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# USING ICT TO REVOLUTIONIZE THE PROVISION OF UTILITIES

**We are witnessing the dawn of a Networked Society in which everyone and everything will be connected in real time. Ubiquitous connectivity has the potential to revolutionize the provision of public services such as energy, water and sewage – commonly referred to as utilities. Smart grids and smart metering solutions promise to increase efficiency and operational knowledge, enable accurate charging and billing, and save money.**

## INCREASED EFFICIENCY, REDUCED EMISSIONS

Efficiency is something that all businesses and industries strive for, and utilities are no exception. Electricity providers, in particular, are rapidly introducing computer-based remote control and automation technologies that transform their grids into smart grids and their customers' meters into smart meters. This process requires the construction of advanced communications networks that are used to control energy infrastructure and monitor meters. In the past, utilities used industry-specific communications protocols and equipment. Today, however, utilities' communications networks are increasingly being built using mainstream telecommunications protocols and equipment.

Within the European Union (EU), efforts to reduce climate change and use energy sustainably are a major driver behind the introduction of smart grids and smart meters. One of the EU's Europe 2020 targets is to reduce the output of greenhouse gases by 20 percent (compared to 1990), to improve energy efficiency by 20 percent (again, compared to 1990), and to draw 20 percent of its energy from renewable sources by the year 2020. In one of the steps taken to achieve these goals, 80 percent of all electricity meters in the EU will – where cost-benefit analyses show that it is economically worthwhile – be replaced by smart meters by 2020.

## SMART GRID COMMUNICATIONS

By using ICT to gather and act on information, smart grids give households greater control over their bills and environmental impact, and allow renewable energy sources to be better integrated into the power network. Smart grids also improve the reliability of electricity networks by facilitating effective condition-based maintenance to reduce the likelihood of faults occurring, and allowing networks to self-heal when unavoidable faults occur. Finally, smart grids provide their operators with real-time information on the electricity network's status, improving both operations and planning.

A key element of a smart grid is the communications platform that transports real-time data from substations, field devices and smart meters so that it can be turned into useful information for field staff, engineers and households. Adding communications ability to an

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electricity network transforms it into a two-way grid that is smarter, greener, more reliable and more interactive.

By using the same technology as mobile carriers, utilities can benefit from economies of scale for chips, devices and equipment. For example, 4G mobile communications technologies enable the fast transfer of data in an efficient and cost-effective way. With increased speed and decreased latency, LTE is specifically well suited to machine-to-machine (M2M) applications and can potentially play a significant role in smart grid communications solutions.

As a global communications leader with extensive multivendor systems integration experience, Ericsson is well placed to partner with utilities as they transform their electricity distribution grids into smart grids.

Ericsson is leading the way in the rollout of communication networks. For example, the company has helped to deliver LTE services in Europe, the US and Asia, as well as Australia. Ericsson has been driving open standards and has had the highest impact on the released LTE specifications. Ericsson expects to hold 25 percent of all essential patents for LTE, making it the largest patent holder in the industry.

#### Services offered:

- **Smart Grid Communications Strategic Planning**  
Planning the introduction of smart grid communications as an essential element of the utilities asset base
- **Smart Grid Communications Security**  
Highly specialized planning to protect utility assets from cyber attack
- **Smart Grid Communications Network Design & Build**  
Fixed and wireless communications network design and build
- **Smart Grid Communication Operations Center Design & Build**  
Provision of a monitoring and management environment for the smart grid communications infrastructure
- **Smart Grid Communications Operations**  
The operation of smart grid communications infrastructure as a managed service
- **Smart Grid Communication as a Service**  
Outsourcing of smart grid communications infrastructure and operations

#### SMART METERING

Smart meters record consumption data and communicate it to the billing and revenue management systems at the electricity distribution company, thereby preventing the utility from having to send people to read meters manually. In most cases, installing smart meters

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is the first step toward creating a smart grid. Ericsson provides a complete range of smart metering services, including planning, deployment, operations and maintenance.

In one example, leading Italian utility Acea contracted Ericsson as a technology and implementation partner for its smart metering project. Under a 10-year Managed Services agreement, Ericsson provides the data center and software solution for the project and operates the system application from its Global Service Delivery Center in Rome. The platform allows Acea to remotely read and manage meters, supervise medium- and low-voltage substations, and access detailed network analyses.

The solution consists of 1.6 million smart meters and offers savings through increased operational knowledge and elimination of manual meter reading, as well as revenue protection due to fraud detection, better management of payment problems and more accurate and timely billing. In addition, enhanced customer satisfaction is achieved through improved quality of service as a result of invoicing based on actual usage, the provision of detailed communication and metering information, and expanded tariff and payment options.

