Smart Grid Solutions
Flexible. Forward.
At Itron, we understand that the utility business is complex and evolving. Smart grid development has underscored the need for deep industry expertise and comprehensive solutions. Today, the power grid discussion is much broader. It must address the whole energy delivery system and business model, not just its component pieces.

**ITRON’S PERSPECTIVE: DELIVERING STRONG BUSINESS VALUE THROUGH PROVEN, END-TO-END SOLUTIONS**

The smart grid will span the entire energy delivery system—from the customer premise through the distribution network, up to the utility enterprise, and back to transmission and generation resources.

The end goal is clear: full integration across the energy delivery system. Piecemeal product selections of the past must give way to more complete, comprehensive smart grid solutions. These smart grid solutions must be flexible enough to respond to different operating environments, business priorities and investment goals. Itron has a unique role in executing on this broad vision.

**MAKE DATA COUNT**

Timely and actionable data comprise the heart of the smart grid—so much so that the breadth of data generated by the smart grid necessitates a reimagining of data management tools.

Big data will create real, measurable value. But only if we can effectively measure, manage and analyze electricity usage in ways that increase operational efficiency, enhance security and reliability, and engage consumers. Itron has decades of data management experience. We’ve built our business on achieving precisely these objectives and more.

**ITRON’S LEADERSHIP**

- More than 12 million OpenWay® meters installed and in service
- Itron + Cisco IPv6 architecture deployed and operating in field
- 150 utility customers using IP-based cellular communications platform
- Multi-application networks in operation: AMI, distribution automation and demand response
- Millions of utility truck rolls avoided and carbon emissions reduced
- Supporting “Green Button” data access for end customers
- 33 million meters under Itron meter data management (MDM) systems
- Over 50 million CENTRON® solid-state meters in the field

**COMPLETE SOLUTIONS FOR COMPLEX CHALLENGES**

Itron solutions merge information and operations technologies to provide you with unparalleled insight into measurement and control activities, network management, system operations, data management and analysis. We make sense of data to give you a much more complete picture of your network and utility operations.

**A Network of Networks: Unifying the Grid**

We tailor our solutions to your unique business challenges. That’s why our communications networks, the heart of our approach to solution customization, adapt to diverse service geographies, performance requirements and business cases.

These standards-based networks range from RF mesh and point-to-multipoint to cellular communications. They provide the platforms you need to optimize cost, coverage, capacity, security, operational integrity and reliability. And because our smart grid solutions can operate on one of these networks alone or in concert with other technologies—and evolve as your business needs change—Itron solutions offer you unparalleled choice and flexibility.

**Cellular: Solving the Smart Grid Puzzle**

IP-based cellular networks enable you to strategically deploy your smart grid devices regardless of your service territory geography. It can be used to fill coverage
gaps; be combined with RF mesh; or deployed as a standalone solution. Cellular provides options to minimize up-front capital investment, while still providing an IP smart grid infrastructure.

**Open Standards: Encouraging Innovation and Integration**

Accelerate adoption, simplify deployment, reduce the total cost of ownership and promote integration with our open, standards-based smart grid architecture. Although the need for this common architecture is clear, only one alliance has produced a true IPv6 platform that enables enterprise-class, multi-application capabilities and device interoperability: Itron + Cisco.

Think of it as “enterprise networking for the smart grid.” Multiple smart grid applications and devices can “plug and play” over a common communication infrastructure, eliminating the need for proprietary or vendor-specific integration. This interoperability is vital to our smart grid future, since many of the technologies that will drive the smart grid have yet to be developed.

**Start Today. Plan for Tomorrow.**

Enjoy safeguards against changing regulatory and business environments with built-in migration paths. Reap the benefits of new technological advancements and innovations as they become available. That philosophy has always been at the heart of Itron’s business solutions.

The tradition continues. Our newest CENTRON meter gives you traditional AMR capabilities out of the box. But it also provides an easy migration path—a bridge—to become a full OpenWay smart meter that leverages Cisco’s IPv6 architecture. This migration can take place via an over-the-network upgrade and firmware download with no need to revisit the meter.

A fundamental change to the traditional smart grid deployment model, this meter reduces your investment risks. You get immediate operational and business benefits, while ensuring that assets installed today are not stranded by a rapidly changing business and technological landscape.

