



EUROPEAN MANUFACTURING INNOVATION

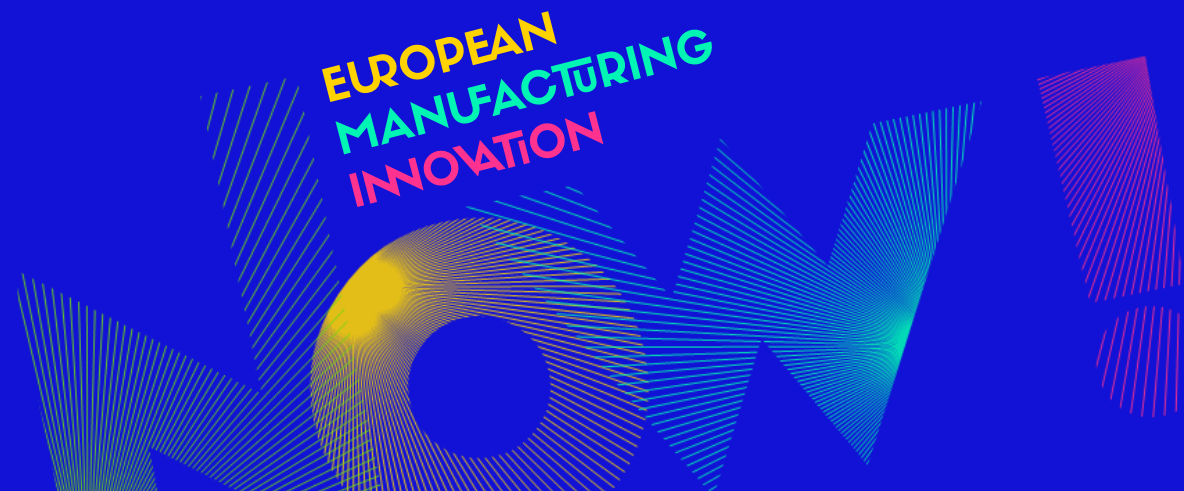


EIT Manufacturing is supported by the EIT,
a body of the European Union



AVISPA

Automation of Visual Inspection and Finishing processes for Aero-engines





Challenges and targets





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Aero engines manufacturing processes:

- Low production rates, high quality requirements, complex shapes and poor machinability materials.
- Manual and costly processes with high quality and inspection requirements
- High risk of finished parts rejection





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Aero engines manufacturing processes:

- Low production rates, high quality requirements, complex shapes and poor machinability materials.
- Manual and costly processes with high quality and inspection requirements
- High risk of finished parts rejection

- Reduce defects and inspection time
- Improve competitiveness
- Reduce consumption of raw materials, energy, natural resources and consumables.





Our solutions

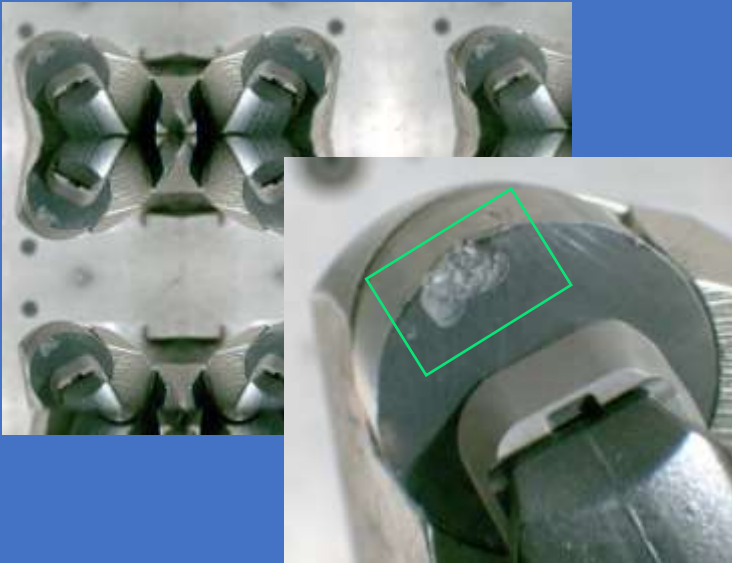
**Artificial Vision technology + Machine Learning + Automation technologies
using innovative K|Lens 3D visual inspection**



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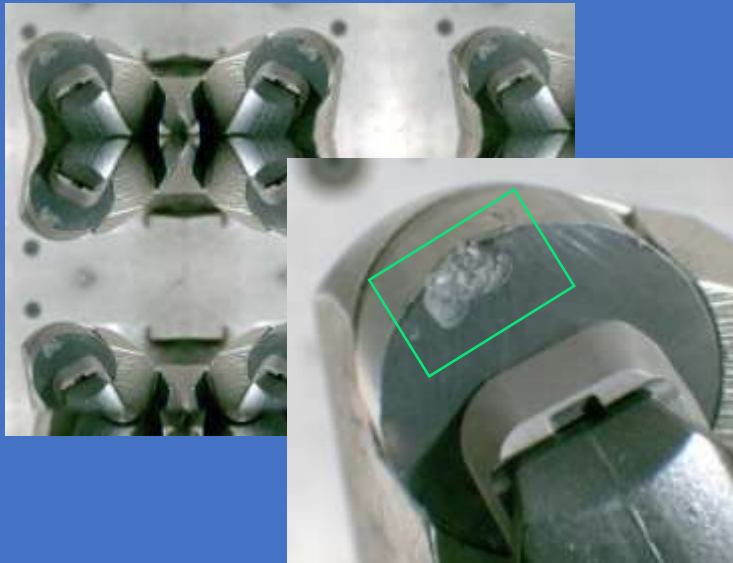
In process monitoring of cutting tools



