The Emergence of the "Smart Grid"

What is a Smart Grid?

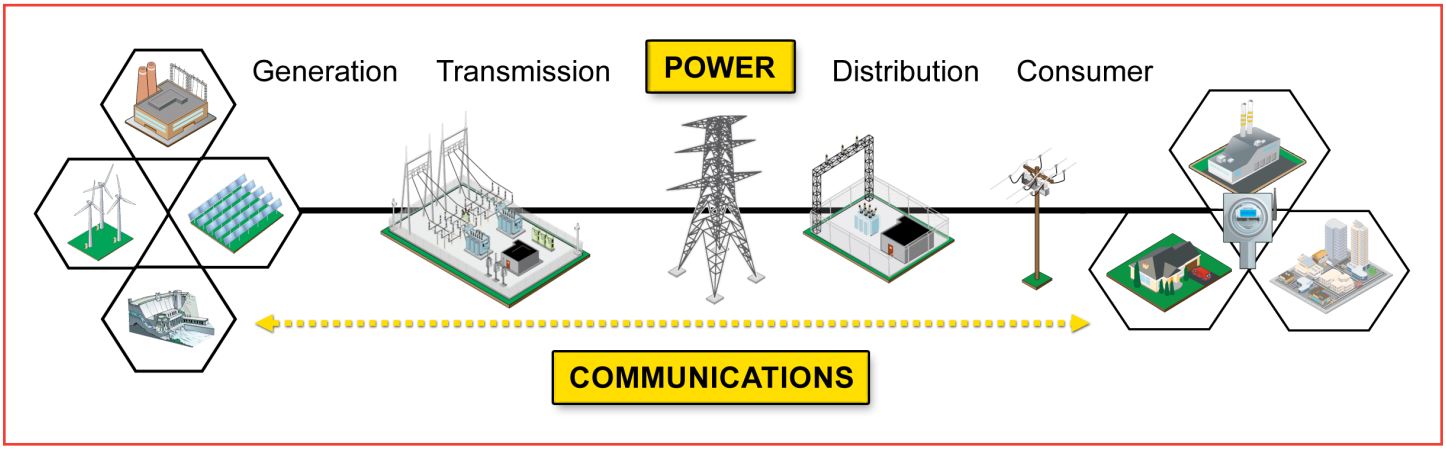
Here's one definition:

"An integrated communications and power system infrastructure which allows for robust two-way communications, advanced sensors, and distributed computers to improve the efficiency, reliability and safety of power delivery and use."

Here's another:

"The integration of communications networks with the power grid in order to create an electricity-communications superhighway capable of monitoring its own health at all times, alerting officials immediately when problems arise, and automatically taking corrective actions that enable the grid to fail gracefully and prevent a local failure from cascading out of control, as happened August 14, 2003 (The Great Northeast Blackout)."

Next to the power system the most critical infrastructure to creating a reliable high-performance Smart Grid is the communications infrastructure.



RuggedGRID - The Information Backbone of the Smart Grid™

RuggedCom has developed communications products and technologies specifically designed to operate reliably in harsh environments such as those found in electric utility substations. These products comprise what we call our RuggedGRID™ solution and are designed to create a reliable and rugged information backbone for the Smart Grid:

- **RuggedSwitch®** family of Ethernet switches which are the choice of over 700 electric utilities around the world for implementing reliable substation LANs (local area networks) for intra-substation communications used in mission critical applications including power system protection and control.
- **RuggedRouter®** family of substation hardened cyber security appliances which provides protection against cyber attack of the Smart Grid and a secure method for implementing inter-substation communications across the Smart Grid using a variety of media and technologies. RuggedCom products are designed to provide the information backbone of the Smart Grid.
- **RuggedBackbone™** multiservice switching and routing platform which combines the best of RuggedSwitch® and RuggedRouter® in a modular, hot-swappable, high-port density architecture.
- **RuggedWireless™** family of substation hardened wireless products which include cellular, Wifi and WiMAX technologies. These products allow communications over widely dispersed locations from pole tops to substations and enable such applications as: AMI, Distribution Automation, SCADA and Mobile Workforce.

