HÉLICES E-Props

PRESS RELEASE
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New production equipment at HELICES E-PROPS

The HELICES E-PROPS company, based on Sisteron's airfield (Provence, France), designs and manufactures carbon propellers for UAV, paramotors, ultralights and aircraft. Since 2008, the company develops its activities following the "*Industry 4.0*", which corresponds in a new way of organizing the means of production, in particular digitalization and robotization of the manufacturing, wide use of simulation, implementation of logistic tools in all the stages
Those past weeks, E-PROPS has implemented two new production equipment.

1- 8-axis machining centre with laser scanner

This machining centre has been custom designed and built to allow the dimensional analysis, the rectification and the finish of the carbon parts automatically, without dismantling of the part. It is equipped with a directional brooch on 5-axis programmed according to the digital definition of the part, with a wide tool store. The precision of measure by the scanner laser is of 5/100th of millimeter.
The scanner sweeps the carbon part, the program recognizes it according to ts database, then the different tools come to make all the finishing work : deburring, cut, drilling, sanding and polishing. All the stages between the molds and the stock are automatic. Just remains the final balancing of blades.

This machining centre performs tasks so far made by four technicians, who can now make less repetitive work. This machine is very precise and can make perfectly reproducible carbon parts. And it is essential for the E-PROPS company, which plans to double its production capacity to reach 30.000 blades/year at the end of year 2017.

2- Professional 3D printer

The company has also just equipped itself with a 3D printer to realize equipments, molds, prototypes and of pre-series parts, as well as lighter functional components.
This technology is going to allow E-PROPS to design and to make parts with complex geometries or aerodynamic properties difficult, even impossible, to make with traditional methods.

In the aeronautical field, the 3D printing, also called "Additive Manufacturing" (AM), is the new industrial revolution. First adopted by the aeronautical industry for the design and the prototyping of innovative products, the additive manufacturing is now used for large scale production. The AM also allows to reduce waste and the associated costs to the realization of complex parts, without questioning strength of materials or performances of components.

Those new equipment are expensive but essential investments for a company at the forefront of the innovation as E-PROPS is. 22 people are working for E-PROPS, and 5 of them are engineers and technicians at design department. It means 23% of the staff only dedicated to the research and development of carbon propellers.

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Blade of EXCALIBUR-6 on the TRM-8 machining centre