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5 Customer benefits of switching from PLC to AMI

The power of member experience.

Introduction

It’s a two-way street.

In today’s energy marketplace, the customer is more powerful than ever, striving to be educated and make informed decisions. Many businesses are responding accordingly by elevating the customer experience (CX), which promotes trust and loyalty, ultimately improving overall customer satisfaction.

Even though you’re not in competition with others to deliver electricity to your members, the customer experience still matters. When you make decisions that result in better operations, reduced costs and safer conditions, members will take notice. However, the ever-savvy customer also wants some say in managing their own budgets when it comes to energy use. Therefore, it’s essential to enable them with the right insight, tools and knowledge to take control.

You and your members are part of the same community. So, when you take steps toward energy conservation and efficient operations, it affirms your commitment to sustainability—and that is good for everyone.

How can a smart grid with AMI (Advanced Metering Infrastructure) ensure the best member experience possible—while doing what’s best for your business? **Read on.**

1 Reliability

Reliability generates confidence.

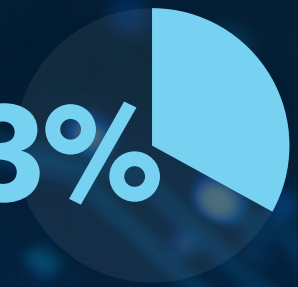
Let's face it, your members really just want their lights to stay on. They look to you for consistent power delivery and quick restoration after an outage. With Power Line Carrier (PLC) technology, you don't realize that there's an outage unless the phone rings or until your system actively polls the meters. Essentially, you have to request that the meter send you data. And with no proactive or autonomous meter data, insights become reactive (based on consumer conditions)—and slow. Even after power is laboriously restored, a PLC system has trouble communicating a full picture of current conditions until polling is complete—"Is it on? Is it on?" And it's not just outage restoration that's impacted.

AMI delivers near-real-time alarms, more granular data and improved power quality.

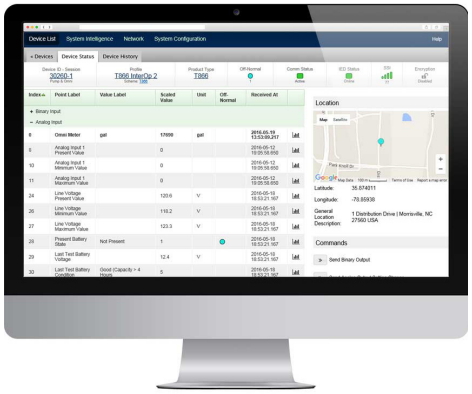
Moving from a wired PLC system to wireless AMI, especially a system employing a point-to-multipoint communication network like FlexNet®, enables you to be proactive. This system provide access to real-time data, allowing your utility to see every end point and send trucks directly to where they're needed. When there's a large-scale fault, for instance, caused when falling trees knock down several power lines, the repair crew may only fix one issue and then leave the area. The crew may have mistakenly believed that service farther down-line has also been restored. But if there was an offshoot power line that was also knocked out (nested outage), the crew may not have known about this additional service issue. Hence, the restoration message capability of an AMI system is critical.

In an AMI system, when power is restored, the meter sends a message to the utility saying, "Power is on." These messages (or lack thereof) allow utilities to direct crews to pinpointed problem areas. Moreover, a point-to-multipoint network doesn't need the rerouting time that's required of mesh systems to accommodate meters that don't have power.

With the FlexNet® communication network,
your members will see their power restored



quicker after an outage.



Distribution automation

Distribution automation (DA) has become an essential tool for quickly identifying and isolating grid faults. But a DA system is only as reliable as its communication with devices in the field. By adding DA to a low-latency point-to-multipoint network, you are now able to reroute power and minimize the number of members affected by an outage.

Be more reliable

- Significant reduction in the duration of outages
- Proactive outage and restoration messages to members
- Ability to identify momentary outages and address with vegetation management, preventing future large-scale outages
- Improved power quality with ability to monitor voltage and adjust as needed (no blinking appliances or damaged equipment)

"With real-time data provided by the Sensus AMI system, we could streamline the outage management process and offer a superior level of service to customers. The solution also freed up staff time and made us more efficient across our operations by adding advanced capabilities, such as remote disconnect of meters."

Chad Foreman
Director of IT, Comanche Electric Cooperative

2 Safety

Improved safety means members can rest assured.

There are lots of reasons people have trouble sleeping at night—but concerns about electrical safety shouldn't be one of them. **Unlike a PLC system, an AMI system can quickly alert the utility to a potentially dangerous situation. In some cases, the smart meter can address the problem immediately.** For example, if there is a loose connection between the meter and the socket, arcing can occur, which can create a potentially dangerous overheating situation.

To combat hot sockets, the Sensus Stratus IQ™ meter is equipped with a Temperature Auto Open function that detects abnormally high temperatures and immediately shuts down the meter, alerting the utility in the process. This is a great real-world example of grid edge intelligence. The meter has the ability to take action based on current conditions, without waiting for the information to be routed to the utility headend to then instruct the meter to open—a critical feature when time is of the essence.