**Services offered:**

- **Advanced Metering Infrastructure Strategic Planning**  
Planning the deployment of all aspects and elements of smart metering systems
- **Advanced Metering Infrastructure Security**  
Protecting smart meter infrastructure from cyber attack
- **Revenue Management Design & Build**  
Monitoring the grid to identify “non-technical losses” (energy theft)
- **Meter Data Management Design & Build**  
Collecting, storing and analyzing data collected from smart meters
- **Metering Management Platform Design & Build**  
Deploying and integrating the head-end IT systems used to run multi-vendor meter networks
- **Meter & Data Platform Operations**  
Operating the head-end IT systems used to run multi-vendor meter networks
- **Smart Metering as a Service**  
Delivering metering values for billing according to service-level agreements

For more information, visit our [Utilities spotlight site](#).

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## NOTABLE ENERGY DEALS

### **Skagerak Nett**

In 2015, Skagerak Nett, one of Norway's largest energy companies, selected Ericsson as sole supplier of a smart metering solution. This partnership, which includes delivery of 180,000 smart meters, will support a large-scale modernization of the Norwegian power grid and ensure efficient technology and processes transformation. Skagerak Nett's customers will begin receiving smart electricity meters in 2016. The introduction of smart meters ensures more transparent charging and supports efficient consumption.

As part of the agreement, Ericsson is responsible for delivery and integration of a complete smart metering solution. The project is expected to be completed by 2019. In addition, Ericsson will be responsible for operations, support and maintenance of the solution during the project period.

### **Landis+Gyr**

In 2014, Landis+Gyr – the global leader in energy management solutions for utilities – selected Ericsson to provide smart meter reading and related field operations as a service for Landis+Gyr's utility customers in Finland. For Ericsson, this is a breakthrough deal in the Finnish energy sector that underlines the company's commitment to using ICT to meet the needs of the utilities industry.

As of August 2014, Landis+Gyr had delivered more than one million smart meters to multiple Finnish energy companies – the equivalent of delivering a smart meter to every third Finnish household in a country with approximately 3.2 million metering points. Ericsson will provide smart meter reading as a service for more than 700,000 of these meters, starting from October 1, 2014. As part of the contract, 13 Landis+Gyr employees based in Jyväskylä, Finland, joined Ericsson from the same date.

In 2015, Landis+Gyr and Ericsson created a partnership to address the Middle East's smart metering and smart grid transformation projects.

Under the terms of the partnership, Ericsson and Landis+Gyr will support utilities across the region with solutions that deliver key data required to cultivate active relationships with end consumers. The objective is to create smart energy networks that are able to manage large amounts of data. As a result, opportunities for efficient grid and energy consumption management, as well as seamless integration of micro-generated, renewable energy sources will be realized.

### **Con Edison**

In 2014, Ericsson signed its first managed services deal with a public utility in the United States. For a period of six years, Ericsson will provide managed services for Con Edison's private Integrated Digital Enhanced Network (iDEN). The iDEN network is used for internal dispatch of Con Edison technicians serving more than 3.3 million electric and 1.1 million gas customers.

Ericsson will service 24 cell sites and one core network for Con Edison. Services include performance reporting, network monitoring, front and back office handling, field operations

and third-party product management. Ericsson has been performing monitoring and maintenance for Con Edison since September 2009.

### **E.ON**

In 2013, E.ON – one of the largest private energy companies in the world – signed a five-year smart metering as a service contract with Ericsson in Sweden. The solution provided by Ericsson will gather data from more than 600,000 smart meters in northern Stockholm, Malmö, Örebro, Norrköping and Skåne on a daily basis, providing E.ON's customers with accurate and up-to-date information about their energy consumption.

In addition to an operations center, Ericsson is providing E.ON with services such as managed services, consulting and systems integration, meter reading and control, meter management, meter monitoring, service-level agreement management, work force management, asset management, business process management and field services.

### **Elektrilevi**

In 2012, Estonian electricity supplier Elektrilevi signed an eight-year smart metering contract with Ericsson. Following a pilot project involving 5,700 smart meters in 2012,



Ericsson will deploy a total of 630,000 smart meters that will communicate via 2G/3G and power-line communication between 2013 and 2016.

Ericsson integrated the meter and data management operations support systems (OSS) and will operate the smart metering network on Elektrilevi's behalf. After 2016, Ericsson will provide maintenance for three years and Elektrilevi will have the option of extending the maintenance contract until 2025.

[Click to watch a video about this project](#)

### **Hydro-Québec**

In 2010, Ericsson was selected as the prime integrator for the first phase of a smart metering pilot project for Hydro-Québec, one of the largest electricity suppliers in North America. Ericsson was responsible for implementing a meter data management system and integrating it with backend office systems, with widespread deployment of smart meters beginning in 2012.

