Kerlink: M2M stalwart claims IoT leadership with biggest-ever LoRa network

As the Internet of Things gathers pace, and opens up new roads, French technology provider Kerlink wants to show the way. “We are well positioned, with the right solutions, and the right vision,” says the company’s Chairman and Chief Executive William Gouesbet. “We are well positioned not just to anticipate and innovate in the market, but also to lead it.”

It is a grand vision, especially for an engineering firm that is unaccustomed to the spotlight, operating in a market that is bustling with bright young things. But Kerlink is not just another start-up, making hay in the modish Internet of Things (IoT) space. Indeed, it has form and history with connected machines, it led the way with smart metering at home in France, and has played a central role in the rise of LoRa® technology across the world.

The business was founded in 2004 by Gouesbet and Yannick Delibie, its CTIO and deputy CEO; the pair worked together at French M2M module maker Wavecom, eventually acquired by Sierra Wireless, and quickly perceived the expansive role of wireless technologies in sectors such as fleet management, asset tracking and telemetry.

But Kerlink has pushed the envelope as well, launching a range of products for transportation applications in addition to the familiar discipline of fleet management, such as passenger information, onboard infotainment, fuel-efficiency monitoring and car sharing. It has also championed new RF technologies to connect machines, quickly innovating around emerging low-power wide-area (LPWA) solutions.

“When we started 13 years ago, M2M solutions held sway, and required GSM SIM cards. Operating costs were higher, and devices not only cost more, they used a lot more energy than now. Plus, the business model was less flexible,” explains Gouesbet. “It would have been impossible to address the IoT market, as it is today, with usual M2M technology. SIM-based cellular solutions are just too expensive for an increasing number of IoT use cases.”

Kerlink also helped to develop and implement the Wireless M-Bus, or MeterBus, standard for gas, water, electric and heat metering, promoting its usage in Europe. Importantly, its work with French gas company GrDF saw it engage with LPWA solutions provider Cycleo, snapped up by US semiconductor outfit Semtech in 2012, just as Cycleo was developing its own proprietary RF modulation technology, called LoRa®.

Indeed, Kerlink was there from the start of the new LPWA revolution. “We were a unique early adopter of LoRa® technology because of our close partnership with Semtech, and Cycleo before it. We were the first solution provider to support LoRa® technology; we built the world’s first commercially available LoRaWAN™ gateway, the Wirnet station, in 2014,” says Gouesbet.

“That’s why we are a leading player in the field now. Our pioneering spirit informed our heritage with smart metering, which ensured we were one of the first in this space.”

Two pillars
LoRa®, making use of ISM license-free sub-1GHz spectrum bands, brings unprecedented capabilities for IoT applications, in terms of extensive coverage, low energy consumption, deep penetration, and cost-efficiency, reckons Gouesbet. “The reduced capex and opex offer more flexibility for players to make the decision to invest in such an IoT dedicated network, and offer faster returns,” he says.

“There are no licensing fees, because it is running in unlicensed spectrum, and it is fast to deploy, and quick to bring to market, so the return on investment is rapid. LoRa® is the right technology at the right time to unlock many segments and offer innovative business models. It also perfectly fits in the strategy of public operators, like telcos or cable operators, and private companies or cities, that want to deploy their own networks.”

By 2014, through its first engagement with Semtech and its founding role in the open, non-profit LoRa® Alliance™, Kerlink had developed a range of outdoor carrier-grade LoRaWAN™ base stations – the first of their kind – recently augmented by indoor solutions. It soon paddled out its LoRa® proposition with network planning services, covering network design and deployment, as well as core-network, radio-network and gateway-management services. These services are included in the Wanesy™ RAN Management Center suite.

“Our value proposition relies on two pillars: connectivity and services for applications, offered through a mix of hardware products, software solutions and professional services,” explains Gouesbet. His company provides the full-service wrap, he says, from hardware and operations, through to a reference design so third-party developers can rapidly integrate their own LoRa®-based IoT solutions. The company also focuses on value-added services like network-based geolocation, and recently announced device-management capabilities to remotely monitor and manage connected devices.

Kerlink’s progress over the past five years has been like a rolling scrum, on a field of play completely transformed by wide-area networking and smart applications. The company has installed over 70,000 gateways...
and base stations for M2M and IoT networks for more than 260 clients in Europe and Asia, including telecom providers such as Tata Communications, and utilities such as GrDF and Suez. It recently announced a deal with a South American partner to deploy a network across Argentina.

