Landis+Gyr

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Smart Metering - Smart Grid - Smart Community

As an exhibitor at the upcoming 2011 Metering, Billing, CRM Europe conference and exhibition, we welcome you to join us in Amsterdam to experience our leading edge, proven smart metering software and hardware, our future-proof technological innovations, and to learn more about our deployed smart metering projects. At this year's exhibit, we will showcase our smart metering contributions and introduce the latest version of Gridstream – our comprehensive end-to-end smart grid solution.

As a continuation of our focus on Smart Metering, Smart Grids, and Smart Communities at Metering Europe, in this issue of *update* you will learn about our innovative smart metering projects in Finland, Germany and South Africa. You will also see how we consider Smart Metering as the essential first step and foundation for the smart grid. With the protocol for the 'internet of things' and a cooperation with the Swiss-based iHomeLab, we have been steadily preparing for the transition to the smart grid and the smart community. The ideological smart community encompasses not only smart technological advancements, it also defines people and changes in end-consumer behavior: Energy customers need to be engaged in the management of their energy consumption and convinced of the benefits of participating in energy conservation initiatives. Our recent collaboration with Finnish utilities on the creation of a Smart Metering Guide illustrates our commitment to finding ways to inform and educate consumers to make such energy saving programs personally relevant.

We hope this issue of *update* will make you hungry for more "live" information. If you have the opportunity, please visit the Landis+Gyr team at our expo (Hall 1, Stand C3) at Metering Europe and allow us to further share our vision about the future of energy management.

Andreas Brun
Senior Vice President Sales & Marketing
Landis+Gyr EMEA

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Focus article

Join Us in Amsterdam for the 2011 Metering, Billing, CRM Conference & Exhibition

In a few days, the leading event for our industry, Metering, Billing, CRM Europe, will open its doors. This year we will be present with an even smarter booth. Our 2011 motto in Amsterdam: Smart Metering – Smart Grid – Smart Community.

As the global leader in integrated energy management solutions, we feel it's our responsibility to think beyond the deployment of smart meters. We at Landis+Gyr are convinced that smart metering provides the foundation for more fundamental changes in the way in which modern societies manage energy. The large-scale deployment of smart meters is the cornerstone for the development of smart grids. These intelligent distribution networks are a necessity to take further steps towards a sustainable future – to include the integration of energy from renewable sources on a meaningful scale.

Building smart and sustainable communities

Together with the Toshiba Corporation, our new parent company, we are thinking this development through to its logical conclusion. Smart metering defines where the smart grid meets the smart home and around which the smart community will evolve. It is a complex concept broader than simply the connection of the smart grid to electric vehicles and washing machines. A smart community incorporates energy supplies, energy efficient and environmentally friendly transport, security solutions, as well as medical services and waste management. We believe that by integrating of all these aspects of smart technology into a smart community we are working towards a bright future. At the upcoming Metering Europe conference in Amsterdam, Landis+Gyr together with Toshiba will prove that this is not only a fancy vision. We are looking forward to meeting our customers and partners to let them experience our leading edge, proven smart metering software and hardware, our future-proof technological innovations, and to provide them further insight on our deployed smart metering projects. One of our highlights will be the latest release of Gridstream – Landis+Gyr's comprehensive end-to-end smart grid solution.

As the most experienced smart metering partner, Landis+Gyr is, of course, one of the main players at the conference too. We will present on various customer projects, such as our smart metering experience with E.ON Finland, Sibelga in Belgium and IBERDROLA in Spain. Additionally, we will provide the opportunity to learn more about the IDIS Association – our platform for interoperability.

When smart becomes bright – this is the exciting vision of the future that we would like to share with you at the Metering Europe in Amsterdam.

http://www.landisgyr.eu/en/pub/about/events.cfm

Smart Grid Projects in Europe

A survey by the JRC Institute for Energy

The Institute for Energy, part of the Joint Research Center (JRC), one of the Directorates general of the European Commission has published a report about a variety smart grid projects currently underway in Europe. The report results from a direct request from Directorate-General for Energy (DG ENER) in effort to develop a catalog of Smart Grid projects in Europe, provide data on the results of those specific projects, and use that data to support the analysis of trends and developments.

