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Technology Spotlight: Smart Grids

About Us

GreenTechEurope.org (GTE) is a production of London Research International, a global research and consulting firm with expertise in the energy, environment, and chemical sectors. GTE is a video-based technology platform showcasing innovative technologies from Europe.

The GTE Newsletter

Our monthly interview-based newsletter features innovative energy technologies and businesses from around the world.

Announcements

March 2012

LRI has signed publication distribution agreements with ReportLinker and MarketResearch.com. See either of these sites to purchase LRI's latest publication: 2011/12 Renewable Electricity Incentives in the OECD, China, and India.



Featuring

In the latest edition of the newsletter, LRI staff interviewed Mrs. Sandra Welfeld, Associate VP of Corporate Communications, and Mr. Erez Koren, Global Utility Market Manager, of ECI Telecom. Established in 1961, ECI Telecom is a manufacturer and provider of network solutions and professional services. In recent years, ECI has become a pioneer in smart grid technologies and operations. Mrs. Welfeld and Mr. Koren elaborated on ECI's progress to date and the company's vision for a new era of information infrastructure.

An innovative smart grid service provider

Headquartered in Israel, ECI Telecom employs 2,500 people across its global operation base, with product R&D centres in China, Israel, and India. The company has a strong history of providing high-quality network and communication solutions for utilities, governments, military and defence entities, and telecom operators.

The definitions for smart grids vary significantly from source to source. Often it's hard to pinpoint exactly what a *smart grid* really is. To ECI, creating a smart grid is done by adding an extra layer of communication (smart) on top of the current power infrastructure (grid). This data network then facilitates more efficient energy use by both utilities and consumers as they are made aware of where savings are possible. What ECI offers is the communication link that enables utilities unprecedented control from the meter to the network centre. This will allow utilities to modify and upgrade communication technologies without third-party involvement, extend networks to rural areas, and optimize how resources are used to avoid waste.

ECI became involved with smart grids through its general work with utility, power, and

transportation companies in Europe and China. With the core of their business revolving around the timely transmission of data and information, it was not long before ECI recognized the forming of a very attractive market. "Looking at smart grids was a natural evolution for us," said Sandra Welfeld, Associate Vice President of Corporate Communications. "We have solutions that are cost effective, proven, and offer a high-level of security, control, and reliability."

Given a nearly 100% project proposal success rate in Europe, ECI has been active in expanding their smart grid offerings. As a member of the European Utilities Telecom Council (EUTC), ECI keeps abreast of the latest developments in the field, contributing to debates on EU regulation to raise national and regional standards for network infrastructure.

ECI has a variety of projects in operation or in the pipeline. To date, ECI has enjoyed the greatest success in Europe, Asia, and Latin America. Some examples of recent clients include power and utility providers in China, transportation operators in France, energy utilities in Denmark, and rail authorities in the Asia-Pacific region.

Company Milestones



1961 - The Electronics Corporation of Israel is established – a pioneer in the field of advanced electronic equipment, serving the military market

1976 - Enters the civilian market, with optimized platforms for the telecom market

1982 - The company is first traded on NASDAQ and receives the Rothschild Prize for Outstanding Technical Achievement

1993 - First to market with managed global networks

1995 - Opens new R&D center in China, through a joint venture with Eastern Comm. Co., Inc.

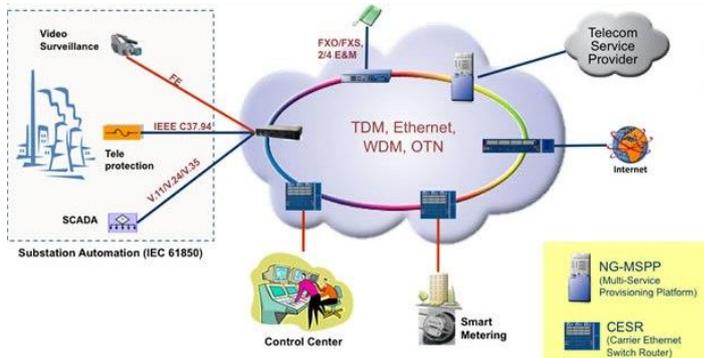
1998 - Participates in historic high-def TV broadcast of Texas Rangers' 1998 opening game

2007 - Acquired by Swarth Group, a private equity group, and is delisted from NASDAQ

2008 - Unveils INet

2010 - Ranked #1 transmission equipment vendor in India for fifth year in a row

2011 - Introduces Apollo Optimized Multi-Layer Transport (OMLT) platform



“1Net: Your Path for Growth”

ECI’s recipe to address client challenges

At the center of ECI Telecom’s business is 1Net. Described as neither a product, a solution, nor a service, but a combined commitment to help clients address day-to-day and strategic networking “pain points” that hamper functional growth. In a contributory manner, the bulk of ECI’s offerings constitute both the fundamental and advanced elements of a smart grid system.

Two of ECI’s main product lines for smart grids are their line of carrier Ethernet switch routers and BroadGate data transport products, optimized especially for utilities. The Ethernet switches provide full compliance to US NERC regulations, while the BroadGate line is a “one-box” smart utility solution. For utility companies, these platforms support their migration from a utility to a “utelco”—utility telecommunication service provider—allowing them greater control over their networks. For the electricity consumer, smart grid development translates to long-term savings in the form of energy and costs.

