

The 2019 R & D & i project is reaching 100% to meet the goals:

## A GLOBAL APPROACH TO IMPROVE THE MANUFACTURING OF CASINGS FOR THE NEW AERO ENGINES NEO (ITENE0)

The casings are a key element of the turbomachinery industry, including turbines for hydroelectric production, gas-type electric power generation, and those for aircraft engines. Despite being a static part, its quality is key, since it has to be able to contain a catastrophic failure of the blades, in the so-called Blade-Out Jet Engine Test. On the other hand, there are new innovative machining methods that must be improved by testing both test pieces and dummies similar to real components.

What types are we developing? Basically the following ideas:

- 1- Advanced turning technique, either by increasing the feed (high feed turning) or by the directional capacity of the inserts
- 2- Improvement of the milling of cavities, and forms of union in the flanges
- 3- Optical metrology, which must also be validated by contact
- 4- Polishing of edges and holes, where there is a great diversity of both characteristics and tools

At the CFAA we have machines of a size similar to those needed in companies in the area, therefore, turning on vertical lathes or on multi-task machines has been possible and a way of validating the necessary operations. In addition to knowledge, new tools of national or European production, data collection and process models, and characterization work on the new tools has been the day-to-day of the process. Tests have been carried out in the project, and manufacturers of rotating machines have been attracted.



Machines are key in a project, but people are more so

Proyecto PID2019-109340RB-I00 financiado por:

Grant PID2019-109340RB-I00 funded by  
MCIN/AEI/ 10.13039/501100011033.