According to the JRC report, investments in Smart Grid projects in Europe amount to about €5.5 billion so far. These figures show that important efforts have already been undertaken, but that we are just at the beginning of the Smart Grid transition. Estimates by Pike Research [Smart Grids in Europe, 2011], quantify Smart Grid investments by 2020 at €56 billion.

67 % of the investments in the JRC catalog are attributable to Distribution System Operator-led projects. A large share of these investments are concentrated on smart metering. The projects in the catalog will result in the installation of more than 40 million smart meters across Europe.

While the member states of Sweden, France, Malta and Finland are leading the investments in the deployment of smart meters, the deployment of 32 million smart meters in Italy is the largest project covered by the report. Enel started to deploy meters as early as 2001 as part of the Telegestore project, and by the end of 2006 approximately 30 million meters had already been installed.

Encouraging chance

A large market test carried out at the beginning of 2008 in Italy shows that the deployment of smart meters and in-home displays encouraged 57 % of the involved customers to change their behaviors. With the Telegestore project, Enel has gained approximately €500 million in yearly savings, with a five year payback period, and a 16 % internal rate of return. Enel

estimates that at national level, the introduction of time-based rates, made possible by the roll-out of smart meters, could reduce energy consumption by 5–10 % and shift 1 % of the energy demand to low peak load times.

Another large smart metering project in Italy is the rollout of more than one million smart meters for Acea Distribuzione in Rome. Landis+Gyr supplied the high accuracy bi-directional meters as well as smart grid applications like the ability to monitor low and medium voltage lines automatically. This system is designed to be extended to gas and water meters.

Sharing knowledge across the Union

Turning to the big picture, the JRC report notes that most projects and investments are located in the “old” EU Member States (EU 15). The Central and Eastern European Member States are lagging behind. Accordingly, it warns: “The different pace at which Smart Grids are deployed across Europe could make trade and cooperation across national borders more difficult and jeopardize the achievement of the EU energy policy goals.” The authors emphasize the use of knowledge

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sharing and the dissemination of lessons learned from other countries to help avoid such future challenges.

The report also draws attention to the distribution of projects across the stages of the innovation process. Deployment covers the lion's share of investment commitments: 7 % of the projects account for almost 60 % of the investments. R&D and demonstration projects account for a much smaller share of the total budget: most of these projects are small to medium sized, with an average budget of €4.4 million for R&D projects and about €12 million for demonstration projects.

Wanted: Smart regulation

Last but not least, the JRC authors take a look at the regulatory situation. They come to the sober assessment that the current regulatory framework is a hindrance to the quicker deployment of smart grid technology. Current regulation provides network operators with the incentive to reduce operating costs rather than making investments in a smarter system. The JRC advises: "The regulatory incentive model should be revised in order to accelerate the investment potential of network operators." ■

Customer projects

Kuopion Energia's multi-energy metering solution

Kuopion Energia has adopted Landis+Gyr's versatile smart multi-energy metering solution. The solution offers Kuopion Energia a wealth of benefits and allows the network company to get the most out of the data produced by smart metering without worrying about costs or system maintenance. Landis+Gyr Smart Metering services for operating and maintaining the system are contracted for 10 years and provide the utility with accurate metering data to their Customer Information System, power quality reports and on-demand services.

Kuopion Energia is a consolidated corporation owned by the Finnish city of Kuopio. It has about 50,000 electricity customers and about 5,000 district heat customers. The complete smart metering solution, scheduled to be delivered to the utility in 2012–2013, consists of about 50,000 smart energy meters, integration into the existing IT infrastructure, as well as project management and installation. Kuopion Energia selected a Landis+Gry 10-year Meter Reading Service as part of their complete solution. Landis+Gyr will also take care of meter maintenance and new meter installations together with its partner.

"We wanted a local partner that commits to long-term cooperation. Selecting a service solution was the easiest and, overall, most economical solution for us. Through the service solution we will always use the latest technology and expertise in the business," says Kari Väänänen, Managing Director, Kuopion Energia Liikelaitos.

Billing efficiency

As a metering reading service provider, Landis+Gyr is responsible for the hourly-based collection of consumption data as well as operations of the Gridstream system. Each day the consumption data is delivered to Kuopion Energia's systems where it is used by the customer service and billing departments. Regular reports of power quality data and network status are also delivered to Kuopion Energia, which gives the utility a better control of the network and the production capability. Also, the solution enables online access to personal consumption information for the utility customers.

