

# **Iberdrola and Arbórea Intellbird promote a new model of digital inspection of power lines in Salamanca**

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To the use of the 'Aracnóptero', the drone that "has revolutionized the inspection of wind turbine blades", joins the use of 'software' 'Power Grids' to evacuation lines of wind farms, which allows the digitization of assets and facilitates the deferred inspection of "a more reliable way", while providing the application of data from analysis systems based on vision and artificial intelligence, to detect and measure hidden structural problems such as corrosion, hot spots or other deficiencies in critical elements.

As reported to Europa Press the energy company, the new model of 'Aracnóptero', to fly greater distances over the power line, allows, together with the new 'software', also designed by the Salamanca company, "increase the efficiency of the maintenance inspections of wind farms, reducing downtimes and achieving a level of detail far superior to traditional inspection methods".

The digital 'mappings' that are obtained from the layout of the lines, of "very high resolution", are processed and made available to Iberdrola Renovables through the same 'software' application and cloud reports, which facilitates the integration of management automatic and intelligent of defects, has reviewed.

The associated mobile application 'Power-eye' introduces augmented reality for repairers to find the defects identified in the lines, "simply by observing the line with the help of a simple mobile phone", according to Iberdrola.

The innovative inspection methodology based on the digitization of assets allows centralizing strategic decisions and generating efficient control with a focus on predictive intervention on defects.

"These first experimental experiences carried out on Iberdrola Renovables power lines provide valuable data to assess the viability of a new inspection model", he said in the information provided after the presentation in Salamanca.

"An essential factor for Iberdrola is the reduction of risks by avoiding the need for inspection personnel to go up to the electrical supports", he said, in addition to emphasizing that the new digital inspection model seeks to "increase the reliability in the asset control".

This innovative initiative has been carried out experimentally in the emblematic Sierra de Dueña wind farm, about 40 kilometers from Salamanca. This installation of Iberdrola has a power of 31.5 megawatts (MW) and is located between the municipalities of Pedrosillo de los Aires, Frades de la Sierra, Las Veguillas and Membribe de la Sierra. This complex consists of 37 wind turbines and has a substation from which electricity is evacuated.

## **OTHER IMPROVEMENTS**

The Salamanca company, with the active collaboration of the Operation and Maintenance area of Iberdrola Renovables, has also introduced "significant improvements" in the blade inspection process.

For example, the integration of algorithms relates the flaws of the blades with failure modes and aging curves, which "facilitates the diagnosis in order to correct the errors in a shorter period".

In this way, the 'software' is "ideal" to detect "serious internal structural problems in early stages", which helps Iberdrola to design and implement new repair procedures at height, "safer and cheaper", in addition to discriminate the blades "in poor condition" or repair "at a lower cost".

## **ARBÓREA**

Arborea, a "pioneer in the training of drone pilots in Spain and industrial inspection with new technologies" entity, is immersed in a "more efficient" supervision model, since it allows to review all power lines at once.

Thus, in addition, it also avoids the risk to inspectors in the climbs thanks to the use of the 'Aracnocóptero', which in seven minutes of flight takes data to generate an internal radiography of the wind turbine blade, detect its internal damages and quantify them automatically.

During the last two years, the young engineers of Arbórea have audited "in depth" more than 1200 Iberdrola blades in Spain and Mexico. The results have allowed highlighting the value of the procedure by combining the 'Aracnocóptero' and the associated 'software', according to the information provided.

Arbórea has begun to train Iberdrola Renovables area technicians in the management of the 'Web Blade' blade analysis software platform and also about the new 'Power Grids' line management platform, at the Iberdrola Campus located in San Agustín de Guadalix.

Thanks to this project, "Iberdrola could significantly reduce the time spent in reviewing the machines installed in its wind farms, also improving its reliability, which represents an important advance in the operation and maintenance work, one of the priority objectives of the wind sector today", concluded the energy entity.

[Link to original](#) (Spanish)