehicles, etc. – are capable of transforming the utility paradigms and business processes, from the way it engineers the energy delivery system to the way it serves its customers. Establishing and implementing an enterprise integration plan that aligns business and technology is fundamental to managing the transformational changes, mitigating business risks and maximizing benefits from the technologies.

Quanta Technology can help develop, justify and implement a Smart Grid strategy and enterprise integration plan that focuses on the enabling technologies, as well as utility enterprise systems like geospatial information systems, enterprise resource planning and field force automation. We tailor the plan to your specific needs. A typical engagement may include some or all of the following services:

### Integrated Smart Grid Strategy & Implementation Roadmap

Develop a strategic roadmap and implementation plan that aligns Smart Grid applications and enables technologies with the to-be business model:

- The strategy is articulated and aligned with the overall utility company’s business and technology vision, to meet utility business goals, considering regulatory and social drivers and potential game changers in emerging technologies.
- Business areas to be assessed include business management, customer service, energy delivery system planning and engineering, asset management, system operations and control, field operations, energy management, IT and other infrastructure services, etc.
- The enterprise architecture, integrating technology systems and business processes, is developed to provide an architectural footprint for the strategic vision.
- The implementation roadmap addresses gaps from the current utility business and technology environments to the strategic vision and enterprise architecture. Gaps in people culture and organization, process, technology and data are assessed.
- Change management and risk management strategies are developed.
- The phased implementation roadmap is justified by a business case with realistic estimates of total cost of ownership and realizable benefits.

### Technology Assessment and Acquisition Support

Assess potential technologies, including advanced Distribution Automation, Distribution Management and Outage Management Systems (DMS/OMS), Advanced Metering Infrastructure (AMI), Automated Demand Response (ADR) and other related applications:

- Specification of functional, integration and non-functional requirements
- Technical and commercial assessments
- Total cost of ownership estimation
- System development, maintenance and support resource and skill requirements
- Organization and business process impacts, benefits expectations
- Infrastructure requirements – Data communication networks, cyber security, etc.
- Risk assessment and management strategy
- Rollout and transition requirements
- Industry lessons learned
Smart Grid & Integration  

**Business Case**
Develop and document repeatable and defensible business justifications:

- Total cost of ownership – Implementation project, change management, ongoing operations and maintenance, system maintenance and support
- Benefits – Strategic, societal and ratepayer benefits; hard and soft operation benefits
- Cost and benefit schedules that are aligned with project schedule
- Cost/benefit analysis

**Implementation Plan**
Formulate an integrated, detailed plan of manageable projects/subprojects, each with clearly defined scope, budgets, success criteria and benefit expectations. This can be done for any one or more of the Smart Grid technologies (e.g., AMI, DMS/OMS, Meter Data Management):

- Prioritized projects and program timeline
- Scope – Functional, technical, integration, data conversion, operational and maintenance requirements
- Resource plan, including external as well as internal business and IT resources, from executive sponsorship to project team, with clearly defined roles and responsibilities
- Cost and benefit realization timelines and target performance metrics
- High priority improvement areas (i.e., the "low hanging fruit")
- Change management plan
- Risks and risk management plan

**Implementation Support**
Ensure successful execution of the strategy, including system development and implementation support, as well as technology acquisition and detailed implementation planning services:

- Project Management support
- System design and design reviews
- Independent expert review of project progress and cost/benefit checkpoints to provide early warnings and recommend mitigation measures
- System testing and commissioning
- Production, transition and rollout planning and support
- Knowledge transfer, end-to-end process training
- Change management
- Risk mitigation and management

**Post Implementation Support**
Ensure and enhance benefit realization:

- Assess and rationalize gaps between measured benefits and business case
- Assess enhancement opportunities and needs for emerging technologies, new industry practices and standards, new regulations, new customer expectations
- Recommend enhancements to business process, technology, technology integration and utilization
- Develop a plan to achieve the enhancements and business benefits

For more information regarding Quanta Technology’s Smart Grid & Integration capabilities, please visit our website www.quanta-technology.com or contact Douglas Proudfoot at dproudfoot@quanta-technology.com.