

# Smart Grid Relies On Energy Delivery Systems

The Smart Grid has reached its “tipping point.” The conceptualizing, investigating, planning and piloting of ‘the Smart Grid’ has reached critical mass; a point of change has occurred. Smart Grid implementations are happening, taking advantage of choice technologies (field, network, communication, software and hardware) and available industry implementation expertise. Today, a utility defines a Smart Grid implementation strategy using a family of Smart Grid applications such as: Advanced Metering Infrastructure (AMI), Meter Data Management Systems (MDMS), Demand Response (DR) and Home Area Networks (HAN), Distribution Management Systems (DMS), Substation Automation (SA), and Distributed Automation (DA).

## Synergy of Smart Grid and Energy Delivery

Smart Grid is a common industry term that is becoming increasingly familiar to the public. Not all that long ago, the concept of the Smart Grid was just forming. Since then, through the advancement of technology and the converging of its components, the Smart Grid is a mature suite of technologies being implemented across utilities, to the extent that many public utility commissions are regulating Smart Grid studies or activities. In addition, many utilities are receiving funding from external sources for implementation phases!

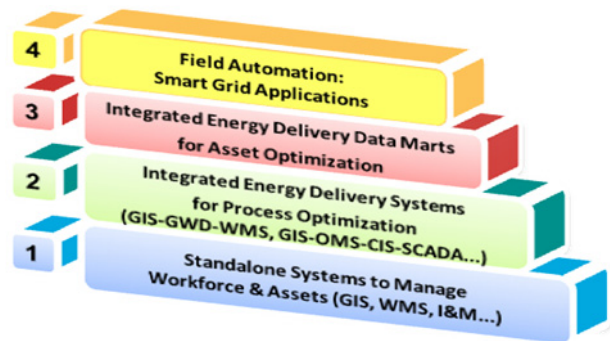
### Energy Delivery Systems include:

- Geographic Information System (GIS)
- Outage Management System (OMS)
- Enterprise Asset Management (EAM)
- Mobile Workforce Management (MWM)
- Work Management System (WMS)
- Inspection and Maintenance (I&M)
- Customer Information System (CIS) and Billing
- SCADA

Effective implementation of a “Smart Grid” depends on energy delivery systems and Smart Grid systems operating synergistically; the Smart Grid systems rely on the energy delivery systems. The necessity for this interrelated system environment is becoming apparent as utilities define the business case and requirements for Smart Grid implementation. In parallel, utilities are finding that their foundational energy delivery systems are not in place, not integrated, not producing or are in need of updating. Utilities are discovering that these traditional energy delivery systems are the supporting systems for a Smart Grid implementation; if these systems do not function properly or produce the supporting information, it is premature to launch a full fledged Smart Grid implementation.

## Four Levels of Systems and Integration Maturity

As the figure below illustrates, there are four (4) major levels of system and integration maturity. This maturity model is made up of the supporting energy delivery systems discussed above. As the maturity of system implementation and integration proceeds from standalone systems (Level 1) to integration of Smart Grid applications (Level 4), the utility will reap increasing benefits. But this all assumes that the foundational systems are performing as needed.



Increasing Levels of System & Integration Maturity

## Smart Grid Relies On Energy Delivery Systems

### Enspira Solutions Experience and Expertise

The Enspira Solutions team of professionals provides skills in both energy delivery and in Smart Grid design and implementation. Using our expertise in the traditional energy delivery systems, Enspira continues to work with clients on the implementations, integrations and improvements of these systems and with other systems.

In addition, Enspira offers data management services; we help utilities refresh their geographic data or bring in additional data in order to improve the spatial data's accuracy and completeness. We have also developed a spatial business intelligence tool to enable the easy compilation, analysis, and presentation of multiple data bases without costly integration, using commercial tools. This tool has been used as a field metrics tool to track an AMI implementation or, in another case, to obtain metrics used during the factory acceptance testing process.

To complement the energy delivery expertise, Enspira's team also includes expertise in Smart Grid implementation, technology, architecture, and integration. Within numerous client engagements, our teams have driven efforts to develop business cases, support regulatory requirements, create RFPs, participate in vendor selection, provide program/project management including sub-contracting, provide 3rd party testing, and have led the integration of various Smart Grid systems, e.g. AMI and MDMS.

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Our success is satisfied clients.

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