



**PIONEER PROJECT BRINGS TOGETHER
NOS, EDP DISTRIBUIÇÃO, HUAWEI, JANZ CE AND U-BLOX**

PORTUGAL PRESENTS THE FIRST NB-IOT SMART METER

The first operational pilot project using electrical energy smart meters and NB-IoT communications technology has already started up in the Parque das Nações in Lisbon. This is a pioneering project at a worldwide level that is the result of a partnership between five major companies and which will be concluded by the end of the year.

Huawei, which has been one of the main contributors towards standardizing NB-IoT technology (4.5G technology), has developed the first NB-IoT Smart Meter in partnership with JANZ CE and u-blox. EDP Distribuição is using this technology for a pilot project as part of the UPGRID project of the Horizon 2020 Program of the European Commission. The infrastructure network using NB-IoT technology has been installed by NOS, based on Huawei's technology. NOS thus becomes the first operator in Portugal to test the 4.5G – IoT technology on its network infrastructure.

This solution combines emerging technologies with the smart metering of electrical energy and with the latest generation networks to oversee the electricity network.

NB-IoT is a Low Power Wide Area (LPWA) wireless access technology, which offers a wide range of advantages, including a battery life of up to 10 years, a gain of 20dB over conventional GSM networks and support to more than 100,000 connections per cell.

NB-IoT thus represents a disruptive step on the path towards the Gigabit Society and will evolve over the next few years to 5G (in the field of massive Machine Type Communications) that will support up to 1,000,000 connections per cell.



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Based on optimized and bi-directional communication, the value of NB-IoT is recognized worldwide in relation to intelligent networks, and addresses the following challenges:

- Customer satisfaction, through the automatic detection of failures, improving the time needed to restore service. In case of storms or other abnormal situations, quicker detection of the area affected allows teams to be allocated immediately and precisely on the ground for the problem to be resolved rapidly;
- Online measurement of consumption, supporting various values per hour, and a range of energy events and statistics;
- On demand response functionality, based on the installed capacity being managed almost in real time. This function is particularly useful taking into account the ongoing and progressive adoption of electric vehicles and the increasing pace of transition towards renewable sources of electrical energy;
- Continuous development of technology, driven by the potential mass adoption by operators worldwide. This implementation, on a major scale, will ensure a mature eco-system and technological evolution, achieved by perfecting its features and introducing new elements, in accordance with the requirements of the Smart Grid.

The Parque das Nações area in Lisbon was chosen by EDP Distribuição to pilot the project among around 100 customers, until the end this year. This cluster of the city is already covered by NB-IoT and has been equipped with two NOS base stations, which provide NB-IoT coverage. Intelligent energy management in the homes of these customers, who will also play an active role in helping to improve their energy consumption efficiency, represents a relevant practical example for this technology.

Representatives from the companies involved in this ambitious project have highlighted their satisfaction at the challenge involved and its successful completion, which has involved a multi-disciplinary team of scores of people since September 2015.

Manuel Ramalho Eanes, board director of NOS, says that “we are really proud of NOS’ involvement in this innovative project, which will make a real difference in making electricity consumption more efficient in Portuguese homes in the near future. Working with long term partners, such as Huawei, and with new companies with a vision of the future, is always a guarantee of success and will strengthen the competitive position of NOS”.



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“Huawei, a leader in innovation in this industry, has been an important contributor to the NB-IoT standards. We strongly believe that this technology will be the driver for mass adoption of IoT due to its unique advantages. Huawei is also contributing towards faster development of the E2E ecosystem, by deploying several labs around the world focused on the integration of NB-IoT technology in a variety of devices. We are proud to participate in this first successful NB-IoT Electricity Smart Meter project with our partners NOS, EDP Distribuição, JANZ CE and u-blox, and we renew our commitment to continuing partnerships of this kind to develop the maturity of the NB-IoT ecosystem in Portugal” said Chris Lu, CEO of Huawei Portugal.

João Torres, chairman of the Board of Directors of EDP Distribuição, makes the commitment that “EDP Distribuição is available, as it always has been, to participate in partnerships and share knowledge with a view to finding ever more innovative solutions that can leverage value creation for final customers in relation to new concepts of intelligent networks and new business models”.

According to António Papoila, CEO of Janz CE, “We are really pleased to have achieved with Huawei the development of the first electrical energy smart meters in the world using NB-IoT technology, and tested by EDP Distribuição and NOS. The shared vision in this project is crucial for ensuring the development of a unique strategy that offers broad access, long term value creation and integration with existing infrastructure. The project creates value for *Utility* with new functionalities, and the advanced management of electricity interruption through *last-gasp*. In addition, this project also creates a sustainable connection between Intelligent Networks (*SmartGrid*) and Smart Cities. This technological partnership is based on mutual strategic and technical confidence that overcomes the complexity, takes advantage of the competencies of the parties involved and reduces the *time-to-value* of the *Smart Meters* application. Finally, we commend, for their management and engineering skills, the Portuguese technology companies, which have demonstrated once again their ability, in an international partnership, to execute and implement this latest generation technology project”.

