

The Salamanca-based company, Arbórea, designs a remotely-controlled aircraft with some of the most unique advantages in the world

The aracnocóptero can be used for civil and military purposes

Barely a week after the Salamanca-based company, **Arbórea**, released an announcement of the upcoming launch of the aracnocóptero, a multi-rotor (helicopter equipped with various blades) unmanned aerial vehicle for civil and military use, a **Google** search with the name of the aircraft produced 25,000 results in Spanish. That gives an idea of the expectation that the research, development, and innovation has generated, with its origins in the University of Salamanca Science Park, where the business is housed. The Science Park offers unparalleled benefits on a globally competitive level.

Can you imagine a military convoy that could send a small device to scout out potential dangers by taking high resolution images from the air? Or a fisherman that works conflict waterways such as the Gulf of Aden, between Yemen and Somalia, could find out what type of vessel is approaching from a considerable distance? Or in a catastrophe like that of Fukushima, in Japan, can you imagine having a device that could determine the level of contamination in an area without having to expose anyone to it? This makes the device of incalculable help in safety. It wasn't a coincidence that the heads of the company were guests in a conference focused on maritime pirating, organised by NATO.

The possibilities are numerous, principally in the civil sector, as Carlos Bernabéu, the director of Arbórea, explains, **"It allows for the transport, with self-stabilising technology, of video cameras for documentation purposes and television, technical cameras for digital cartography, thermal equipment to audit high tension cables; it can be equipped with laser sensors that can create a profile of the terrain to design sketches for building motorways, check to see if the blade of a wind turbine is damaged, analyse crops to see if there are problematic insects affecting them, it could be used to map 100% of a given area for a variety of purposes, among other examples."** Many businesses aren't yet aware of this technology and could make use of tools that would make technical jobs much easier, while "providing significant cost savings", points out the entrepreneur from Salamanca. The added plus is that it allows its users to carry out technical jobs without infrastructure, complicated logistics, or previous training.

The aircraft is equipped with a long distance digital signal that is directed by a remote control, similar to that of a PlayStation, and a tablet that marks the parameters of the flight and produces a report in real time. The aracnocóptero was conceived to work in especially harsh environments, withstand extreme temperatures; it can even get wet.



The aracnocóptero in flight.

Predicted Revenue

From the business standpoint, the launch of the aracnocóptero, of which they expect to sell some hundreds of units in 2012 at a market price of 30,000 euros, will cause an enormous jump in Arbórea's revenue; although Bernabéu's prudence won't allow him to estimate beyond a figure that reaches "some millions of euros". The total investment at the moment is 200,000 euros, and the start of the aircraft production will imply doubling the staff up to twelve people and moving to their own research building in Salamanca, a new space where the aircraft will be assembled. Also Bernabéu is looking to make an entrance to find partners/investors that provide the financial muscle and guarantee the viability of the project.

Origen of the Project

As strange as it may seem, the economic crisis and the lack of solvency in public administration gave rise to the aracnocóptero. **Arboréa** is a company was founded 12 years ago by Bernabéu, who has a degree in Biology and who for many years worked in "what he likes," he says, like fauna management, environmental education, although always from a R+D+I point of view. **"We're an atypical firm in the sense that we don't expand because we don't want to abandon our current scheme and we've always been able to choose the projects we felt like working on."** His clients were public administrations and, in 2009, he started to see these entities' lack of solvency, **"with delays in payments, investment cuts, the breaking of contracts. Because we hadn't made any big investments up until that moment, we had absolute flexibility, so we changed direction and started a project that that could potentially beat out everything on the market."** This development was the origin of the aracnocóptero. Bernabéu started the search for a company that could manufacture small, user-friendly, light, and safe devices, but he always ran into firms that developed military technology, **"but not with the specifications that we were looking for. Since there wasn't anything, we decided to make them ourselves because we knew it was possible. We hired a military expert in multi-rotor UAVs which presents many advantages compared to a conventional helicopter since they don't require a lot of maintenance and are self-stabilising, which makes piloting it very simple, it's safe and it has a large load capacity, up to three kilos compared to the competitors' one kilo load**

capacity.” Another aspect that sets it apart is its range, with an effective reach of up to 100 kilometres compared to other systems that use an analogue signal that have a reach of three kilometres.

In 2009, they began constructing the device that is distinguished from the rest by the materials of excellence used, **“the best that exist on the market”**, points out the Director of Arbórea. 50% of them are *hecho* in Castile and León.

The entrepreneur explains that the aircraft “is not a toy and will not be sold to just anyone” because of security questions. For that reason, there will be an exhaustive control, with a register of all the clients.