Other preventative safety measures that can be enabled by an AMI system and the right smart meter include open-neutral detection, tilt detection and meter bypass. For example, when a meter pan mount fails, causing it to lean, wires can be left exposed and/or strained—thus creating a dangerous situation. But with tilt detection, if the tilt reaches a certain threshold, the meter notifies the utility to take action.

Meter bypass—or energy theft—is both a fire and safety hazard that can also be thwarted by a smart meter, such as the Stratus IQ.

Stay safer

- Hot-socket detection with Temperature Auto Open grid edge intelligence
- Identification of open-neutral problems
- Meter alarms to alert the utility to potentially dangerous situations

3 Engagement

Member engagement breeds trust.

Regardless of the industry—from shopping and dining to healthcare and investing—technology has empowered the consumer. And although utilities are not completely parallel to other goods and services, the delivery of power has not escaped the current CX-driven marketplace. People want to be informed, and they want control (even if it's just perceived). So effectively engaging the utility customer isn't just essential, it's expected.

When it comes to your grid, an AMI system delivers member engagement. Real-time communication means energy consumption data is immediately available for customers to access in a customer portal or through messaging alerts. Texts can be configured to notify customers if they are surpassing a pre-set usage threshold or if there is an area outage.

The two-way data and near-real-time insights of an AMI system also open the door to various customer billing options. You can provide members with choices through time-of-use plans, pre-pay alternatives and flexibility in due dates.

Ryan Goolsby,
Senior Engineer, Hancock-Wood Electric Cooperative

Increase engagement

- Deliver consistent, accurate information daily
- Allow for member-friendly, pre-pay programs
- Make time-of-use rate pricing possible
- Reach out to members in real time
- Enable proactive outage response

"We went from getting one meter read per month to 3,000 per month with the Sensus AMI system. It instantly removed so much guesswork for our technicians as they monitored and managed meters."

4 Savings

Next-gen AMI fuels savings.

Cost control is essential for the success of any business: Spend less than you earn and be as efficient as possible with necessary expenditures. Most individuals embrace this same paradigm, so to have some impact on their own energy costs is very empowering for members.

With the real-time visibility and control that an AMI system brings, operational efficiencies can make a huge impact on your bottom line. Not only can your members benefit from these passed-on savings, but they can also take a proactive role in reducing their own usage costs.

Some AMI system capabilities, like Volt/VAR Optimization or Conservation Voltage Reduction, let utilities precisely raise and

lower voltage on demand. During a peak load event, the utility can lower voltage to an acceptable level and not have to spot-purchase electricity at a higher rate. This results in cost savings for you and positively affects every member—even if they don't realize it.

Others, like time-of-use rate options, which allow for different billing rates depending on time of consumer use, put power into the hands of your members to control their energy costs.

See savings

- Precisely raise and lower voltage on demand for significant cost savings
- Implement new rate structures by increased interval data
- Deliver incentives to control energy use and expenses
- Align customer actions with energy consumption through time-of-use rates, pre-pay and other behavior-based programs
- Realize operational efficiencies that cut costs, like significantly fewer truck rolls

5 Sustainability

Better solutions today for a better tomorrow.

An AMI system with a robust point-to-multipoint architecture, like the Sensus FlexNet® communication network, frees your utility from current limitations. With the improvements enabled by an AMI system, including greater visibility and control over your system, your grid can evolve with technology. **From the possibilities that distributed energy resources and electronic vehicles will bring, to integrating utility-scale and behind-the-meter solar to your grid, AMI allows for near-real-time actionable data to optimize your operations.**

Preparing for the future goes beyond readiness for tomorrow's grid technology to environmental sustainability. Just by having a smart meter installed, carbon emissions are reduced, even without making changes to how energy is used at the home. Plus, smart meter data helps utilities better manage the supply and demand of energy, ultimately reducing waste.

An AMI system allows your utility—and members—to take steps in the right direction by creating a powerful foundation for building a more efficient and environmentally friendly world.

Be more sustainable

- Reduce CO^2 emissions
- Minimize energy consumption
- Enable energy efficiency programs
- Create a foundation for integrating renewable energy

Two-way flow

With the Stratus IQ+ smart meter, your utility can look at bi-directional energy flow, giving you the ability to effectively address reverse energy and determine member credit.

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Why Sensus for the smart grid?

Every day, you're living the reality of an increasingly digital distribution system. You need real-time information from smart meters, sensors and other devices—plus the analytics to make sense of it all. You are clear on the vision but worry about how to pull it off with aging infrastructure. Rest easy. Whether you're just starting out or you're deep into your journey, we scale to meet your needs.

Let's build smart connections to solve energy.

To learn more about how migrating from PLC to next-gen AMI can improve the customer experience for your members, visit **sensus.com.**

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