Kuopion Energia benefits from the transfer to smart metering in many different ways. The real time data on the status of the network and metering devices provides significant cost benefits. It enables a fast response to faults in the network that assist in network planning and allocating investments, and improves the efficiency of managing the condition of metering devices. "We are excited about the project because we get the chance to deliver a high-end solution to Kuopion Energia. At the same time, the service agreement will strengthen our position as a trusted partner for one of the most innovative utilities in Finland," says Ari Tolonen, Landis+Gyr's CEO in Finland.

More choices for customers

The utility can also develop its business via real time data by providing their customers with diverse tariff solutions and

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personal energy management tools that assist in the customer management process. Another significant benefit is the improved control over network losses and receivables. Real time consumption information provides tools for identifying losses, and remote controls enable easy disconnection of metering points.

The network company already uses Landis+Gyr's E120 meters and smart metering system. With the new cooperation contract the 10,000 metering points that are already within the scope of smart metering and the Gridstream AIM system are connected as a part of a more extensive smart metering to include smart metering services. The multi-energy solution would also enable connection of the remaining 2,000 metering points for district heat as part of the smart metering services in the future.

Predictably cutting-edge

The systems can be connected smoothly as a single entity, merging the existing infrastructure as a part of the new smart metering system. Due to the open architecture, the system is compatible with meters from different manufacturers as well as multiple communications technologies. Adaptability was a requirement of the smart metering solution with regard to communication technologies because Kuopion Energia wanted to make use of its own telecommunication network.

With Landis+Gyr's smart metering services the network company can utilize its resources efficiently and focus on its core business. There is no need to worry about the maintenance or functioning of the system, and the costs of the system can be predicted and managed consistently.

Eskom to deploy Landis+Gyr smart meters

Energy companies often choose Landis+Gyr because they know they will receive a partner who will deliver leading edge technology that enables better energy management and efficiency. In South Africa, Landis+Gyr has earned its reputation for such innovation and reliability with its advanced metering solutions.

Eskom, a public electricity utility, awarded Landis+Gyr South Africa with the first smart metering project in its domestic market that will deploy 5,000 meters throughout 2011. With this project, the aim of Landis+Gyr's South African management team is to maintain and strengthen the company's position as one of the leading suppliers of smart solutions in Africa.

An important first step

The demand for smart metering solutions in South Africa is driven by legislation requiring the installation of smart meters for residential consumers with a monthly usage of 1,000 kWh or more by January 2012. Eskom and Landis+Gyr have successfully worked together on a variety of prior projects, so the company was Eskom's partner of choice for the first phase of the smart metering rollout.

"This smart metering project is the first and most important step for Landis+Gyr in South Africa towards achieving its goal to be the leading provider of integrated smart metering solutions in Africa that help our customers manage energy better," says Harold Hayes, Landis+Gyr South Africa's Chief Technical Officer.

A unique solution

The smart metering solution supplied by Landis+Gyr consists of a data concentrator, a smart meter, an in-home display and a remote load switch set. The data concentrator (DC450), the smart meter (E450), and the in home display (P350) have been successfully deployed in numerous smart metering rollouts all over the world.

The L550 remote load switch, however, was specifically engineered by Landis+Gyr's South African research and development team to meet the demand side management needs of South African metros and municipalities. Unlike in Europe where the electricity meter is usually installed in the basement of the customer's house, in South Africa the meter is typically installed outside in a street side meter kiosk. This type of installation environment requires the use of a two-way solution with the technological intelligence the L550 offers.

Meeting high expectations

The challenge for Landis+Gyr's South African engineers was to develop a switch that allowed for the remote control of household loads, to enable the utility and the customer the ability to harness the full benefit of a smart metering solution. With the L550, they found a solution that equals the high standard set by the other Landis+Gyr products. "We are extremely proud of this innovative and high quality development, and we are confident that it will help to position us as the leading supplier of smart solutions in Africa," says Connel Ngcukana, Landis+Gyr's CEO in South Africa.

