



WEBINAR

The impact of additive manufacturing on product sustainability

3 November 2020 | 11.00 AM - 12.10 PM (CET)



cecimo

European Association of the Machine Tool Industries
and related Manufacturing Technologies

Re-design and sustainability of metal parts in AM

aidro

hydraulics & 3D printing

Valeria Tirelli

President & CEO

Re-design and sustainability of metal parts in AM

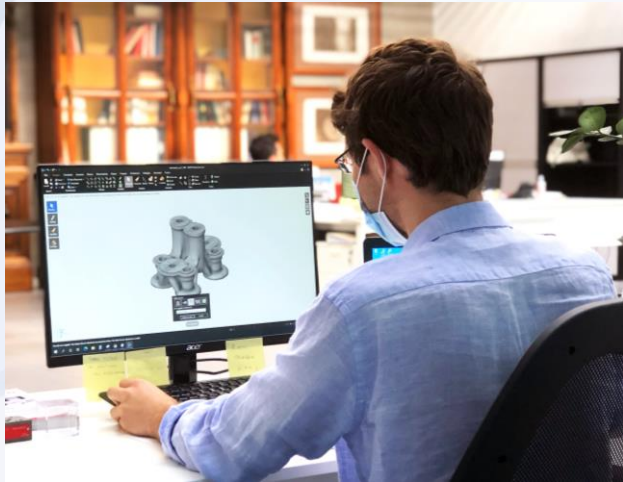
- Machinery Refurbishing thanks to customized AM parts
- Lightweight AM parts and CO2 emission reduction
- Circular Economy - Ecosystem Project by f3nice : **recycling of obsolete parts to create new 3D printed parts**

Machine refurbishing thanks to AM parts

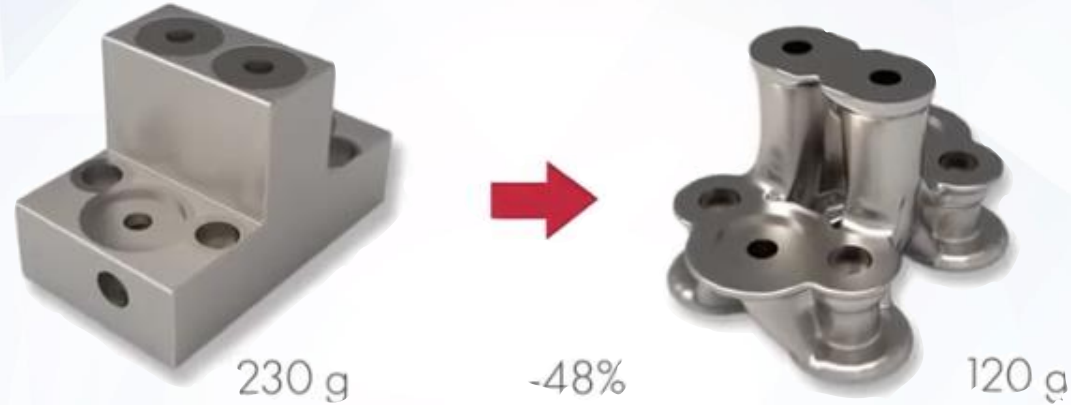
- Existing machinery and equipments can be refurbished and re-used with customized AM components



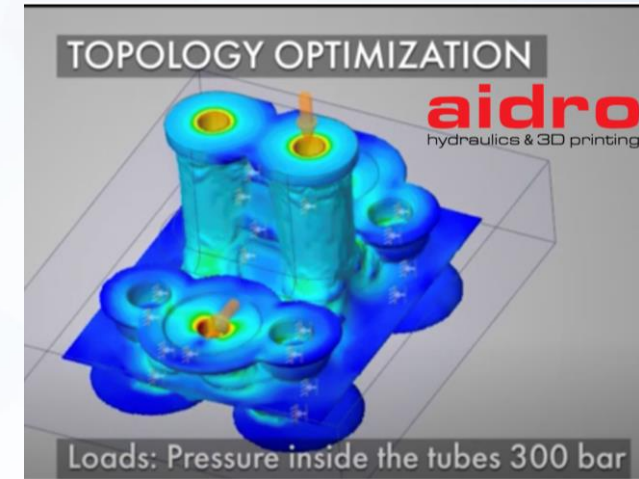
Thinking outside the box with Design for AM



- Design for AM



- From conventional to 3D Printed solution



- Topology Optimisation

The results:

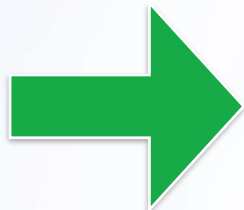
- Refurbished test bench with AM
- Faster testing of hydraulic products
- Higher safety level for the operator during testing