Price:

As with most customized solutions, ECI’s offerings range in price. “System costs depend on the application and project – we look at each customer individually,” said Mr. Erez Koren, Global Utility Market Manager. “That’s the core of 1Net. And we ask: What’s the customer business model? What’s his business goal for this project? What’s keeping the customer up at night, and how can we provide him with a more reliable, safer, cost-effective solution?”

Deployment:

ECI uses customized solutions whenever possible, knowing that each customer has their own unique demands and needs. Some projects can be completed in a matter of weeks, while others require up to six months or a year for full deployment.



Case Study- Amprion chooses ECI for smart grid optimization

Challenge - Due to new EU regulations, the German utility RWE was required to separate its power generation, sales and transmission capabilities. To comply with the new regulations, RWE established a separate company named Amprion to handle power transmission via ultra-high-voltage grid. As RWE would retain ownership of the existing telecommunications network, Amprion was faced with building a new telecoms network.

Solution - Amprion chose ECI’s BroadGate All-Native Packet Optical Transport solution, part of the 1Net framework for the transition to next-generation networks, to support its critical power transmission operations.

Results - The operator is currently in the process of successfully migrating from the original RWE network to a new future-proof packetized transmission network.



Keeping ahead of the competition

As the smart grid market is still relatively small, ECI has experienced the bulk of its growth via word-of-mouth advertising—equaling no-cost expansion and evidence of strong performance. Looking ahead, however, ECI sees limitless potential for network and informational improvements across all sectors that rely on secure and stable communication systems to run their operations.

Traditional competitors are large telecom providers. Various large firms, such as Cisco, have been dabbling in smart grids, but have been hesitant to dedicate

significant investment to a specific area. “We believe that providing good information transportation, reliability, and security will be essential in the future of communications,” said Mr. Koren. “The private network, as well, is an area that [ECI] sees as a likely area of future investment.”

At present, weak network and communication regulations are the main barriers to the growth of ECI’s smart grid services. In the absence of legal encouragement, many firms and businesses carry on with outdated and underperforming equipment and systems—

largely to their detriment. As requirements become more stringent on how companies use and transport data, such as a railway operator, then ECI stands prepared to supply the latest of network solutions.

ECI foresees the future of smart grids resting on the necessity for reliable information: very similar to the importance of physical elements of infrastructure—roads, bridges, highways—the creation and maintenance of a network infrastructure, much of it built with the technologies that ECI is currently pioneering.

Example of client smart grid solution

Mr. Erez Koren discusses an ECI solution tailored for *ELRO*, a Danish utility:

“Originally a regional electric company responsible for producing and distributing power to several towns in Denmark, ELRO is now a full-fledged utility telecom that’s operating a nationwide WiMAX (worldwide interoperability for microwave access) network.

Facing regulatory changes that would require it to give up one of its lines of business, ELRO made the decision to stay in power distribution and sell its electrical production business. It then acquired a national WiMAX license, with the goal of deploying voice and broadband Internet services to subscribers across Denmark. With this network, ELRO expected to increase coverage and capacity, create new revenue streams, and reduce OPEX through a smart metering system accessible to both urban and rural areas. ELRO turned to a solution from ECI and its WiMAX and microwave partners. The new network is a comprehensive integrated transport, WiMAX and radio wireless backhaul solution based on IP over next-generation SDH. It’s a joint solution that combines the ECI XDM® and BroadGate® platforms, part of ECI’s INet framework for addressing customers’ pain point and needs, with third-party WiMAX and microwave platforms.”

Work with ECI

As a comprehensive provider of network services, ECI has extensive contacts and relationships with governments, manufacturers, and fellow industry members. With the growth of the smart grid field, ECI remains keen to continue to develop relationships with new partners, firms, and collaborators. To initiate a corporate discussion with ECI Telecom, please refer to the contact information below.

Contact Information

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Or follow ECI on Twitter:
<https://twitter.com/ecitelecom>

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Related Upcoming Events – Smart Grids

• DistribuTech

24 January 2012 | San Antonio, TX, USA

DistribuTECH is the leading smart grid conference and exposition, covering automation and control systems, energy efficiency, renewable energy integration, advanced metering, T&D system operation, power delivery equipment and water utility technology.

• Fiber to the Home Council Europe

15 February 2012 | Munich, Germany

The 9th FTTH conference is expected to bring to IMC, Munich, thousands of European professionals. The 2-day agenda gives wide view of the latest developments in the field and ample networking opportunities for delegates. **ECI is sponsor and exhibitor, booth S26.**

• European Smart Grid Cyber Security Forum

12 March 2012 | London, United Kingdom

This event will focus on how the rapid advancement and application of digital technology has improved electric system operations, reliability, and process efficiency and why utilities must safeguard this increasingly ubiquitous element of the grid from those who would seek to disrupt technology and cause harm.

NEXT ISSUE



Algae-based biofuels with OriginOil, Inc.



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