A common language for meters

The organization for Interoperable Device Interface Specifications (IDIS) and the consultancy KEMA have signed a cooperation agreement to provide utilities and manufacturers with the testing facilities required to ensure interoperability for smart meters, and successfully performed the first smart meter conformance tests. For the first time in metering history an independent association is providing the tools to develop and truly test interoperable equipment based on open IEC standards.

To secure the interoperability required to ensure a seamless flow of data and smooth upgrades towards new applications, Landis+Gyr, Itron and Iskra founded the IDIS Industry Association in 2010. The IDIS association develops, maintains and promotes publicly available technical interoperability specifications, known as 'IDIS specifications, based on open standards and supports their implementation in interoperable products.

Rigorous testing to ensure high standards
Additionally, the association manages, administers and protects the IDIS quality label, and supports rigorous interoperability testing to ensure high quality standards. KEMA is the global leader in consultancy, testing and certification for the energy and utility industry, and has broad experience in testing smart meters and related activities.

"With KEMA, we have found an independent and highly respected test institute to certify IDIS equipment," said Peter Koller, VP Solutions EMEA at Landis+Gyr and VP Marketing of the IDIS association. "With this step IDIS is now a reality, and with its openness and international standard based approach, IDIS is closing the gap to achieve manufacturer independent interoperability."

The agreement and subsequent testing enables IDIS to offer the required tools and the necessary testing environment to help utilities and manufacturers develop and produce truly interoperable metering equipment. The testing tool developed by IDIS performs more than 1,200 interoperability test cases per meter. Each test case is based on the IDIS specifications, all details of which are publicly available.

This is a further significant step forward towards the availability of manufacturer-independent, interoperable smart meters. With this step, all utilities, in particular small and medium sized ones, will be able to profit from a smart meter deployment without the need to write their own specifications and develop their own testing facility.

Future-proof technology
The Landis+Gyr E450 is among the first IDIS meters. "With the IDIS certified E 450 meter, we have taken an important step to guarantee security of investment for our customers,"

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Product updates

says Landis+Gyr Product Manager Jani Maaranen. “It was our intention to offer a meter according to an approved standard, tested for interoperability by a third party and we have achieved it. I’m convinced that the number of IDIS based products will grow because other manufacturers see the importance of the initiative and want to become part of it.”

Open for upgrades

“The communication firmware of the E450 is downloadable according to the IDIS specifications. The firmware architecture of the E450 is designed in a way that allows upgrades and the adding of functions,” explains Maaranen. The meter will hit the market in 2012.

Intelligent meters in Norderstedt

For many in the sector, the development of a technology capable of producing real time readings of electricity consumption via the internet, using an intelligent electricity meter with an Ethernet module and data transmission via a broadband cable, may seem visionary. Yet, Works Director for Sales and Communication at the municipal utilities of Norderstedt, Theo Weirich, and his team turned that futuristic functionality into reality.

Since March 2011, Norderstedt offers its 35,000 customers intelligent meters combined with an enhanced charging model. More than 1,000 customers in the Norderstedt area have already opted for the new “Tidal Current” charging model and smart meters with an Ethernet module were installed in their homes. The web portal allows customers to see how dramatically every day appliances, such as vacuum cleaners, kettles and dishwashers, increase current flow and energy costs.

No fear of competition
Located in Northern Germany, the utilities of Norderstedt are a municipal enterprise, which operate in the market independently of third-party shareholders. Over 350 employees provide the inhabitants of Norderstedt not only with electricity, gas, water and community heating, but also with telephony, internet and cable TV using the fiber optic network of wilhelm.tel Ltd.

The utility is using the new customer-oriented services to set itself apart from the competition and to increase customer loyalty. This is becoming increasingly important as a rising number of companies from outside the sector are taking advantage of the market entry opportunities provided to them by new technologies. “It is probably just a question of time until operators of cable networks go beyond the leasing of their bandwidth and act as metering service providers themselves,” says Peter Heuell, CEO Landis+Gyr Germany, with conviction. In Norderstedt this is not something to be afraid of. Theo Weirich is counting on a further 9,000 customers by the end of the year.