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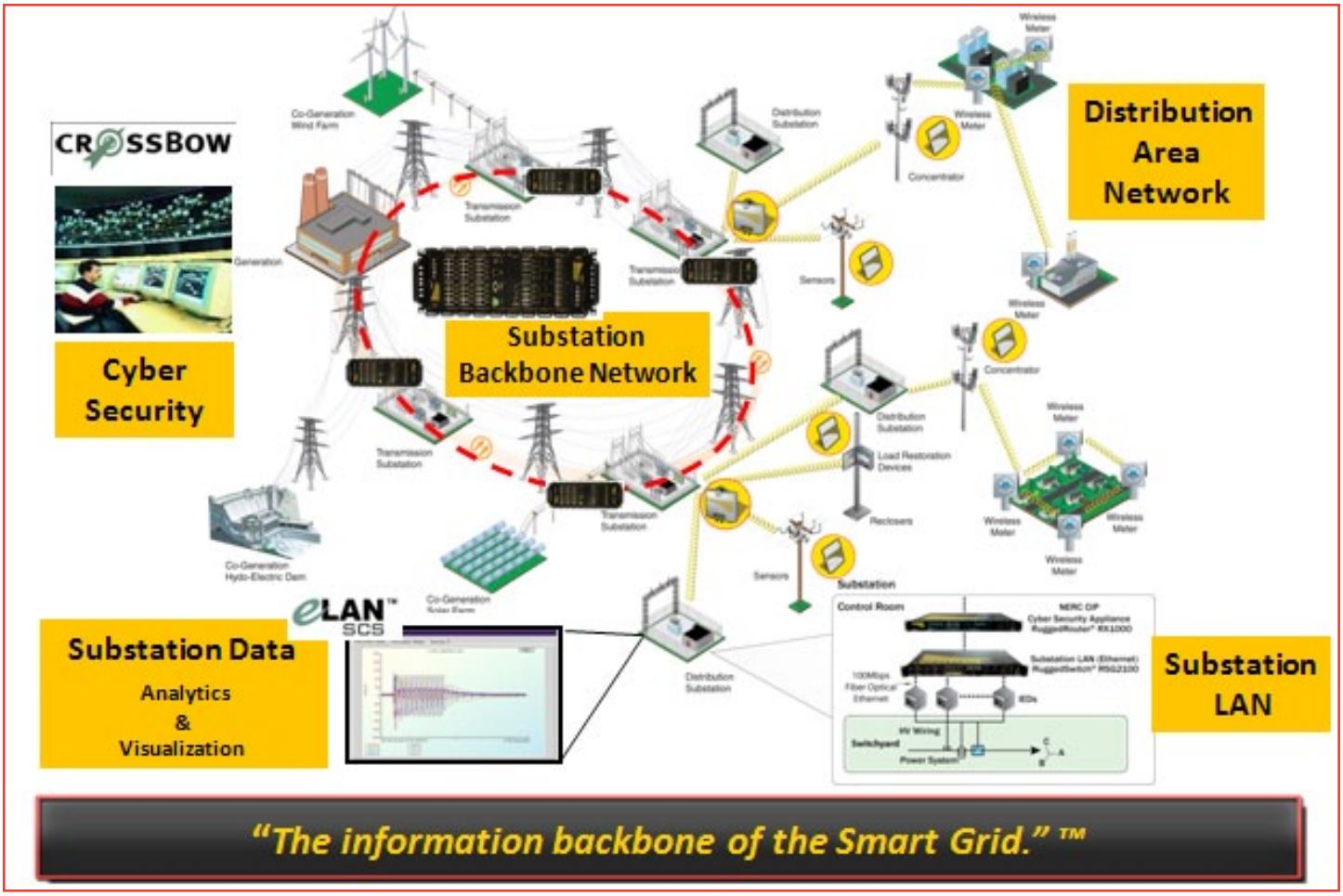

RuggedGRID™ - means Utility Grade communications

The RuggedGRID solution provides communications that is Utility Grade which means it has the following characteristics and performance levels:

- Substation Hardened: IEEE 1613, IEC 61850-3
- Zero-packet-loss™ under EMI stress (KEMA tested)
- IEEE 1613 Class 2 performance (KEMA tested)
- Extended Temperature: -40 to +85°C
- High reliability: MTBF > 1,000,000 hours
- High availability: > 99.9999%
- Wireline & wireless for WAN, MAN, NAN and LAN
- Standards based: e.g. IEEE, IEC, IETF, NERC

RuggedCom... Enabling the Smart Grid™ | www.RuggedGrid.com

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