

THE HEART OF YOUR DEVICE

Many countries have started or are already in the middle of utility metering rollouts, and as such, this industry is now seeing the first examples of project maturity.



Meter manufacturers and operators are looking for more cost-effective solutions for the next meter generation. Besides establishing highly integrated manufacturing processes, huge cost savings can be achieved by smart purchasing strategies; the main focus lies on the most expensive components.

For a power network independent device, like most utility meters, the only energy source available is a battery. So it can easily be seen that this component carries a fundamental responsibility for the lifetime of the system. That is the reason why global player Tadiran Batteries calls them the “heart of your device”. Everybody knows about the fatal effect a weak heart could have. So do you really want to risk a heart attack?

Tadiran offers reliable solutions for the metering sector. Its battery solutions do what is promised — as proven in hundreds of millions of meters worldwide. A well-tryed method of determining the battery’s lifetime, based on real-time test results and expert design-in service, will ensure a ‘best- fit’ and not a ready-made ‘one battery fits all’ solution.

The result offers multiple benefits:

- The battery can extend the meter’s lifetime.
- A reduction in unplanned and expensive field failures.
- You can focus on your business and not on complaint handling.
- Your product will be recognised as high quality.
- There are reputational benefits to be achieved by providing a reliable product.

Tadiran runs two independent production sites, offering a real second in-house source and lowering purchasing risks. Summed up, the total costs for the ‘heart of your device’ will decrease and the profit can be maintained. Solutions minimise risk and help to match quality and reputation goals.

Since the implementation of smart metering, Tadiran’s PulsusPlus technology has set the industry standard in both lifetime-quality and functionality.

The combination of a lithium thionyl chloride battery with a hybrid layer capacitor (HLC) is the basic concept. The primary battery provides the energy to operate the meter for the entire lifetime, the HLC can supply short-term power demands coming from radio transmissions or valve operations. Both the HLC and the primary batteries are optimised for the metering industry by bringing the self-discharge rate to a minimum. This extended operating life (XOL) approach is unique and helps to ensure the benefits explained above.

The PulsusPlus system can be built up in a wholly modular way. Depending on the energy consumptions, cells from 0.5 up to 35 Ah are available which can be combined

in parallel or a serial setup or to meet each application’s demands.

The HLC is available in best-fit sizes, too. The smallest, the HLC-1020L, is suitable to handle LoRa communication protocols while the largest, the HLC-1550, can support high power radio transmissions like GPRS/ GSM. A parallel or serial combination is also possible here.

To reflect the importance of this technical solution and to ease logistic demands, the PulsusPlus system will be introduced as a ‘hybrid battery’ in all dangerous goods regulations such as UN 3090/UN 3091 from 2019 on. Thus specific transportation rules are defined now which will reduce misunderstanding during transportation, without incurring additional costs.

Tadiran offers you the best-fit solution for the ‘Heart of your Device.’ [SEI](#)



ABOUT THE AUTHOR

Marc Henn studied mechatronics engineering near Frankfurt am Main and holds a master’s degree in business administration. He joined Tadiran as manager of application engineering in 2016.

ABOUT THE COMPANY:

Tadiran Batteries is a leader in the development of lithium batteries for industrial use. Tadiran are suitable where utility meters require a single long-term stand alone source even if it has to supply high pulse currents for a GSM module.