Quick and cost-effective
The municipal utilities use the E350-EDL 21 meter from Landis+Gyr with an Ethernet module permitting broadband communication. Landis+Gyr’s Ethernet module has been on the market since spring 2011 and was previously tested in various pilot projects. “Landis+Gyr is innovative and, like us, sees the future in Ethernet,” Weirich says. “We were convinced by Landis+Gyr’s good reference projects.” Suppliers that already use the E350-EDL21 smart meter as a modular basis can switch their communication to Ethernet technology by simply exchanging the corresponding module.

Data protection has top priority
Data transmission via Ethernet lays the foundation for a stable electricity network. If renewable energies cause electricity to fluctuate, suppliers can control consumption using variable tariffs and smart meters. Therefore, the security of supply can be safeguarded, even for renewable energies, which is a responsibility taken seriously by electricity suppliers. Customer data is presented anonymously and forwarded to the municipal utilities only with the meter number. Personal data is only combined with consumption data for the various invoicing

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processes requested by the customer. “In this way, the data is protected from attacks by hackers,” Weirich explains. “Data protection is our highest priority here.”

Load distribution using variable tariffs

The new variable electricity tariffs have other crucial advantages. They can be used to both closely control the consumption of electricity and to achieve load equalization. During the evening and at weekends when industry is not consuming electricity, the energy providers are dependent on increased consumption by private customers. Time-based tariffs make load distribution possible. A redistribution of electricity consumption is urgently needed if an increasing number of renewable energies enter the electricity grid. Because wind and sunshine are subject to significant fluctuations, consumption must be more aligned with production in future. In this regard, variable tariffs are one of the most important tools to harmonize energy production and consumption. Ethernet is therefore also a crucial component in the development of a “Smart Grid”.

Electrical fingerprints

Linking consumer appliances to the smart grid

Pascal Walther is the first graduate from the Master of Science in Engineering (MSE) program at the iHomeLab in Luzern, Switzerland. The iHomeLab is a research center for intelligent living and part of the University of Applied Sciences in Luzern. Landis+Gyr is a partner of the iHomeLab and provided support to the Swiss student during his thesis work. Walther specialized in an area called 'Building Intelligence' and developed an innovative device with smart metering characteristics for use in the home.

An innovative invention

The 26 year old engineer from the Swiss Canton of Valais has developed a product and system that recognizes the type of appliance and its actual consumption in real time – all at the socket. Walther's inspiration for his research and development was that every appliance leaves a unique "electrical fingerprint". In his thesis, entitled PSALM – Power Socket Appliance Load Monitoring, Walther "decoded" this fingerprint using NIALM – Non Intrusive Appliance Load Monitoring. This "fingerprint" is caused by the ripple of electricity flow that comes from an appliance in relation to the mains voltage, which runs at a constant. The ripple from a light bulb, for example, shows a regular sinus shaped pattern, when portrayed on a screen, while a computer screen curve has sharp edges.

Walther developed a system that collected and evaluated information from appliances in a tailor-made database. This information included figures relating to an appliance's active and reactive power as well as its harmonic content. These factors enable the system to recognize one, or many, appliances attached to a single socket and list and monitor them individually. An energy-intensive light bulb and its exact consumption in real time, for example, can be singled out from a coffee machine using PSALM technology.

Behavior helps create a smart grid

In order to make this technology user-friendly and suitable for the home, the Masters student also wrote software that visualizes the information on a specific in-home display, a smart phone or even TV screen. "Simple icons such as a smiley or a sad face, depending on whether consumption is high or low, can motivate people to save energy," Walther told the Swiss press. The system even gives the end-user tips on how to save yet more energy. The ability to visualize an appliance's activity and consumption in detail provides the end-user with important information. In turn, the end-user can use this to make educated decisions regarding their individual energy consumption. This can lead to fundamental behavioral changes which, in turn, can lead to significant savings in energy usage at the grass roots level in society at large.

Andreas Umbach, President and CEO of Landis+Gyr says, "Landis+Gyr is the interface between the power grid and public and private buildings. Society's drive towards increased energy efficiency, an intelligent power grid – the smart grid – and intelligent buildings brings us closer than ever before to these areas in the public domain. We are therefore very pleased to have an institution such as the iHomelab, which is not only nearby, but also concentrated on the same research fields as ourselves." *continued on page 13 >>*

Landis+Gyr, partner of the iHomeLab, provided support to pictured student Pascal Walther for his Masters' thesis.

