

### Empowering smarter energy choices

The smart grid's communications capabilities enable unprecedented reliability levels. From identifying and preventing potential problems to hastening restoration and repair, utilities have more ways to keep customers up and running.

### The old way:

Potential problems in the electrical grid fester unnoticed until they cause outages. Once the power is out, many utilities rely on customer calls and manual field inspections to determine causes and fixes.

### The smarter way:

Smart grid technologies help utilities improve power reliability through smart devices and applications that adapt in real time. Utilities are able to monitor performance and identify outages, restore power, and precisely dispatch crews. They're even able to identify anomalies that could lead to potential problems. The result: increased "uptime" and happier customers.

Smarter grids  
know how to  
be more reliable



## The facts:

- Power outages cost the U.S. economy more than \$100 billion per year.<sup>1</sup>
- Smart grid technologies could reduce power disturbances by more than 75% by 2020, saving customers more than \$50 billion by reducing outages.<sup>2</sup>

## The Smart Grid can help prevent outages and dramatically improve recovery time

Reliability Challenges	Smart Grid Solutions
Most utilities are unaware of problems on the network until a failure or outage occurs.	Smart grid technologies deliver knowledge that helps identify potential problems in the distribution system, enabling utilities to proactively prevent trouble before it occurs.
Most utilities don't know there's a power outage or a problem until consumers call it in.	Smart grid automation technologies can work in conjunction with smart meters and advanced metering infrastructure to provide real-time knowledge of the grid's status, identifying and alerting the utility to exactly which homes and businesses are out of service — before a customer ever has to call.
After learning of outages, utilities are often challenged to determine the cause of the outage and the best ways to dispatch crews or reconfigure the electricity network to quickly restore service.	Smart grid monitoring and control technologies can help intelligently re-route power on the grid to isolate outages and minimize customer impact. Mobile mapping technologies help utilities immediately direct crews to restore power, moving utilities from guessing to knowing.
Today, most utilities are unable to guide or lead consumers to use electric energy wisely and avoid overloading (or "under-loading") the grid, thereby jeopardizing reliability.	Smart grid technologies can help utilities guide and lead consumers to shift electricity consumption from peak periods to off-peak periods, helping improve grid operation reliability.

<sup>1</sup> EPRI, "Electricity Technology Roadmap: 2003 Summary and Synthesis. Power Delivery and Markets." 2003

<sup>2</sup> EPRI, "Electricity Technology Roadmap: 2003 Summary and Synthesis. Power Delivery and Markets." 2003

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GEA-10001MC (03/09)