

# POWERING COMMUNICATIONS WITH TLI BATTERIES – POWERING COMMUNICATION WITH SMART ELECTRICITY METERS

Smart meter applications require some kind of power engine that enables the meter to communicate with the utility and – ultimately – the consumer. Tadiran's new TLI battery is an ideal solution.

Some smart electricity meters have a power supply problem, as they cannot take the energy needed for communication, via the GSM network, from the meter circuit. This means that a separate battery is required. Given the circumstances of the smart metering business, not just any rechargeable battery is suitable for this application.

Tadiran has just introduced the TLI Series of batteries, a new family of rechargeable lithium-ion cells designed specifically for use in harsh environments. This battery series is ideally suited for the application as it has excellent long-life characteristics and operates in a wide temperature range.

Standard rechargeable lithium-ion cells have inherent drawbacks, including short operating life (maximum 5 years), low maximum cycle life (1 000 cycles), high annual self-discharge (up to 60% per year) and a limited temperature range (0°C to 60°C) with no possibility of charging at low and high temperatures.

***Designed specifically for use in harsh environments as it has excellent long-life characteristics and operates in a wide temperature range***

By contrast, the TLI series of batteries utilises technology found in Tadiran's patented hybrid layer capacitor (HLC), which stores the high current



pulses required for two-way wireless communications. Tadiran's technology has been field-proven in millions of cells to deliver 25+ years service life. TLI series batteries modify this technology to deliver reliable, long-term performance under extreme environmental conditions.

Their features include:

- wider operating temperature (-40°C to 85°C, with short term storage up to 90°C)
- ability to deliver high current pulses (up to 5 A)
- low self-discharge rate (less than 5% per year)
- up to 5 times more life cycles (5 000 full cycles)
- longer operating life (>10 years)
- charging possible at extreme temperatures
- glass-to-metal seal

TLI Series cells can be recharged using DC power such as can be provided by an electricity meter. They can also be

used in conjunction with photovoltaic solar systems or other energy harvesting devices to deliver reliable long-term power. They are available in several standard configurations: 1550 (AA-size), 1530, and 1520, as well as custom battery packs. <sup>III</sup>



#### ABOUT THE AUTHOR

Thomas Dittrich studied physics and physical chemistry at the Bonn University in Germany. He joined Sonnenschein in 1980. As manager of Quality Assurance, he led Sonnenschein Lithium GmbH to ISO 9001 certification in 1993. Since 2002, he has been Manager of Applications Engineering. In 2006, Sonnenschein Lithium changed its name to Tadiran Batteries.

#### ABOUT THE COMPANY

Tadiran Batteries is a leader in the development of lithium batteries for industrial use. Its technology has been well established for more than 30 years. Tadiran Batteries are suitable where utility meters require a single long term stand-alone power source, even if it has to supply high pulse currents for a GSM module.



## POLISH UTILITY SELECTS OSGP BASED SYSTEM FOR SMART CITY PROJECT IN WROCLAW

Open Smart Grid Protocol (OSGP) member LGG CNS, a subsidiary of the LG Group and global IT service provider, has led a consortium bidding interoperable OSGP meters from Networked Energy Services Corporation, Echelon's former Grid Modernisation division and Polish company Adaptor SA. The multivendor OSGP based system has been chosen to kickstart Tauron Dystrybucja S.A.'s advanced meter infrastructure (AMI) deployment to 330 000 households in Wroclaw, Poland. Tauron, the largest utility in the country with more than five million household customers, has been mandated to exchange 80% of its existing meters for smart meters by 2020, says OSGP. Deployment of smart meters in Wroclaw is planned for the fourth quarter of 2014.

President of Tauron Distribution Piotr Kolodziej said: 'This project in Wroclaw is the first in Poland, in which meters will be delivered by two manufacturers: Adaptor and Networked Energy Services Corporation. It is also the largest in single deployment of this project scope in such a big city like Wroclaw.'

Kim Ji-seop, vice president of the LG CNS' Smart Green Business Unit, commented: 'We are pleased that our first win is with a utility of the reputation and sophistication of Tauron and look forward to many more OSGP systems in the future. It is a great milestone for the consortium and for the entire OSGP ecosystem.'

'Through successfully completing the project, we will not only accelerate our effort to enter the European power management industry, but also become the leader in the energy industry.'

## EDSO PROPOSES RECOMMENDATIONS FOR EU'S NIS DIRECTIVE

The European association for the network of distribution system operators (DSOs) in the region, EDSO for Smart Grids, has released a new report presenting its recommendations for the EU's proposed Directive 'to ensure a high common level of network and information security (NIS) across the European Union' (NIS Directive). EDSO's report entitled 'Network and information security (NIS): Recommendations for information sharing and risk management' was prepared for organisations managing critical infrastructure and vital public services to use as a guideline for implementing information sharing platforms and creating a culture of risk management.

The paper was a response to the European Council and the growing need to protect pertinent national infrastructure against cyber-attack. EDSO attributes the likelihood of these offences to the electricity system becoming increasingly reliant on ICT and communications technologies.

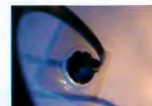
In an earlier statement, Catherine Ashton, high representative of the Union for Foreign Affairs and Security Policy/vice president of the Commission, said: 'For cyberspace to remain open and free, the same norms, principles and values that the EU upholds offline, should also apply online. Fundamental rights, democracy and the rule of law need to be protected in cyberspace.'

EDSO sets out its recommendations for cyber security risk management and, information sharing as well as highlighting case study examples and lessons learnt from the United States and the Dutch government.

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# Smart Metering

requires reliable power sources



**TADIRAN BATTERIES**

Tadiran Batteries GmbH | Industriestr. 22 | 63654 BÜDINGEN | GERMANY  
Tel: +49 6042 954-0 | Fax: +49 6042 954-190 | E-mail: info@tadiranbatteries.de

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