Product updates

Linked in with smart meters
Walther's system works on the basis of NIALM – Non Intrusive Appliance Load Monitoring – which allows the recognition of devices without the need for sensors. This means that the system not only communicates within a building, but also within a smart grid environment and with the end-user over radio waves, electricity power lines or fiber optics. This offers a cheap, efficient and non-energy intensive means of communication. Walther's invention can be retrofitted to sockets with a specialized chip, and it could be integrated into a smart meter. This would mean that the meter would become a key source for detailed information about the consumption of different appliances within a specific household.

"The iHomelab's extensive network and partners from industry and business provides an excellent basis for an interesting and state of the art research project and practice-orientated education at Masters level. This enables the students to get a direct insight into problem solving and product development," explains Professor Alexander Klapproth, Head of the Center of Excellence for Embedded Systems Applied Research (CEESAR) at the iHomeLab. "The close working relationship with Landis+Gyr provided Pascal Walther to gain important insight into how research results are applied. Together we are contributing to the development of Switzerland's energy future." Landis+Gyr provided Pascal Walther with expert advice while he was working on his thesis. The iHomelab and Landis+Gyr's engineers regularly exchanged information and discussed problems during the development. "I'm proud of Pascal's work and I can only encourage more students to join our MSE program. I think it's obvious how attractive this makes the candidates for employers," comments Klapproth.

The iHomeLab is the Swiss think tank and research laboratory for building intelligence. Energy efficiency, comfort and safety are the key aspects. Special attention is given to the issue of ambient assisted living. Core competencies are the application of automation networks that are user friendly, appropriate for society at large and efficient in terms of cost-benefit ratio. The iHomeLab is a network platform with national and international impact, where the latest results of joint venture research projects are presented and discussed. With a program for publications and events the center provides a basis for the consumer acceptance on intelligent living. www.ihomelab.ch

IPv6 – Protocol for the “internet of things”

Landis+Gyr has built the engineering sample of a smart meter with Internet Protocol Version 6 (IPv6) capability. IPv6 offers high scalability that allows the ‘internet of things’ to be realized – a concept in which every imaginable device on earth is connected to the internet with their own unique IP address. IPv6 extends the available address range from today’s 4.2 billion devices to a large 39-digit number of uniquely addressable devices. This crucial addition contributes to future requirements in the evolution of the smart grid, where experts predict an explosion in the number of intelligent home and networking devices.

Another reason for the importance of IPv6 is that an increasing number of standards are based on the new protocol. “With this innovation project we also wanted to make sure that we can give our customers the guarantee that their investment in our smart technology is future-proof,” says Daniel Lauk, Head of Platform and Innovation at Landis+Gyr.

Ready for testing

More and more devices, such as cell phones and gaming consoles, are being connected to the internet and therefore rapidly depleting the amount of available IPv4 addresses. “It’s not really a problem for users because, as a user, you don’t have a fixed IP address. It will become increasingly a problem for businesses, however. According to some estimates, we will run out of IPv4 addresses in the near future,” explains Jürg Haas, Product Manager Residential Communication Devices at Landis+Gyr.

In case this really happens, Landis+Gyr will be prepared with its smart metering solutions. The engineering sample devices are ready for trial deployment in the field. “We would like to test them with more of our customers, but up to now it hasn’t been easy to find customers who actually have an real IPv6 network in operation,” says Haas.

An address for every meter

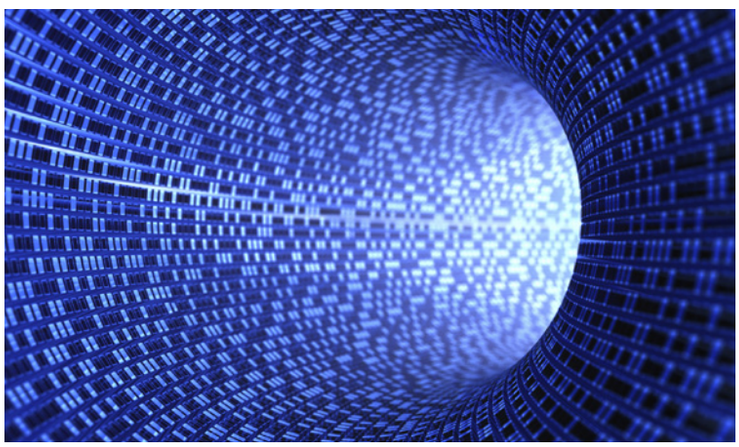
This approach is showing results. The IPv6 innovation project confirms Landis+Gyr’s position at the cutting edge of technological development. The ability to give each smart meter a unique IPv6 address will directly benefit utilities and societies world-wide through improved communication and data management possibilities. In addition, it will also provide consumers with direct access to their energy consumption data in real time.