Since 2013, its compound annual growth rate (CAGR) has exceeded 50 percent. Just as the remit of machine communications has gone beyond the old boundaries of fleet management and utility metering, into disciplines like agriculture, smart cities and asset tracking, so Kerlink has retained its pioneering spirit.

“Innovation is in our DNA,” says Gouesbet. The company dedicates 25 percent of its revenue to research and development. It added a network-based geolocation service, leveraging radio and core-network components, to its LoRa® gateways last year. The service replaces GPS and enables network LPWA operators to add native location services to end nodes without increasing the bill of material or draining batteries.

Last year also saw Kerlink’s debut on the Euronext Growth exchange in Paris, following an initial public stock offering of €13.2 million. Revenue jumped 90 percent in the year. It raised a further €20.7 million via a capital increase with preferential shareholder subscription rights in the second quarter of 2017.

Biggest deal
Its current status is assured, reckons Gouesbet. “We are the leading service provider for LPWA IoT network equipment and software solutions, serving broadband and telecom operators, smart cities and private companies alike, across the world.” As if to confirm it, Tata Communications has just confirmed Kerlink’s role in the deployment of the largest LoRa® network in the world.

The pair ran a trial behind the scenes during the second half of 2016, in Mumbai, Delhi, and Bangalore, featuring “several hundred” Kerlink network gateways. “The goal was to cover four million people in three major cities in India,” says Gouesbet. “It confirmed the design, performance and reliability of our equipment.”

They signed a contract in February, announced it in June, and are presently engaged in the “initial phase of the deployment”, working towards a nationwide rollout of a LoRa® network covering 27 cities, 2,000 communities and 400 million people.

Alongside its requisite LoRa® features, Kerlink’s LoRaWAN™ Wirnet IBTS Compact gateway offers a 3G / 4G dual-SIM modern to ensure backhaul continuity of service, plus a geolocation-ready design for new types of services. For this first step, Tata Communications will deploy more than 10,000 of the gateways in India, creating the largest network of LoRa® stations anywhere on the planet.

Such scale has presented certain technical and logistics challenges, acknowledges Gouesbet. “The challenge was to keep pace and maintain quality. We had to evolve our product and add new features very quickly, we had to adapt our processes in France and India, to orchestrate the perfect execution of the plan, and we had to increase our overall production capacity,” he says.

To that end, it partnered with “Sketch-to-Scale™” solutions provider Flex to increase its production capacity by leveraging Flex’s reach and know-how in wireless networks and RF-based fronthaul and backhaul connectivity solutions like small cells and radio access base stations.

“We had to show our major customers that we could deliver large-scale projects, with large volume of base stations, while maintaining quality and reactivity. That’s why we partnered with Flex, which can meet demand for equipment manufacturing, delivery and support anywhere in the world,” says Gouesbet.

Indeed, the arrangement with Flex buoyed Kerlink’s global expansion plans into booming IoT regions like Asia Pacific and North America, where it established subsidiaries in earlier 2016 and 2017, respectively.

Future paths
Gouesbet declines to speculate on the likely applications that will be developed for the Tata Communications network in India, but says Kerlink currently sees three primary markets for its LoRaWAN™ based solutions: smart cities, covering sub-verticals such as lighting, parking, buildings, metering and transportation; smart industry, with particular focus on asset tracking and management; and smart agriculture for monitoring crops and livestock, and such aspects as air quality and temperature.

The company is on the right track, clearly. Its customers are enthusiastic, even if it does say so itself. “We have had very strong feedback from customers, because we were so early to market, and have such long experience, which is reflected in our ability to integrate technology solutions into our network,” says Gouesbet.

Interoperability and integration are essential for the burgeoning IoT sector, and its founding technologies, he observes. “Kerlink wants to promote an open ecosystem with third parties playing a key roles,” he says, pointing to its vigorous, continuing membership of the LoRa Alliance™, which now has 500+ members pushing the network, and Kerlink’s key role on its technical, certification and marketing committees.

“It is the largest and fastest-growing alliance in the technology sector. Its growth makes clear the interest in the technology. We are one of the co-founders, and remain an active member, working every day to further develop the technology.”

Gouesbet also makes reference to the importance of security and privacy in network building, especially when unlicensed spectrum is being used to carry public and private data. “Customers also appreciate the security of our network design, and the management of our gateway and platform,” he says.

The order of the day is more of the same, it seems. “We want to confirm our leadership in delivering leading IoT equipment and solutions. We also want to leverage the distinctive character of our value proposition, covering our deployment expertise, network management and operator support.”

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