

DRONE INSPECTION

We are committed to the use of drones for wind farm inspection

This technology allows to detect structural incidents in the blades of the wind turbines and serves as a guide for its correct maintenance, saving considerable costs and increasing safety. Drones help us meet our goals of extending the life of the facilities and increasing the efficiency of our more than 12.000 wind turbines worldwide.



Iberdrola was one of the first energy companies to realize the enormous opportunities offered by drones.

The rapid development experienced by these remotely piloted aerial systems has led to its applications multiplying, and the company has not hesitated to promote its use in different areas. Thus, **since 2013 it promotes the development of this type of technology** through its investment in the external

[Arborea Intellbird](#) company for the **creation of solutions dedicated to the review and maintenance of wind turbines.**

ARACNOCÓPTERO, THE DRONE THAT JOINS DESIGN AND EFFECTIVENESS

The result of this collaboration was the **Aracnocóptero**, a **multi-rotor folding helicopter that has revolutionized the inspection of wind turbine blades.** Equipped with **high-definition cameras and other sensors**, it is able to generate, in just seven minutes of flight, **an internal radiograph of these blades and detect structural problems, such as corrosion or hot spots.**



The Aracnocóptero drone detects any incidence on the blades of the wind turbines.

The new model of *Aracnocóptero*, presented in May 2018, incorporates important improvements:

- It allows to fly **greater distances over the power line.**
- Thanks to the **use of Power Grids software**, it **processes and transmits in real time the digital mappings drawn.**
- The **associated Power-eye app** helps technicians **easily locate defects through their mobile phone.**

All this maximizes efficiency during wind farm maintenance inspections, **reducing downtimes** and achieving a **much higher level of detail** than traditional inspection methods.

All the information offered by the drones is analyzed and stored to carry out automatic fault management —based on vision and artificial intelligence—. This **predictive maintenance** allows us to extend the life of wind turbines.

IBERDROLA

EL ARACNOCÓPTERO, AL DETALLE

Multirrotor versátil
Diferentes *kits* de brazos diseñados a imagen de las semillas del arce para volar **más lejos**, con **más viento (hasta 20 m/s)** o con **mayor carga**.

Seis motores
Capaz de volar durante **35 minutos** con una sola batería y de transportar una carga equivalente al 100% de su peso.

Fabricado en titanio
Ligero, **robusto** y **resistente** a la corrosión.

Impermeable y sumergible
Funciona **bajo la lluvia** y en el entorno marino.

Desmontable
Se puede **transportar** en un espacio reducido.

Control manual o remoto
Sencillo de manejar a través de cualquier **PC o Mac**.

Fuente: www.aracnocoptero.com

The AracnoCoptero, in detail.

ADVANTAGES AND BENEFITS OF THE USE OF DRONES

The inspection and maintenance of wind farms using drones provides three fundamental advantages:

- **Cost savings**, thanks to the use of a **fully digital platform**.
- **Reduction of occupational accidents**, by **preventing workers from having to go up to the facilities themselves** to perform the revision tasks at height.
- **Continuous improvement of the service** derived from the **increase in the reliability of the equipment**.

Due to the good results that the use of this type of technology is demonstrating, Iberdrola works to expand the range of possibilities in the use of drones. In this regard, it has undertaken several **pilot projects to review telecommunications towers and hydraulic infrastructure channels in hydroelectric power plants**.

[Link to original](#) (Spanish)