

Smart Grid
Devices



ADVANCED
COMMUNICATION
NETWORK



DATA
COLLECTION
ENGINE

SmartSynch, Inc.

SmartSynch's Smart Grid technology provides utilities and their customers with the unprecedented power to take control of their resource usage. SmartSynch's core product, the SmartMeter™ System, delivers actionable intelligence (critical usage and rate data) from electricity meters via cellular networks and the Internet.

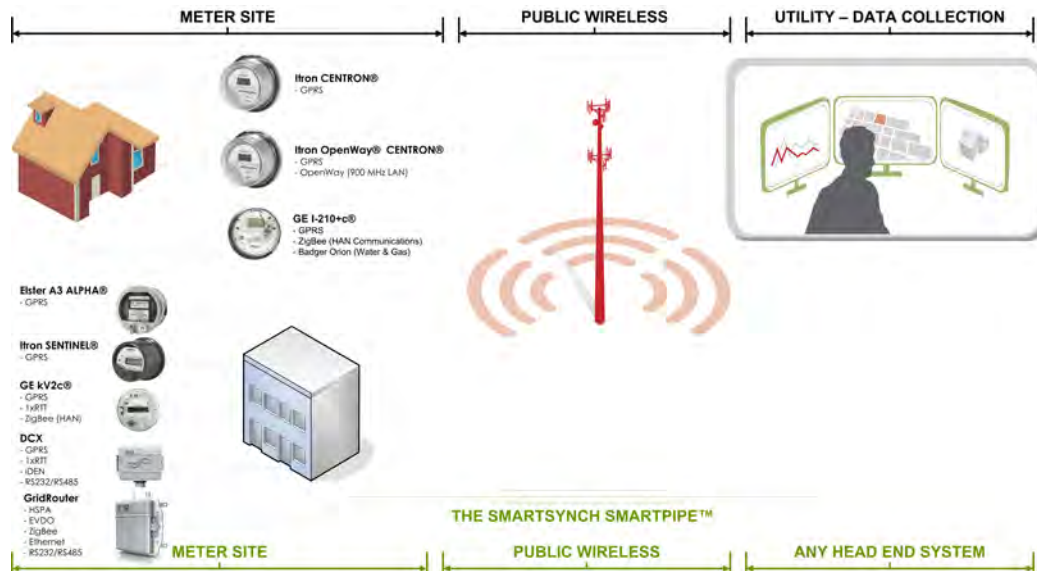
SmartSynch's Advanced Metering Infrastructure (AMI) solutions for residential, industrial, and commercial applications engage utilities and users in a real-time dialogue with the information each needs to effect change by making economically and environmentally intelligent choices. The results are optimized energy consumption, reduced operating expenses, superior efficiencies, and vastly improved customer service, delivering a compelling Return on Resources (RoR) and ensuring an economic value-added contribution to utility operations.

SmartSynch's SmartMeters™ and SmartBoxes™ are faster and easier to deploy, more scalable, and highly secure, offering greater data assurance and recovery with superior accuracy to respond better to today's needs and tomorrow's opportunities than any alternative.

The SmartMeter™ System

The SmartMeter System is an end-to-end solution that manages the access and delivery of metering information. The system includes three primary components: IP-Enabled Smart Grid Devices, a Cellular Network, and the Data Collection Engine (SmartSynch's TMS or other meter manufacturer's head-end software application).

The SmartMeter™ System Architecture



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SmartMeters

SmartSynch SmartMeters and SmartBoxes have embedded and enhanced data-gathering and reporting functionality. A SmartMetering device is defined as a traditional electronic meter that has SmartSynch's technology embedded inside. SmartSynch technology interfaces several leading meter platforms, including the Elster A3 ALPHA®, the GE I-210+c® and kV2c® and the Itron SENTINEL® and CENTRON®. All components of the SmartMeter device are encased under-glass, resulting in the most efficient and lowest-cost installation of any product currently available. Additionally, SmartSynch utilizes advanced compression and encryption techniques to deliver superior economics and data/device security to its customers via the cellular network.

SmartBoxes

SmartSynch's SmartBoxes support applications such as load control, SCADA, distribution automation, steam monitoring, power quality monitoring and more. The GridRouter™ is available with up to four Field Replaceable Units that may be replaced as technologies evolve, enabling several different networking options, including Wide Area Network (WAN) cards, Local Area Network (LAN) cards and Home Area Network (HAN) cards. Other cards can be made available to utilities to support other monitoring and control applications as needed. The GridRouter™ and DCX™ support smart metering programs such as demand response, time of use (TOU), real-time pricing and real-time collection of register, load profile and power quality data. These small, low-cost communications devices bi-directionally transmit data using any protocol or messaging scheme over any existing IP-enabled work automation system or head-end application. Most SmartBoxes can provide transparent multi-connection capability via Ethernet, RS-232 (4 connections) or RS-485 (32 connections) to best optimize cost for solutions requiring connectivity to multiple devices.

Advanced Communication Network

SmartSynch uses cellular networks to enable two-way communication between each SmartMeter device and the data collection engine. SmartSynch manages and provides these network solutions through relationships with major carriers and service providers.

Data Collection Engine

SmartSynch offers the Transaction Management System, a unique software application that seamlessly interfaces our advanced meters to key utility information systems (for billing, outage management, etc.), leveraging public wireless networks as the communications medium. This enterprise software system was designed using the latest software standards, is scalable to millions of points, and can be easily adapted to communicate with other devices. SmartSynch's TMS software is offered as a direct license into an IT enterprise or as a hosted solution.

SmartSynch also offers the SmartRouting Solution™ (SRS) so it can seamlessly and cost-effectively enable smart meters from different meter manufacturers to interoperate across the same or different networks while allowing users to interface to third-party C12.21 communication applications.

Key Features and Functions

- Real-Time Interval Reads and Retrieval
- Flexible Two-Way Data Retrieval
- Power Quality Monitoring
- Real-Time Power Outage and Restoration Alarms
- Meter Diagnostics, Alarms, and Alerts
- Over-The-Air SmartMeter Module Firmware Upgrade
- Demand Threshold Monitoring and Alarms
- Automated Meter Registration
- Load Profile Read/Energy Usage Retrieval
- Register/Billing Read
- Tamper Detection Alarms
- ANSI C12.19 Compliance
- Secure Remote Meter Access via Advanced Networks
- Critical Peak Pricing (A3 only)
- Meter Display Manipulation with built-in coverage status

Regulatory and Industry Specifications

SmartSynch SmartMeters are fully certified by a variety of leading industry standard testing organizations including:

- The Federal Communications Commission (FCC)
- The American National Standards Institute (ANSI)
- International Engineering Consortium (IEC)
- Industry Canada
- Measurement Canada
- Cellular Telecommunication Industry Association (CTIA) certification for GSM/GPRS

About SmartSynch: Headquartered in Jackson, Miss., SmartSynch has been developing successful Smart Grid Intelligence solutions for the utility industry since 2000. The company's clean-tech innovations in the two-way delivery of real-time energy usage data over cellular networks, in lieu of private network build-outs, have to date simplified SmartMeter deployments for 150 major North American utilities, while enabling green-energy initiatives and delivering significantly higher Returns on Resources.

Unlike proprietary, closed-architecture solutions, SmartSynch's SmartMeters represent future-proof investments in technology. The standards-based IP connectivity enabled in every SmartMeter deployed makes them adaptable and remotely upgradable to support today's sensor and communications needs, as well as tomorrow's opportunities, better than any alternative.