

Sinergie Università-Industria per lo sviluppo di soluzioni sostenibili basate sulle leghe di alluminio: ricerche nazionali e internazionali



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Brescia, 5 maggio 2022

Contenuti

- → La Rete Innovativa Regionale SINFONET
- → Progetto GAP
- → Progetto AGILE
- → Progetto SALEMA
- → Contatti e Riferimenti







SINFONET – Smart & Innovative Foundry NETwork

- → Circa **50 Partner** distribuiti lungo tutta la **filiera della Fonderia**: fonderie di acciaio, ghisa, alluminio; produttori di materie prime e di materiali di consumo; fornitori di ingegneria, tecnologie, attrezzature, servizi; enti di ricerca e di formazione; end-users
- → Obiettivi: progettare, realizzare, coordinare una ampia serie di iniziative (Ricerca, Innovazione, Formazione) destinate alla fonderia e al settore metalmeccanico
- → Realizzare nella Regione Veneto un **Centro di Eccellenza** sulla Fonderia e su processi e tecnologie collegate.









SINFONET – Smart & Innovative Foundry NETwork







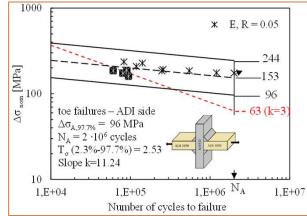


Progetto GAP (2017-2020)

Ghise e Leghe di Alluminio ad elevate prestazioni



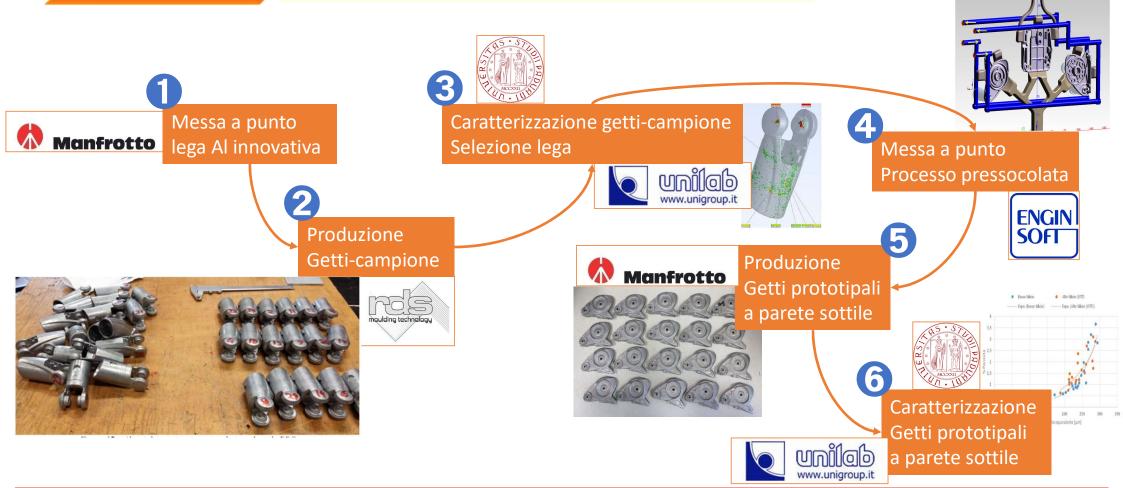






Progetto GAP

Getti pressocolati in lega di Alluminio





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Progetto AGILE (2020-2022) Manifattura AGILE per la competitività e l'innovazione di prodotto

































Concetti preliminari



VIRTUAL DESIGN and DIGITALIZATION

 smart working with remote integrated processproduct design; evaluation of different production scenarios to optimize the agile reconfiguration after temporary lock-down



DEVELOPMENT and INTEGRATION of ADVANCED and AGILE TECHNOLOGIES

 to flexible and rapid production of new and necessary products.



FAST RECONFIGURATION and OPTIMIZATION of production line

• to flexible and rapid production of new and necessary products.



INTELLIGENT QUALITY MANAGEMENTS

 the digital quality improves the quality certification in conventional and emergency conditions;







Concetti preliminari

→ know how, growth and competiveness

AGILITY

Agility for rapid reconfiguration

CONTROL

Control with Factory Digitalization and A.I.

