

Introduction

Founded in 2004, Kerlink is a fast-growing, publicly traded **provider** of **end-to-end network solutions for the Internet of Things (IoT)**, serving telecom operators, businesses and public authorities, worldwide.

As a co-founder and board member of the <u>LoRa AllianceTM</u>, it has been from the beginning among the IoT pioneers that supported and brought to market <u>LoRaWANTM</u>, a Low Power Wide Area (LPWA) network that provides large coverage, cost-efficient and energy-saving features required for rapid worldwide implementation of the IoT.

Since its creation, Kerlink has built a strong track record of LPWA deployments for key machine-to-machine (M2M) and IoT segments. These include fleet management and tracking, utility metering, smart farming, smart cities and asset tracking. It pioneered **a land-based geolocation service** leveraging radio infrastructure and core network components that is less costly and far more energy efficient than GPS tracking.

Kerlink has installed more than 100,000 gateways, base stations and other wireless connectivity products for M2M and IoT networks for more than 330 clients and partners in Europe, Asia and North and South America.

As an early provider of communications solutions across multiple technologies, Kerlink serves **major telecom operators**, such as Proximus and Tata Communications, and utilities, such as GrDF and Suez.

Since 2013, it has posted average annual growth of more than 62 percent. In 2017, Kerlink Group generated revenues of nearly €25 million, more than 50 percent internationally. The Group has invested more than €11 million in research in the past three years.

Euronext Growth Paris

It has been listed on Euronext Growth Paris since May 2016 and was added to the EnterNext PEA-PME 150, an index of 150 fast-growing French SMEs, in 2017. In 2018, the company was included in the <u>Tech40</u> label, which recognizes the best-performing tech SMEs on Euronext markets in Amsterdam, Brussels, Lisbon and Paris, based on their business, financial and stock market performance. Building on this market response, Kerlink is expanding into Asia, North America and South America, supported by its subsidiaries in Singapore, Chicago and Chennai, India and its sales office in Japan.

The company's success stems from its **turnkey solutions** that meet the diverse LPWA-network needs of customers internationally. That business model is supported by Kerlink's commitment to research and development, which continuously provides its customers with innovative, reliable, high-performance, scalable and energy-efficient IoT equipment and solutions that connect a rapidly growing array of devices and applications.





History

Kerlink was founded by two leading researchers and managers at Wavecom, a provider of embedded wireless technology for M2M communication. Anticipating a future market for communication solutions dedicated to devices, William Gouesbet, chairman and CEO, and Yannick Delibie, Chief Technologies and Innovation Officer, foresaw the role that RF communication technologies and their associated support platforms could play in fleet management, freight and telemetry.

By 2011, the company also added several innovative solutions to meet the wireless-connectivity needs of gasand-water suppliers, including remote metering. These new low-bandwidth SIM-less M2M solutions significantly expanded the communication capability of objects, compared to traditional SIM-based technologies.

Kerlink initiated a major strategic move and expansion in 2014 with its first <u>WirnetTM product portfolio</u> of **outdoor carrier-grade LoRaWANTM base stations**, the world's first commercially available LoRaWANTM gateway: the WirnetTM Station.

The following years saw the addition of **Network Planning Services**, which include network design and launch assistance, and **Network Management Services**, which provide customers with remote operational management of networks and their connected devices, the <u>WanesyTM Management Center</u>.

In May 2016, Kerlink was listed on Alternext Paris following an initial public stock offering of €13.2 million. Due to its continued success and rapid growth, Kerlink raised a further €20.7 million via a capital increase with preferential shareholder subscription rights in the second quarter of 2017.

In 2017, the company added an innovative **network-based geolocation enabler**, <u>WanesyTM Geolocation</u>, and demonstrated the early version of its end-device management enabler, <u>WanesyTM Device Management</u>.

In 2018, Kerlink launched <u>Wanesy™ Low-Power IoT Reference Design</u>, a complete package of hardware, software and tools for rapidly designing, prototyping and producing specific IoT products.



Business

Widely recognized for its broad IoT expertise, Kerlink Group continually introduces innovative value-added services, such as **network-based geolocation**, remote **end-device management** and low-power IoT **reference design**. Reference design allows its customers to quickly bring to market IoT-ready devices and to imagine innovative business models to monetize their deployments.

The Group has continuously launched a range of embedded & ruggedized devices and applications for transportation using cellular connectivity, in addition to fleet management and tracking solutions, such as passenger information and entertainment, fuel-efficiency monitoring and car/bike sharing.

In 2017, it announced an agreement with Tata Communications, a global telecom company, to install more than 10,000 Wirnet iBTS Compact stations in India, as part of the world's largest LoRaWANTM network. Kerlink also considerably extended its production and customer-support footprint by signing an agreement with Flex to assure global availability of its stations and production flexibility worldwide. It established a subsidiary in Singapore to support its expansion in Asia Pacific in early 2016 and launched a U.S. subsidiary in January 2017. In September 2017, Kerlink launched a subsidiary in India that will coordinate the company's partnership with Tata Communications and the emerging IoT ecosystem. It opened a sales office in Japan, in November 2017.

Kerlink's revenue grew by more than 50 percent each year from 2013 to 2016.

The company's success has been recognized in several industry-wide performance comparisons:

- Les Echos' Champions of Growth prize list in early 2017
- The Forbes Futur40 award in 2017 and 2018
- Best Revenue Growth Award on the EnterNext prize list from the Deloitte/In Extenso Technology Fast 50 in November 2017
- **Deloitte's Technology Fast 500™ EMEA** in December 2017
- In April 2018, Kerlink was the 10th fastest-growing telecom company in Europe in the **Financial Times FT 1000 Europe Fastest Growing Companies**.

