# AVISPA

2020

A project by

eit Manufacturing

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## Automation of visual inspetion and finishing processes for aero-engines

Sustainable Production | Digitalisation

Project consortium

ITP Aero

Avio Aero

IDEKO

K|Lens

TU DARMSTADT

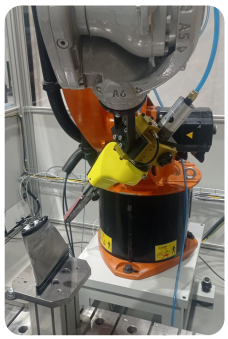
Politecnico di Torino


Summary

The aero engines manufacturing processes have low production rates, high quality requirements, complex shapes and poor machinability materials. That implies manual and costly processes with high quality and inspection requirements and therefore a high risk of finished parts rejection. This project will aim to reduce the defects and the inspection time in order to improve competitiveness while reducing the consumption of raw materials, energy, natural resources and consumables.

That will be achieved by using the artificial vision technology as the backbone of the project, integrated with machine learning and automation technologies in order to get high impact, robust and efficient processes. These are:

- In process monitoring of cutting tools: prevent cumulative defects caused by cutting tools early wear/damage; identification of manufacturing defects at early production stages and optimise cutting tools operating life
- Automation of finishing processes for parts manufactured by additive technologies: reduce the number of defects resulting from manual operations; improve the repeatability, standardisation and process control (key for regulated sectors).
- Automation of visual inspection of honeycomb-made parts: reduce manual repetitive inspection process and eliminate quality control bottlenecks; improve the repeatability, standardisation and inspection records.




info@mitic.at
www.mitic.at

EIT Manufacturing East GmbH
Christine-Touaillon-Straße 11/29
1220 Vienna