**Itron Smart Grid Solution Benefits:**

- Fundamental meter-to-cash business tools, including AMI, AMR and prepayment
- A dedicated Professional Services team
- A native IPv6 communication architecture for full Internet Engineering Task Force (IETF) services, including scalability to tens of millions of devices, and standardized network management, message prioritization, quality of service and network security
- A standards-based architecture to support future advanced distribution system analytics and applications
- High-performance, two-way network communication through radio-frequency mesh
- IP-based network communication that runs over existing cellular networks and enables rapid, secure and highly scalable deployment for a range of smart grid devices
- State-of-the-art advanced metering capabilities: reduce truck rolls with remote disconnect/reconnect; enhance visibility into system health with robust outage and theft detection; streamline operations with remote firmware downloads and reconfigurations; protect system assets, hedge against high wholesale energy costs, and manage peak load with support for dynamic rate structures and load-shifting via peak-time rebates
- Distribution automation and intelligence support, by leveraging a communication network which supports asset monitoring and optimization, grid awareness, and integrated Volt/VAr control
- Ensure grid stability by integrating distributed energy resources (DER), such as solar and wind, enabled through submetering and control solutions for

![Unified Smart Grid Network](image-url)
greater visibility into distribution system asset performance and load characteristics

» Active smart grid analytics (ASA) software tools for revenue assurance, power quality, and transformer loading that help you manage, interpret and act on diverse smart grid data

» Customer engagement through integrated home area network (HAN) communication for gas meter reading, data presentation, demand response, dynamic rates, direct load control and EV smart charging with support for a variety of standards-based Smart Energy communications protocols

» Greatly simplified integration with Itron’s meter data management (MDM) solution or third-party systems

OUR HERITAGE. OUR VISION.
You don’t have to compromise on business solutions limited to one piece of the energy delivery puzzle, or those that may not weather the test of time. Choose instead the long view, as we have. Itron’s smart grid expertise is preceded by decades of utility industry innovation and partnerships built on trust, integrity and proven results. We’ve created a data-driven value chain that combines the best in measurement, communications and control. Deployed at scale and fully integrated across the enterprise, our solutions enable you to focus on driving new business value today and tomorrow.

PARTNER WITH US
Itron is a global technology company that specializes in measuring, managing and analyzing utility data. We’ve listened intently to you, our customers, to develop and offer complete, comprehensive solutions that target your most essential business needs and help you overcome your most significant challenges. We believe in technology that enables energy efficiency, reliability and resource conservation by extending intelligence from the metering and distribution system to those who use, own and operate it—utilities, businesses and consumers.

Smart grid technology is integral to our energy future. Partner with us as we build flexible, forward-thinking smart grid solutions that deliver immediate benefits and evolve at the speed of innovation.

SUCCESSFUL SMART GRID PROJECTS

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<tr>
<th>Company</th>
<th>Description</th>
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<tr>
<td>CenterPoint Energy</td>
<td>Over 2 million meters installed and 3.5 million truck rolls avoided, 20,000 connect/disconnect service orders performed in a single day in the summer of 2012. With the help of smart meter data, the Houston-area winner of the Biggest Energy Saver campaign was able to reduce energy consumption by 36 percent.</td>
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<td>San Diego Gas &amp; Electric</td>
<td>More than 2.2 million of 2.3 million meters and gas endpoints installed. 2012 POWER Smart Grid award winner. Enabling robust consumer engagement with Itron Customer Care and HAN pilot projects. Supporting revenue protection, GHG, microgrids and EVs. Standardized access to the energy usage through the Green Button program.</td>
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<td>SunRun</td>
<td>Over 20,000 solar installations utilizing Itron cellular technology to provide customers with same-day distributed generation statistics.</td>
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<td>BC Hydro</td>
<td>More than 1.6 of 1.8 million electric meters installed. Predicting over $100 million in annual savings through the reduction of energy losses.</td>
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<td>National Grid</td>
<td>Driving smart grid innovation through partnership and ecosystem; deploying Itron/Cisco IPv6 architecture and incorporating distribution automation devices and applications over a common network infrastructure.</td>
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<td>Consumers</td>
<td>The first large investor utility to deploy a 100% cellular solution. 1.8 million electricity meters being deployed that support power quality, service disconnect/reconnect and 700,000 gas meters with bidirectional communications.</td>
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<td>Southern California Edison</td>
<td>More than 4.7 million of 5.3 million meters installed. 4 million customers are “program ready” to participate in AMI-enabled programs and services. More than 1 million customers participating in OpenWay-enabled programs such as Budget Assistance Tool and Save Power Days peak time rebate program 2012 Metering International Excellence Award winner for Technology and Innovation.</td>
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