

## The 'Aracnocóptero' starts inspecting Wind Turbines around the World

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**The company Arbórea's aircraft, located in the University of Salamanca's Research Park, offers its first course in aerial inspection of wind turbine blades today**

**José Pichel Andrés/DICYT** Due to research out of the University of Salamanca, investment, and the efforts of this entrepreneurial company, the 'aracnocóptero' has become model of what exactly can be accomplished through knowledge exchange between the Universities and businesses, together with a good bit of innovation. This small aircraft, built by Arbórea, has caught the attention of the International Wind Energy Sector; this Spring it will start carrying out blade inspections of wind turbines all around the world, according to the company's announcement this afternoon as it inaugurated its first 'Aerial Inspection of Wind Turbine Blades' course.

The company's CEO, Carlos Bernabéu, in his comments to DiCYT, called to attention that the 'aracnocóptero' is the result of four and a half years of R+D+I without any economic support. He continued by saying that the current model, the EOL 6.2, is a specific response to the wind energy sector's needs, specifically the need to inspect the wear and tear, over time, of the wind turbine's blades. Until now, the blade inspection was a highly costly process, carried out with cranes and suspended vertical work teams.

The new aircraft allows for a cheaper and more efficient inspection, given that the hardware and software were specifically created for the task. Additionally, another Salamanca-based company, Flag Solutions, has taken charge, in part, of developing the IT side. The company was represented by Alberto Gutiérrez in the course this afternoon. "Carlos Bernabéu has a touch of craziness that every entrepreneur needs" he assured, also indicating other uses for the device, such as in agriculture and energy efficient buildings.

Although the more notable application is the wind turbine inspection, there also are military applications that are being explored. To that end, Arbórea has worked alongside the University of Salamanca's Research Group, BISTE, which has been involved since the beginning. Juan Manuel Corchado, the leader of this group and Dean of the Science Department, has indicated that the protection of troops that carry out dangerous missions could be one possible application of the aircraft and has pointed out that "it's a research product that's really stuck."

### **Military Interest**

Precisely because of this military interest, the inaugural conference was led by Lieutenant Colonel of Aviation Emilio García Herrera, who focused his attention on the world of UAVs (unmanned aerial vehicle). According to its creators, the 'aracnocóptero' presents numerous advantages in comparison the majority of other similar devices, mostly because of its

versatility, its light weight, loading capacity and ability to accommodate instruments such as cameras and sensors, and ease of use.

Although it has many potential uses, development has been centred on the Wind Energy Sector at the moment, thanks to an investor meeting organized by ADE, Castile and León Investment and Services Agency, in which Arbórea began collaborating with the Altertec Renovables maintenance company , of the Enerpal group.

### **Trials with the Largest Wind Turbine in the World**

The aircraft recently took detailed photographs of the blades of the largest terrestrial wind turbine in the world at 180 metres tall, still in the experimental phase, it's a prototype owned by Gamesa. Additionally, the trial was carried out in very rough wind conditions, conditions that the majority of UAVs available would not have been able to withstand. Arbórea's device created a detailed mapping of the gigantic blades of more than 60 metres, demonstrating its possibilities. Those in attendance of the course could see a spectacular video with these images.

With all the aforementioned considered, Carlos Bernabéu's company has become an example for the Science Park in which it is located, serving as a guide for young, less-experienced entrepreneurs according to José Miguel Sánchez Llorente, the general manager of the park.

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