

AVISPA – Automation of Visual Inspection and Finishing Processes for Aero-engines

- **PROJECT START**
January 2020
- 0,6 M€ EIT fundings
- Robotic cell for finishing processes
October/2020
- First AI based Visual inspection algorithm for cutting tools
November/2020
- Automated light inspection for honeycomb-made parts
December/2020
- Advanced AI Visual inspection algorithm for both inspection and finishing process
December/2021
- Commercialization of first product
2022

CHALLENGE



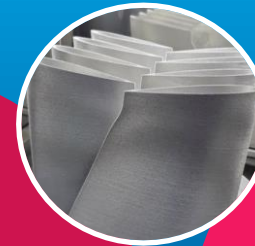
- Monitor in-process wear of cutting tools
- Automation of finishing processes for parts manufactured by additive technologies
- Automation of visual inspection of surface integrity and honeycomb-made parts.



SOLUTION



- Use of **Artificial Vision** Technology. Exploitation of innovative K|Lens visual inspection
- Development of **Machine Learning** based algorithms.
- Integrate Artificial Vision and Machine Learning with **Robotics** for inspection and finishing processes



BENEFITS



- Identify manufacturing **defects at early stages**
- Optimize **cutting tools life**
- Reduce manual finishing operations for AM parts. Improve the **repeatability** and **process control**.
- Reduce final **Inspection time**.



MAIN PROJECT GOALS

ELIMINATION

 **30.000**

VISUAL CHECKS PER MACHINE TOOL/YEAR

LIFETIME IMPROVEMENT

 **5.000**

CUTTING TOOL PER YEAR/MACHINE

REDUCTION

 **-40 / -50%**

PROCESS TIME IN INSPECTIONS / FINISHING (AM LPFB)

“Thanks to EIT, we were able to develop integrated solutions using artificial vision, AI based algorithms and robotics for selected aero-engines parts to improve and make more sustainable industrial processes”