



BRIEFING NOTE

At the Sierra de Dueña wind farm in Salamanca province

Iberdrola and Arbórea Intellbird launch a new digital power line inspection system

- This innovative project is still in the experimental phase, and uses the Arachnocooper and “Power Grids” software to slash power line maintenance times, giving more reliable results and applying the data gathered for the early detection of structural faults
- Iberdrola, as part of its commitment to entrepreneurship and industry in Spain, and the Centre for the Development of Industrial Technology (CDTI) have invested 500,000 euros in Salamanca-based enterprise Arbórea
- The company chaired by Salamanca native Ignacio Galán is holding its first Innoday seminar on 23 May on the corporate campus in San Agustín del Guadalix (Madrid), a get-together for learning about the innovative initiatives that are transforming the energy sector, enabling knowledge transfer and attracting young talent to the energy sector

Iberdrola and Arbórea Intellbird presented their latest technological development designed to improve power line inspection procedures at the Sierra de Dueña wind farm this morning.

Using the Arachnocooper, a drone that has revolutionised wind turbine blade inspections, the programme uses “Power Grids” software on wind farm evacuation lines, digitalising assets and enabling more convenient, reliable inspections. It also provides the application with data for systems analysis based on artificial intelligence and vision to detect and measure hidden structural problems like corrosion, hot spots and other critical faults.

The new Arachnocooper, able to fly longer distances over electric power lines, combined with the new software, also designed by the Salamanca company, makes wind farm maintenance inspections more efficient, reduces downtime and achieves far superior results than traditional inspection methods.



BRIEFING NOTE

The resulting very high resolution digital maps of the lines are processed and made available to Iberdrola Renewables through the software app and cloud report, facilitating automated, smart, fault management.

The associated Power-eye mobile app introduces augmented reality that enables repairers to find faults identified in the lines merely by looking at the line with a simple mobile phone.

This innovative, digitally-based asset inspection system permits centralised strategic decision-taking and generates efficient control with a predictive approach to faults. These first experimental experiences on Iberdrola Renewables power lines will provide valuable data for determining the viability of a new inspection protocol.

One essential factor for Iberdrola is the consequential risk reduction, since this method obviates the need for staff to climb up masts to perform inspections. What is more, the new digital inspection scheme will provide more reliable asset control, a philosophy aligned with Iberdrola's continuous service improvement policy.

This innovative initiative has been carried out experimentally at the flagship Sierra de Dueña wind farm, approximately 40 kilometres from Salamanca. This Iberdrola wind farm has capacity of 31.5 megawatts (MW) and is located in the municipal areas of Pedrosillo de los Aires, Frades de la Sierra, Las Veguillas and Membribe de la Sierra. The farm consists of 37 wind turbines and has an electricity evacuation substation.

Improved blade inspection process

The Salamanca company, in collaboration with the Iberdrola Renewables Operation and Maintenance Division, has also made some significant improvements to the blade inspection process. It uses algorithms to associate defective blades with failure modes and ageing curves, facilitating diagnosis to correct errors more quickly.

The software is ideal for detecting serious internal structural issues in the early stages, helping Iberdrola to design and implement new, safer, less costly repair at height procedures, identifying blades in bad condition and repairing them more cheaply.

Arbórea, a pioneer in drone pilot training in Spain and in industrial inspection with new technologies, is immersed in a more efficient supervision model, which provides a more efficient way of checking all power lines at the same time,



BRIEFING NOTE

protecting inspectors from the risk of working at heights by using the Arachnocopter, which during a seven-minute flight can generate an X-ray of the inside of a wind turbine blade, detect damage and automatically quantify the extent.

During the last two years, young engineers at Arbórea have performed thorough audits on more than 1,200 Iberdrola blades in Spain and Mexico. The results underline the value of combining the Arachnocopter and its associated software.

Arbórea has started teaching technicians in the Iberdrola Renewables area to use the “Web Blade” blade analysis software platform, and the new “Power Grids” line management software on the Iberdrola Campus in San Agustín de Guadalix.

The project will enable Iberdrola to significantly reduce the time spent inspecting machines installed on wind farms while improving reliability, which signifies an important advance in operation and maintenance work, one of the wind power sector’s current priorities.

Investment in Arbórea Intellbird

IBERDROLA and the Centre for the Development of Industrial Technology (CDTI), a body attached to the Ministry of Economy and Competitiveness, signed an agreement with Arbórea Intellbird, S.L. in 2014, whereby both organisations invested 500,000 euros.

This was the first investment in the Energy and Environment area under the INNVIERTE programme, with Iberdrola acquiring a holding in Arbórea through the Perseo fund, and the CDTI, with the priority objective of driving development of this company and establishing it within the sector.

Arbórea Intellbird, S.L. is based on the Science Park at Salamanca University. It specialises in manufacturing unmanned aerial vehicles for professional uses, among which are power and distribution infrastructure inspections.

This foray is part of Iberdrola’s commitment to fostering Spanish entrepreneurship and industry, for which it has the €70-million PERSEO programme to support technology-based entrepreneurs and companies. Iberdrola has already invested €50 million in technology start-ups through this initiative since 2008, to ensure the sustainability of its energy model in the future.



BRIEFING NOTE

Iberdrola shows its commitment to R&D&i during its first Innoday

The company chaired by Salamanca native Ignacio Galán is holding its first Innoday seminar on 23 May on the corporate campus in San Agustín del Guadalix (Madrid), a get-together for learning about the innovative initiatives that are transforming the energy sector, enabling knowledge transfer and attracting young talent to the energy sector.

Under Iberdrola's overarching commitment to innovation, which meant investments of €246 million in 2017 alone (17% more than the previous year and an increase of 237% over the last ten years), members of the company team, universities, suppliers, start-ups like Árborea and public administrations took part in a seminar that focused on two areas: the presentation of the Iberdrola Universities Programme and the Innovation Fair.



Cuida del medio ambiente.

Imprime en blanco y negro y sólo si es necesario.