Lightweight AM hydraulic manifold



- Conventional manufactured

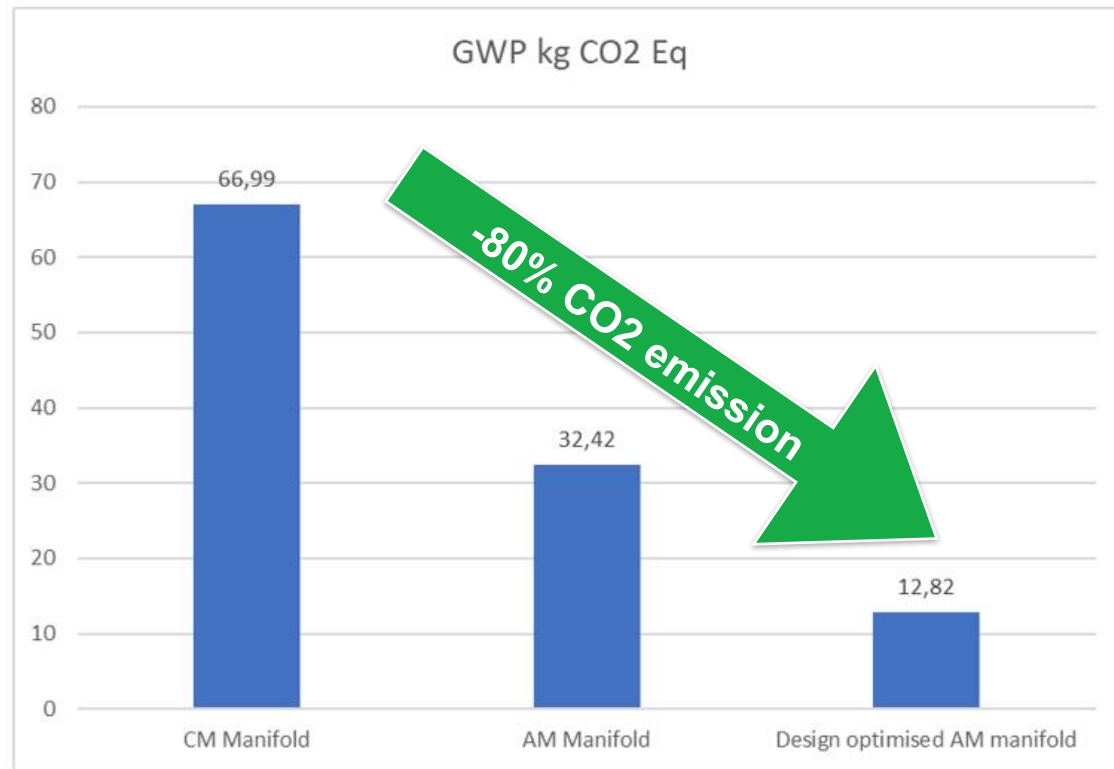


- Additively manufactured



- Design optimization with AM

Lightweight AM parts and CO2 emission



GWP = Global Warming Potential (kg CO2-equivalents over 100 years)



-60% weight reduction

Reduction of CO2 emission with 3D printed parts - Study in collaboration



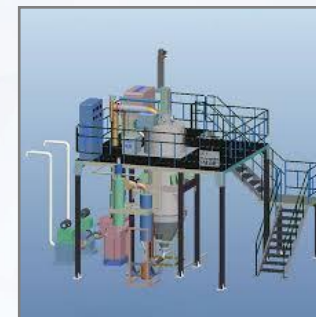
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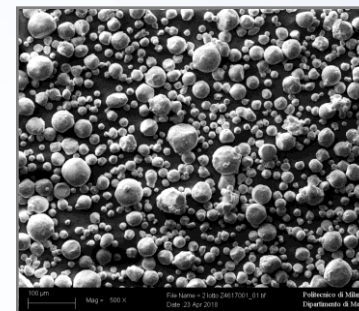


Scrap material



Powder Production

Powder for AM



CIRCULAR ECONOMY ECOSYSTEM

a project by **F3NICE**

Metal 3D Printing



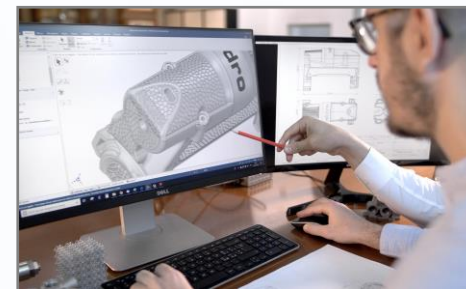
Post-processing

Assembling and testing
of 3D Printed Parts



valand

FLUX VALVISION



Design for AM



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Conclusion



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