Evolution of the Organization

The Group also adapted its organization in 2017 to maintain its agility and accelerate its business transformation around services and applications. It added two business units: Kerlink Infrastructure Solutions – Global IoT Networks, and Kerlink Advanced Services – Solutions for Applications.

The infrastructure-solutions unit is focused on positioning Kerlink as the international reference for high-quality carrier-grade infrastructure, management solutions and professional services to help public and private operators deploy and operate their own IoT networks. The advanced-services unit drives Kerlink's ambition to become the preferred supplier of value-added solutions to help service providers and solution designers quickly design and efficiently manage their networks of connected objects.

In 2018, Kerlink announced several key distribution agreements in Eurasia, Europe and South America to expand its global business through regional and local presence. Distributors include SPHINX (Europe), TCT Brasil (Brazil), NetOP Technology (Turkey), and AdriNet (Adriatic region).



International Growth

In 2017, the company announced partnerships with companies in New Zealand, Argentina, the U.S., Ireland, Poland, Germany, Spain, Italy and Lebanon. International revenue accounted for more than 50 percent of the company's fast-growing revenue in FY 2017, compared to 25 percent in FY 2016.

The Microshare relationship supports
Kerlink's strategy of moving up the IoT
value chain, beyond its core network
infrastructure and operations
expertise, and of expanding the
range of its value-added services.

In 2018, Kerlink invested in Microshare Inc. The U.S.-based company provides a highly scalable data-management solution that enables sharing, storage and controlling data access in a highly scalable architecture.

Kerlink's core products include base stations and other radio network equipment for telecoms that want to complement highbandwidth services with low-power, long-range connectivity for

devices. Kerlink's solutions also help smart cities implement the IoT to improve efficiency and services, and individual companies that want to establish a private network or add coverage in fixed environments, such as a factory or warehouse. The flexibility of its solutions enables many sectors – energy, agriculture & environment, transportation & logistics, industry & manufacturing, building & facilities and cities – to deploy and operate smart, low-power and long-range networks for their devices and applications.

Kerlink is a proactive and flexible technology provider in both the M2M and IoT ecosystems. Its business model is supported by a commitment to R&D, which continuously provides its customers with innovative, reliable, high-performance, scalable and energy-efficient IoT equipment and solutions. Its global customers connect a diverse and rapidly growing array of devices, enabling an increasing number of value-added applications in various verticals, and supporting innovative business models to monetize the IoT.



Technology

Kerlink is a **multi-technology provider**, driving both the M2M and IoT ecosystems. As an early leader in developing and implementing the Wireless M-Bus standard, a widely used RF communication link for gas, water, electricity and heat metering, Kerlink strongly promoted its use in Europe. In addition, the company is an active member of the Afnor group that defined the French standard, which is applicable in Europe, for RF communication systems dedicated to communicating energy meters (WMbus protocol EN13757).

ISO 9001-2015

Kerlink is also constantly improving its quality, operations control and processes through its Quality Program. It has been awarded the ISO 9001-2015 certificate by Lloyd's Register Quality Assurance (LRQA) for its IoT network solutions' overall design, development and sales processes.

LoRaWANTM provides seamless interoperability among smart objects without the need for complex local installations, and enables users, developers and businesses to simply roll out the IoT.

LPWA network solutions



As an early supporter and adopter of the LoRaWANTM specification, Kerlink became a leader in the design and delivery of LPWA network hardware and software. Its solutions today maximize the long-distance, low-power capability of LoRaWANTM, a protocol intended for wireless battery-powered objects in regional, national or global networks. LoRaWANTM targets key requirements of the Internet of Things, such as secure bidirectional communication, open-source standard, unlicensed band, mobility and localization services, to deliver cost-efficient connectivity for devices and applications.

The network architecture is typically laid out in a star-of-stars topology in which gateways are a transparent bridge relaying messages between end devices and a central network server in the backend. Gateways are connected to the network server via standard IP connections, while end devices use single-hop wireless communication to one or many gateways. All end-point communication is generally bidirectional, but also supports operations, such as multicast, enabling firmware and software upgrades over the air or other mass-distribution messages to reduce on-air communication time.

Wirnet iBTS Standard in Vicenza, Italy



Analysts about Kerlink

ABIresearch for visionaries

"Kerlink is recognized as one of the top global provider of LoRaWAN™ network infrastructure & solutions, because it has a history of delivering top quality IoT network hardware and software for mobile network operators in Europe, South Asia, South America and the U.S. Its success at working with established telecom companies such as Tata, Spark and Senet, which considered a variety of narrowband Internet of Things protocols, demonstrates Kerlink's superior stations and its flexible software solutions for LoRa technology."

Adarsh Krishnan, Principal Analyst, ABI Research.



"Long before the 'Internet of Things' became a commonly used term, Kerlink foresaw the role that RF communication technologies and their associated support platforms could play in fleet management, freight logistics, telemetry and other low-bandwidth applications. That technological insight still prevails at Kerlink, which is not only a global leader in LoRa IoT network solutions, but has also continued to expand its business model with a market-responsive, network-as-a-service (NaaS) program, reference design and geolocation that help companies large and small design, deploy and operate their own IoT networks."

Johan Fagerberg, Founder and CEO, Berg Insight.



"Kerlink is a leader in the global LoRa infrastructure market because of its end-to-end IoT platform that includes reference design, device management, network operations, vertical solutions and professional services that are accelerating IoT adoption worldwide."

Mareca Hatler, Director of Research, ON World.



"Kerlink has developed an easily integrated service for remotely updating software and firmware of wireless devices across the Internet of Things. The company's approach conforms with Open Mobile Alliance specifications, is open standards-based and provides secure, simultaneous and remote device management, effectively rounding out Kerlink's complete network solution."

Steve Hilton, Co-founder and President, MachNation







