

From Saving Lives to Energy Conservation, this Hospital Does it All

Powered by MultiTech

At Maidstone Hospital, a leading hospital in the South East of England, providing general hospital and specialist complex care services to over 600,000 patients just wasn't enough. Armed with an additional initiative to reduce its carbon footprint by 28% (by 2020 from a 2013 baseline) and cognizant of the importance and cost-saving potential of energy conservation, Maidstone set forth to drastically reduce its energy consumption.

The first step in controlling its consumption, involved measurement – a daunting task as the hospital is a large site, spread over more than 2 million square feet. Though meters were already installed around the facility, only a few were connected to an automated data collection system and this had proven unreliable. In addition, the vast majority of meters had to be manually read, which introduced errors and didn't meet the needs of the on-site energy team. In short, installing cable would be disruptive and expensive.

After exploring numerous options, including using metering which transmits data using the cellular mobile phone network (which ultimately would be too expensive and only offered data from the past day) the hospital decided to incorporate a solution that leverages the latest long range, low power wireless alternative, LoRaWAN®.

LoRa®, coined from “long range”, is a proprietary spread-spectrum modulation for low data rate, low power, and long-range wireless communication. It's an alternative to other modulations, and is tailored for the unique requirements needed by the Internet-of-Things. LoRaWAN is the wide area network protocol specification for use with LoRa modulation and is designed for secure bidirectional communication, mobility, and localization services.

In considering possible solutions, Maidstone ultimately opted to work with Synetica Limited, providers of Long Range Wireless Monitoring Solutions for energy, assets and the environment. Based in the UK, Synetica's EnLink, specifically enLink Modbus, a LoRa wireless Modbus bridge; enLink Pulse, a LoRa wireless Pulse counter and; enLink Zone, a LoRa wireless environmental sensor measuring temperature, humidity, VOC's & CO2.



Problem

Maidstone set forth to drastically reduce its energy consumption and carbon footprint by 28%.



Solution MultiTech Conduit®

Benefits

- Ultra long wireless range
- Real time data
- Interoperable
- Comprehensive data
- Low cost of ownership

“The Synetica EnLink system was installed in a short space of time and with almost no disruption,” said Barry Leaf, Estates Manager, at Maidstone Hospital. “Most of the installations were carried out in a safe way. The operatives needed a minimum amount of permits to work and certainly no disruptive electrical isolations were required. What’s the best news? We now have a valuable insight into our energy consumption.”

Pivotal to the success of the enLink’s solution is the **MultiTech Conduit**, a configurable, manageable, and scalable communications gateway for industrial IoT applications. Each Conduit gateway has the ability to manage thousands of LoRaWAN[®] compliant devices, including MultiTech mDot™ modules and other sensors and transmit their data over any cellular network to a customer’s preferred data management platform.

“Our decision to work with MultiTech was based on its compatibility with LoRaWAN and its flexibility to support both cloud-based and on-premise network architectures,” said Sean Williams, Director at Synetica. “MultiTech’s IoT gateway is durable enough for the harsh environments we encounter within production sites and is technically advanced and stable. Another factor in our decision was the strong support system in place and our confidence in knowing that the MultiTech team was working in lockstep with us from the initial stage of proposal through customer implementation and maintenance.”

“We were concerned that our electrical energy requirements throughout our Maidstone Hospital site were not being recorded in a way to allow us to review our loading needs in different locations; the Synetica enLink system allows us to do this,” added Leaf.

The hospital now has real-time data from over a hundred meters across the site that allows for an instantaneous measurement of energy impact and carbon reduction. All of this data is provided in fine detail, including the installation of LED lighting and optimizing the Heating, Ventilation and Air Conditioning (HVAC) plant & controls across the site. Additional meters were also required to provide in-depth data on the site’s consumption.

The availability of granular real-time data allows the hospital team to gauge how its energy reduction programs are performing which will help ensure that targets are met on time. Ultimately money is saved, allowing more funds and resources for its most important asset – its patients.

Benefits at a glance

Benefits to utilizing the enLink solution that incorporated LoRaWAN, include:

- Ultra long wireless range – made it possible to gather meter data from all areas of the site using just one wireless gateway, without the need for any wireless repeaters.
- Real time data – data is available in near real-time to support on the spot decision making and alerting when excess consumption occurs.
- Interoperable – Synetica could link to the existing meters and send the data over the LoRaWAN network.
- Comprehensive data – the new meters installed as part of the enLink system provided in-depth information on the electrical performance of the site, not just energy consumption, such as currents, power quality, power factor.
- Low cost of ownership- LoRaWAN wireless is license free with no ongoing data charges.

Ready to learn more about how MultiTech products can take your business to the next level? Contact our team of experts online at MultiTech.com today!

For additional information, contact: sales@multitech.com



“It’s been tremendously successful,” added Leaf. “Looking forward, we are considering using the network for other sensing requirements including legionella monitoring and air quality measurements.

The possibilities are limitless. ”

*Barry Leaf,
Estates Manager
Maidstone Hospital*

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