"u-blox has been an early pioneer developing technical expertise and thought leadership in NB-IoT. Since years, we've worked closely with Huawei and with global mobile operators partners to complete technology demonstrators and the first successful commercial trials of pre-standard NB-IoT in several Industrial IoT and Smart Metering applications. With SARA-N2, a 3GPP compliant NB-IoT module, u-blox keeps driving innovation to the Smart Metering industry, and we are now really pleased and proud to support, along with our partners JANZ CE, Huawei, NOS and EDP distribuição, the world first electricity smart metering pilot performed on a live commercial network and using 3GPP standard NB-IoT technology " said Andreas Thiel, Co-Founder and Executive VP, Cellular Products & IC Design



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About NOS

NOS is the biggest communications and entertainment group in Portugal. It offers latest generation fixed and mobile phone, television, Internet, voice and data solutions for all market segments. It is leader in Pay TV, new generation broad band services and in cinema exhibition and distribution in Portugal. In the business segment, it has positioned itself as a sustainable alternative in the Corporate and Mass Business segments, offering a broad portfolio of products and services with tailor made solutions for every sector and businesses of different sizes, complementing its offer with ICT and Cloud services.

NOS is part of the main Portuguese stock exchange index (PSI-20), and has more than 4.4 million mobile phone, 1.6 million television, 1.7 million fixed telephone and 1.2 million fixed broad band Internet customers.

<http://www.nos.pt/institucional>

About EDP Distribuição

EDP Distribuição is a network distribution operator in mainland Portugal, an activity that is regulated by the Energy Services Regulatory Entity (ERSE), and is holder of the concession for running the National High and Medium Voltage Electrical Energy Distribution Network and of municipal concessions for providing Low Voltage electrical energy distribution.

It ensures electrical energy supply and connection to more than 6,000,000 customers, providing high standards of quality, efficiency, independence and transparency.

In 2007, it launched the InovGrid project, an intelligent network project that has been implemented across the country. It is involved in 12 European projects in the area of intelligent networks.

www.edpdistribuicao.pt

About Huawei

With 16 R&D centres in countries such as Germany, Sweden, the USA, France, Italy, Russia, India and China, Huawei products and services are used in more than 170 countries, serving a third of the world's population. In 2014, Huawei reached third place in terms of units shipped worldwide, according to the IDC. Huawei is a leading global information and communications technology (ICT) solutions provider. Driven by a commitment to ongoing innovation, and open collaboration, we have established a competitive ICT portfolio of end-to-end solutions in telecom and enterprise networks, including devices, cloud technology and associated services. Our solutions, products, and services are used in more than 170 countries and regions, serving over one-third of the world's population. With around 180,000 employees, Huawei is committed to enabling the communication of future generations, and building what it calls "A Better Connected World".

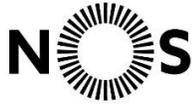
www.huawei.com

About Janz CE

With its R&D centre located in Portugal and with operations in Europe, Africa, Asia and Latin America, JANZ CE has a wide ranging product offer for electrical energy distribution networks, from Production to the final customer, including street lighting, distributed generation, electric vehicles, as well as many other applications. The Janz CE offer includes metering, communications, and information systems solutions, focused on answering and anticipating the needs of Utilities.



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<http://www.janzce.pt>

About u-blox

Swiss u-blox (SIX:UBXN) is a global leader in wireless and positioning semiconductors and modules for the automotive, industrial and consumer markets. u-blox solutions enable people, vehicles and machines to locate their exact position and communicate wirelessly over cellular and short range networks. With a broad portfolio of chips, modules and software solutions, u-blox is uniquely positioned to empower OEMs to develop innovative solutions for the Internet of Things, quickly and cost-effectively. With headquarters in Thalwil, Switzerland, u-blox is globally present with offices in Europe, Asia, and the USA. For more information, please visit u-blox online at www.u-blox.com

About UPGRID

Working to provide truly proven solutions that allow the integration of flexible demand for distributed energy generation, through a fully controllable low and medium voltage distribution grid, UPGRID is a project of the European H2020 program, which has 19 partners from 7 European countries. The project includes 4 demonstrators (in Spain, Portugal, Sweden and Poland), supported by transversal work packages that define the demonstration scope and analyze their respective results and impacts based on the objectives of each project. The program involves partners with different knowledge and competencies in the energy area: DSOs (Distribution System Operators), equipment manufacturers and research centers.

www.upgrid.eu



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