EFFICIENCY

Efficiency with optimal production cycle and quick reconfiguration

ZDM

Zero Defect Manufacturing (ZDM) - scrap reduction

GREEN

Green Factory energy saving

SUSTAIN ABILITY

Manufacturing Sustainability:

cost reduction, short time-tomarket



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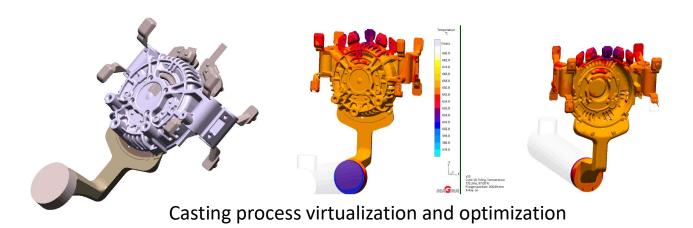




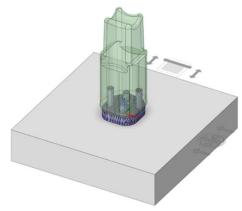
Linea di attività: Pressocolata



FOUNDRY USE CASE Electric generator







Die insert design and Additive Manufacturing optimization









Obiettivi e Risultati

Objectives

- Design of new rapid insert for the die
- Use of Additive Manufacturing in die optimization
- Digitalization of HPDC production line
- Validate the agility and efficiency in Alalloys HPDC foundry

12M results

- Design of long life AM metal die insert
- Simulation of casting and AM process
- Planning for Casting optimization reducing defects
- Monitoring, collection and visualization of HPDC data
- Elaboration of process data and machine learning application





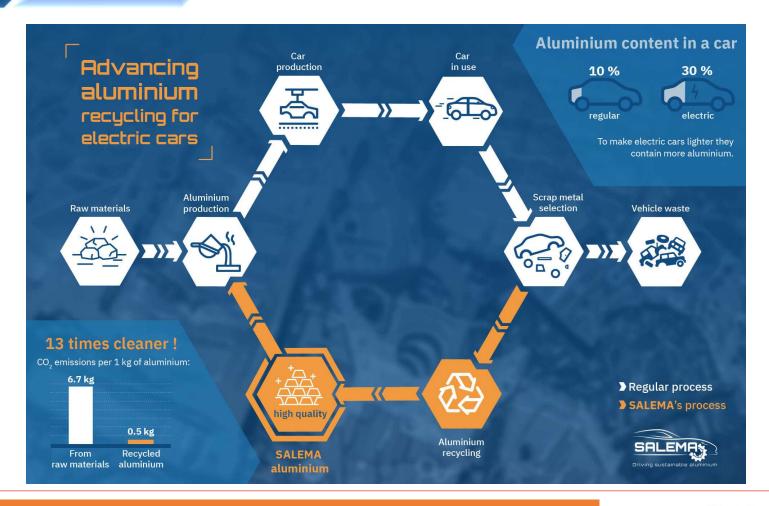


Progetto SALEMA (2021-2024) Substitution of Critical Raw Materials on Aluminium Alloys for Electric Vehicle