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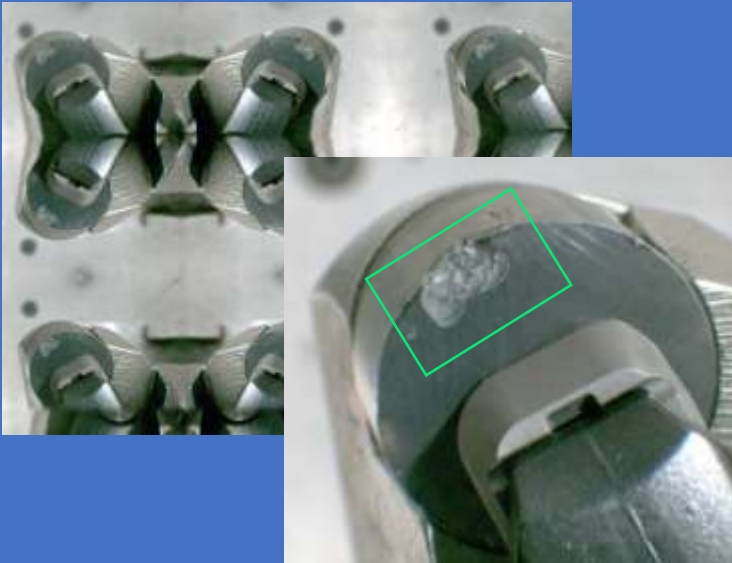
**Automation of finishing processes for
parts manufactured by additive
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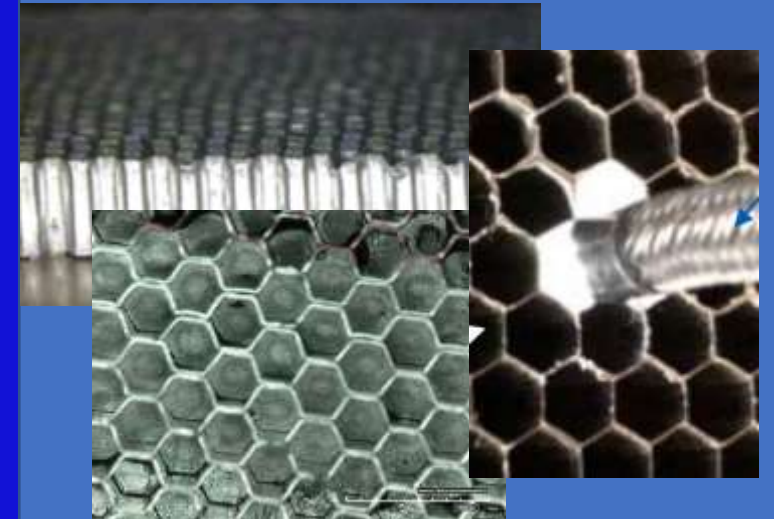
In process monitoring of cutting tools



**Automation of finishing processes for
parts manufactured by additive
technologies**



**Automation of visual inspection of
surface integrity and honeycomb-
made parts.**





Expected benefits





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- **30000** visual checks/machine tool/year!





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- **Optimise** cutting tools operating life

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More than **5000** visual checks/machine tool/year!





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- **Identify** manufacturing defects at early production stages
- **Optimise** cutting tools operating life
- **Reduce** the number of defects resulting from manual surface finishing operations

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Minimise scrap & rework!

More than **5000** visual checks/machine tool/year!

-**50%** process time!



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- **Prevent** cumulative defects caused by cutting tools early wear/damage
- **Identify** manufacturing defects at early production stages
- **Optimise** cutting tools operating life
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- **Improve** the repeatability, standardisation and process control.

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Key for regulated sectors!



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- **Prevent** cumulative defects caused by cutting tools early wear/damage
- **Identify** manufacturing defects at early production stages
- **Optimise** cutting tools operating life
- **Reduce** the number of defects resulting from manual surface finishing operations
- **Improve** the repeatability, standardisation and process control.
- **Eliminate** bottlenecks from final manual parts inspection

- **30000** visual checks/machine tool/year!

Minimise scrap & rework!

More than **5000** visual checks/machine tool/year!

-**50%** process time!

Key for regulated sectors!

-**40%** inspection time!



The Consortium

- ITP Aero (Spain, Industry)
- IDEKO (Spain, RTO)
- AVIO Aero (Italy, Industry)
- Politecnico di Torino (Italy, RTO)
- K|Lens GmbH (Germany, start-up)
- PTW (Germany, RTO)