The IPv6, which will be embedded into the firmware of Landis+Gyr electricity meters, can be used over a wide variety of different physical networks including Ethernet, GPRS, Wi-Fi and fiber. In some European countries, meters are now being connected to fiber-optical networks if access to these is available.

A dual stack solution

Landis+Gyr has had IPv4 compatible Ethernet and GPRS/UMTS smart meters in its portfolio for many years, and IPv4 networks will continue to exist for some time to come. The dual stack solution of Landis+Gyr will not only be able to support the new IPv6 standard, but also provides backwards compatibility with today’s IPv4 standard. In order to ensure full future flexibility, Landis+Gyr will integrate IPv6 in such a way that it will be possible to replace the stack without high levels of investment.

Going forward, Landis+Gyr will continue testing and evaluating the IPv6 protocol stacks of different vendors, and will also implement full IPv6 end-to-end connectivity with Landis+Gyr’s Head End System. Trials with newly emerging IPv6 public mobile networks are also planned. Ultimately, Landis+Gyr will add the IPv6 protocol stack to its other smart meter types, including its new range of Orthogonal Frequency Division Multiplexing (OFDM) Power Line Communication (PLC) enabled meters, as well as its RF mesh enabled meters that are deployed primarily in North America.



The Smart Metering Handbook

A comprehensive guide for end-customers

The transformation from standard metering technology to 'smart metering' is among the types of utility investments that are most visible to their customers. It's important for both customer relationships and rollout efficiency that consumers understand what smart metering is and how it affects their daily life. This demonstrates a need for improved communication between utilities and vendors.

Landis+Gyr in Finland teamed up with three utilities to address this issue. The result is the "Smart Metering Handbook" – an accessible comprehensive guide that explains the benefits of smart metering, clarifies misunderstandings, informs end-customers about the actual meter changes, and explains the roll-out project.

Taking the customer seriously

The first "Smart Metering Handbook" was done in conjunction with Lappeenrannan Energia. "With this book, we want create a positive attitude towards smart metering and strengthen our company image. Also, we want to avoid unnecessary calls to our customer service – many of the common questions are covered in this book" explains Pia Laakkonen, Service Manager from Lappeenrannan Energia. "The first 2,000 handbooks have now been sent to our end customers and the feedback has been positive. Aarno Pitkänen, one of Lappeenrannan Energia's customers, praises the book and the benefits of Smart Metering: "The handbook is distinct and readable – and the best part is that I don't have to remember to send my meter reading anymore!"

"Customers feel that they get a much clearer idea about what smart metering is and how they benefit from the technology," summarizes Pia Laakkonen. Altogether, 50,000 customers will be sent a printed version of the handbook prior to deployment, and the books will be sent out in stages as the rollout proceeds.

Presently, Landis+Gyr is cooperating with two other Finnish customers on "Smart Metering Handbooks". Oulun Energia Siirto ja Jakelu will start the mass rollout of a smart metering solution for 90,000 consumers during the fall when the book is ready for publishing. Also, Kuopion Energia, which has a contract with Landis+Gyr to install 50,000 smart meters over the next two years, has developed a handbook to prepare their customers for the changes ahead.

Even though the benefits of smart metering remain the same, the handbooks are tailored to the needs of each utility. "The book supports utilities' general customer communication, and they want to highlight the topics that are most important for them and their customers," explains Kati Pesola, Landis+Gyr Marketing Manager in Finland.

The Finnish initiative sets an example for how to engage customers in a positive way, and provides insight on how to turn them into stakeholders during large-scale deployments.
Lappeenrannan Energia´s Smart Metering Handbook

Imprint:

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