



*Included in the '5G Andalusia Pilot' project.*

## **Cepsa is relying on Vodafone's 5G to optimize processes at its Palos de la Frontera refinery (Huelva)**

- **The European operator is testing the benefits of the 5G network at Cepsa's 'La Rábida' refinery, enabling real-time monitoring of its processes, providing efficiency and safety, through a pioneering 'augmented reality' project developed by Capgemini.**
- **Vodafone has also provided 5G coverage in the industrial center to connect devices and sensors, and obtain information from various dynamic plant equipment.**
- **This technology is presented as a necessary option to optimize production processes, and to achieve greater savings in the consumption of resources.**

Vodafone, in collaboration with Capgemini, has developed two 'use cases' for Cepsa included in the 5G Andalusia Pilot project. They are two initiatives carried out at its 'La Rábida' refinery in Palos de la Frontera (Huelva), which demonstrate the suitability of using 5G technology in industrial environments.

The projects presented will allow professionals working at the plants to identify product transport pipes in industrial facilities through a pioneering project of 'augmented reality,' and also to monitor the status of rotating equipment through sensors connected to the 5G network; thus increasing their availability thanks to predictive maintenance.

The monitoring of assets and facilities in factories is presented as a necessary option to optimize production processes, which are increasingly automated, and therefore achieve greater savings in the consumption of resources, making them more efficient.

### **Augmented Reality applied in refinery maintenance**

At present, plant maintenance personnel attend to requests from the operations department, identifying pipes thanks to drawings and the support of remote experts via voice through the use of conventional transmitters; this causes a loss of time in repairs, and therefore in operations, as well as the possible expenses derived from the expert's travel to the site.

The new solution, through the application of Capgemini's Augmented Reality (AR) on Vodafone's 5G network, allows the **operator** to access information regarding pipes in real time, identify them autonomously by recognizing them through the developed application and even receive expert support through videostreaming if necessary.

### **5G connectivity to power information extraction**



Cepsa currently has more than 300,000 sensors in its facilities that produce more than 170,000 signals every day. Vodafone has provided 5G coverage to the refinery to connect some of these sensors, specifically those to monitor the rotating equipment included in this project. Emerson, as a technology partner for this use case, is providing its advanced sensor technology which collects all the information from the monitored equipment to be finally processed in the Edge through predictive maintenance tools, ensuring the reliability, availability and operational efficiency of the rotating equipment.

According to Jorge Acitores, director of the **Cepsa** refinery **in Palos de la Frontera**, "thanks to Vodafone and Capgemini technology, Cepsa is at the forefront of **smart industry** technology, increasing safety levels in operations, availability and reliability of monitored assets, as well as cost savings in both infrastructure and operational costs."

Carlos Becker, Director of Key Accounts and Public Administrations at Vodafone Spain, says "the main challenge facing Industry 4.0, and more specifically the monitoring of machinery and the factory, is to provide industrial elements with interconnectivity and the ability to extract information in real time from collected data. In this type of case, 5G technology is ideal for boosting efficiency, as Cepsa has been able to prove with this application."

Borja Tinao, Europe Director for Intelligent Operations and Smart Factory at Capgemini Engineering, highlighted that "this project demonstrates how 5G technology is a key enabler for Industry 4.0, as it becomes the right vehicle for other technologies such as augmented reality to be executed with the required quality of service. Augmented reality, together with high quality video calls, are disruptive tools to provide optimal support to **operators** in daily maintenance tasks, ensuring their safety and improving operational performance."

### **5G Andalusia Pilot**

This project is part of the '5G Andalusia Pilot' initiative, promoted by the Ministry of Economic Affairs and Digital Transformation, through Red.es, and is being developed by Vodafone and Huawei. Presented in November 2019 in Seville, it includes 35 use cases that will apply the benefits of 5G technology in the energy, industry, smart cities, tourism, agriculture, health and dependency, security, emergency and defense, society and digital economy sectors.

This is one of the two projects that the government has promoted through the first public call for 5G pilot grants, resolved in spring 2019. This initiative has a budget of 25.4 million euros, of which 6.3 million euros are co-financed by Red.es from FEDER community funds. Vodafone will allocate an additional 1.8 million to the project not included in the grant.



**Cepsa** is a global energy and chemical company operating at every stage of the oil and gas value chain. Cepsa also manufactures products from plant-based raw materials and operates in the renewable energy sector. Cepsa has 90 years of experience and a team of over 10,000 employees, who combine technical excellence with adaptability. Cepsa operates on five continents.

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