

# Engineering Solutions for Smart Grid Products



Specialized in Smart grid product development with capabilities in Electronics, Geospatial solutions and Mechatronics

## Practice highlights

- Comprehensive solution; consultancy, design, implementation and build
- Matured engagement with 5 leading OEMs
- 10+ Smart Grid Subject Matter Experts (SMEs) and solution architects with 15+ years of industry expertise
- 1,400-person years of experience in providing GIS solutions for Energy & Utilities
- Strong capabilities in Zigbee, Driver development, Simulation, Field force automation and Geospatial analysis
- Established process know-how about Design for Six Sigma, Design for Reliability
- Extensive eco-system for manufacturing, global sourcing, regulatory compliances and validation

## Solution areas

### Home Area Network



- Smart appliance – Demand Response Gateway
- Zigbee-enabled Product Development
- Interoperability Testing

### Advance Metering Interface



- Metering & Communication Solutions
- Meter Design and Manufacturing
- Driver Development for AMI Head Systems
- Integrated Smart Meters
- Meter Data Simulation

Efficient Energy Management Solutions	GIS & Geospatial Solutions	Sensors
 <ul style="list-style-type: none"> <li>▪ Solar and Wind Power Integration</li> <li>▪ Substation and Distribution Automation</li> <li>▪ Efficient IED Engineering</li> <li>▪ Micro-grid Solutions</li> <li>▪ Battery Management Solutions</li> <li>▪ Charging Solutions for Electric Vehicles</li> </ul>	 <ul style="list-style-type: none"> <li>▪ Enterprise Spatial Planning and Analysis</li> <li>▪ Asset Management and Tracking</li> <li>▪ Spatial Business Analytics (Dashboard)</li> <li>▪ Field Force Automation (Mobile GIS)</li> <li>▪ Remote Diagnostics Solutions (SCADA+GIS)</li> <li>▪ ERP + GIS</li> <li>▪ Cloud GIS</li> </ul>	 <ul style="list-style-type: none"> <li>▪ Smart Sensor Solutions &amp; Analysis</li> <li>▪ Sensor Design and Development</li> <li>▪ Sensor Network and Automation</li> <li>▪ Special Purpose Utility Sensor</li> </ul>

### Value proposition

- Product innovation using advanced technology solutions, evolving smart grid standards, emerging market needs, Interoperable solutions
- Compliance to Smart Grid security, safety and environmental regulations
- 30-40% reduced time-to-market through modular and reusable designs
- 30% savings through field operations automation

### Case examples

- Design and development of pre-paid add-on module for energy meters using unique pre-paid encryption and decryption algorithm
- AMI Head System: Design and development of AMI head further to integrate with enterprise systems
- HMI Development - Power sub-station automation: Customized embedded platform to monitor and control the power substation remotely using SCADA and web based GUI. The protocol supports IEC60870, IEC61850, DNP 3.0, Modbus, Hydran, LTCMap etc.
- Energy meter data simulation: Simulation of real-time meter data based on different type of load scenarios leading to 60% faster and scalable testing of smart grid components
- Field force automation system: Development of a mobile-based GIS field data collection system for a government agency resulting in 50% reduction in field effort
- Asset information management system: Development of web-based spatial information management system for a government agency reducing the cycle time by 30%

### Contact

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