### **Acea**



Leading Italian utility Acea contracted Ericsson in 2006 as a technology and implementation partner for its smart metering project. Under a 10-year managed services agreement, Ericsson provides the data center and software solution for the project and

[Click to watch a video about this project](#)

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operates the system application from a service delivery center in Rome. The platform allows Acea to remotely read and manage meters, supervise medium- and low-voltage substations, and access detailed network analyses.

## TELECOM COMPETENCE

Although Ericsson is a relatively new entrant to the utilities sector, we bring fresh, innovative thinking, a deep understanding of a wide variety of communications technologies and unmatched experience in designing, deploying and managing services globally for the Networked Society. We have the expertise required to design and manage end-to-end solutions ranging from mobile broadband modules, through mobile access networks and operational support systems, to service deployment platforms and business support systems.

Increasingly we are using our experience in telecommunication and managing networks that serve more than 1 billion subscribers worldwide to assist partners and customers in the utilities sector to adopt new types of applications and enable new business models. Our workforce includes 65,000 services professionals based in 180 countries and speaking more than 100 languages. Around 17,000 of these employees are Consulting and Systems Integration (CSI) professionals who deliver more than 1,500 CSI projects in multivendor and multi-technology environments every year.

## UTILITIES MILESTONES – PRESS RELEASE HIGHLIGHTS

[Ericsson demonstrates potential of ICT at European Utility Week](#)

Nov 2, 2015

[Ericsson, E.ON and ABB enter cross-industry collaboration to develop smart energy solutions](#)

Oct 29, 2015

[Ericsson supports smart meter introduction in Salzburg with end-to-end IT solution](#)

Oct 27, 2015

[Norwegian Energy company Skagerak Nett chooses Ericsson for smart metering solution](#)

May 6, 2015

[Ericsson and Landis+Gyr partner to empower Smart Metering and Smart Grid projects in the Middle East](#)

Feb 3, 2015

[Ericsson completes acquisition of smart grid communications provider](#)

Oct 1, 2014

[Landis+Gyr and Ericsson join forces for smart meter reading in Finland](#)

Aug 14, 2014

[Ericsson acquires MetraTech to accelerate cloud and enterprise billing capabilities](#)

Jul 29, 2014

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[Con Edison selects Ericsson to manage internal network in New York City](#)

May 6, 2014

[Italgas selects Ericsson smart metering solution](#)

Feb 26, 2014

[Ericsson, SAP and Telenor Connexion bring benefits of M2M connectivity to new frontiers via partnership](#)

Feb 23, 2014

[Dialog to launch enterprise m2m self-service solution with Ericsson in Sri Lanka](#)

Jan 21, 2014

[SP AusNet chooses Ericsson's solution for smart meter communications](#)

Nov 25, 2013

[Ericsson wins 2012 Smart Grid Product of the Year Award](#)

Jun 4, 2013

[E.ON steps up to big data metering with Ericsson](#)

Apr 17, 2013

[Elektrilevi selects Ericsson for smart metering in Estonia](#)

Aug 16, 2012

[Ericsson selected as prime integrator by Hydro-Québec](#)

Dec 16, 2010

[Ericsson to supply Managed Services to Acea for Automatic Meter Reading](#)

Mar 13, 2006

## CASE STUDIES

[Hydro One Telecom, Canada: Everything in one place](#)

[Ausgrid, Australia: Smart grid network to use LTE](#)

[Acea, Italy: Smart power](#)

PRESS BACKGROUNDER  
NOVEMBER, 2015



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NOTES TO EDITORS

For media kits, backgrounders and high-resolution photos, please visit  
[www.ericsson.com/press](http://www.ericsson.com/press)

*Ericsson is the driving force behind the Networked Society – a world leader in communications technology and services. Our long-term relationships with every major telecom operator in the world allow people, business and society to fulfill their potential and create a more sustainable future.*

*Our services, software and infrastructure – especially in mobility, broadband and the cloud – are enabling the telecom industry and other sectors to do better business, increase efficiency, improve the user experience and capture new opportunities.*

*With approximately 115,000 professionals and customers in 180 countries, we combine global scale with technology and services leadership. We support networks that connect more than 2.5 billion subscribers. Forty percent of the world's mobile traffic is carried over Ericsson networks. And our investments in research and development ensure that our solutions – and our customers – stay in front.*

*Founded in 1876, Ericsson has its headquarters in Stockholm, Sweden. Net sales in 2014 were SEK 228.0 billion (USD 33.1 billion). Ericsson is listed on NASDAQ OMX stock exchange in Stockholm and the NASDAQ in New York.*

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