

Cepsa, a pioneer in Spain in incorporating the new Amazon Web Services technology for predictive maintenance in industrial facilities.

- **Amazon Lookout for Equipment enables industrial customers to use machine learning to perform large-scale predictive maintenance.**
- **Cepsa has tested this technology in its Andalusian refineries to facilitate the early detection of possible anomalous behavior in equipment and therefore allow measures to be taken before these anomalies can affect the availability and operation of the its facilities**
- **The energy company is one of the first in the world to use this technology, together with companies such as Siemens Energy, Embassy of Things, RoviSys, Seeq or TensorIoT.**
- **Amazon Web Services is Cepsa's preferred cloud computing provider to offer new services and develop IoT (Internet of Things) solutions, as well as analytical solutions that improve decision-making and increase operational efficiency.**

Cepsa has become a pioneer in both Spain and the world in using Amazon Lookout for Equipment, the new solution from Amazon Web Services (AWS) that helps companies perform large-scale predictive maintenance in industrial facilities. The general availability of this technology was [announced](#) yesterday by AWS on a global level.

This technology uses machine learning models developed by AWS to help companies perform predictive maintenance. Amazon Lookout for Equipment ingests sensor data from industrial equipment (e.g. pressure, flow rate, RPMs, temperature, and power), and then it trains a unique machine learning model to accurately predict early warning signs of machine failure or suboptimal performance using real-time data streams from the equipment. With this cloud-based technology, Cepsa can detect equipment abnormalities with speed and precision, quickly diagnose issues, reduce false alerts, and avoid expensive downtime by taking action before machine failures occur.

"At Cepsa, digital transformation is focused on people. In that regard, our professionals are the engine behind our transformation. With Amazon Lookout for Equipment, we are bringing machine learning insights to the experts that know the equipment best—reliability and maintenance engineers—allowing them to make more informed decisions to drive higher uptime and lower operational costs," said Alberto Gascón, head of advanced analytics at Cepsa. "Solutions like predictive maintenance

for equipment traditionally involve manual and complex data science such as choosing the right algorithms and parameters, but Amazon Lookout for Equipment automates these processes so that engineers can focus on solving the most critical challenges that impact their business."

Cepsa carried out the first tests using this technology at its La Rábida (Huelva) and Gibraltar-San Roque (Cádiz) refineries, with good results. Specifically, they focused on detecting and predicting anomalies in rotating equipment, such as pumps or compressors.

Until now, to analyze the data from their equipment most companies typically used simple rules or modeling approaches to identify issues based on past performance. However, the rudimentary nature of these approaches often leads companies to identify issues after it is too late to take action, or receive false alarms based on misdiagnosed issues that require unnecessary and timely inspection. Today, this technology from AWS based on machine learning techniques allows companies like Cepsa to quickly identify anomalies and learn the unique relationships between the historical data of equipment in a single facility or across several sites.

Cepsa is a global energy and chemical company operating end-to-end in 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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