www.salemaproject.eu

Premessa



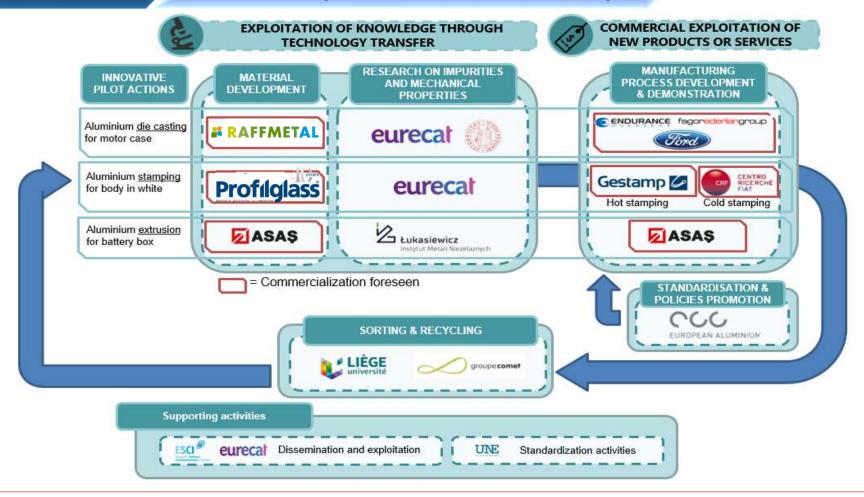


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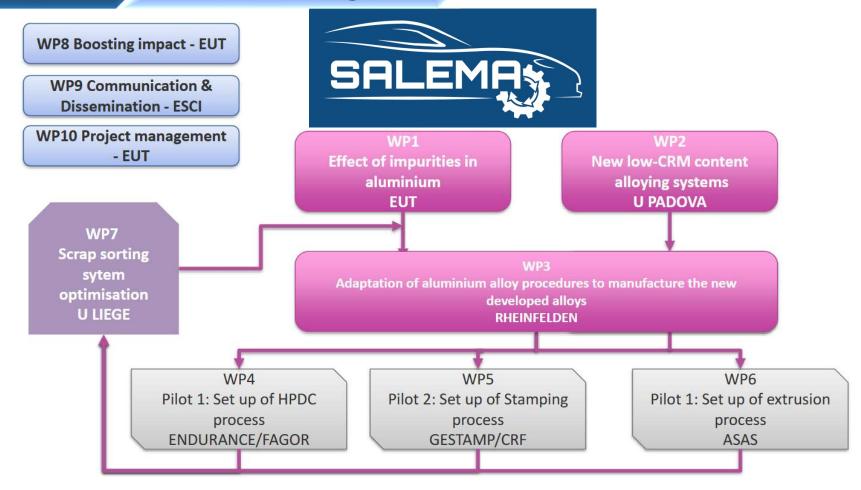
Aree di competenza della Partnership







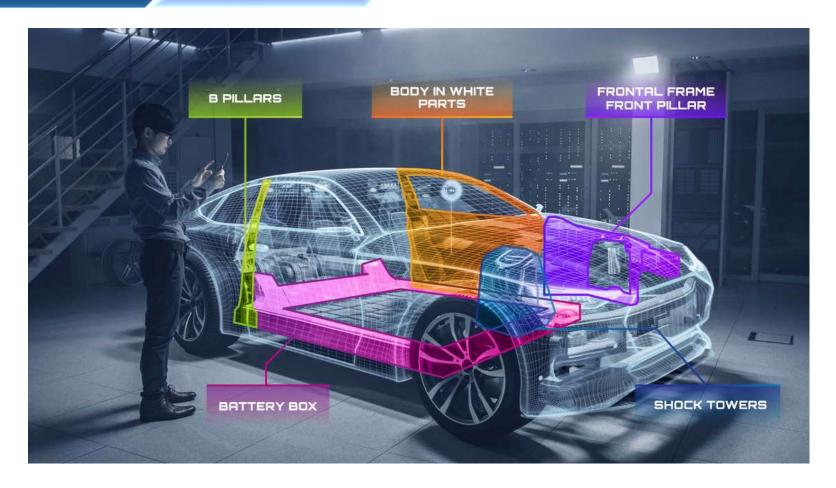
Struttura del Progetto







Dimostratori







Aree di impatto

Automotive Industry Suppliers
(Early Adaptors)
SALEMA offers new cost-

effective and sustainable solutions for the production of high-performance aluminium components.

Automotive Industry (Indirect Adaptors)

The automotive industry will benefit from a cost-effective and sustainable production for their aluminium components.

Other Industries (Future Adaptors)

Also other industries could benefit from cost-effective and sustainable aluminium components.



By substituting primary CRM with scrap and other materials it is possible to produce high-performance aluminium grades.

General Public

The automotive and other industries will increase their competitiveness, secure jobs and protecte the environment – providing a benefit for the entire society.





Contatti e Riferimenti





www.retesinfonet.org

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SINFONET

La Data Innovativa Davianala culla EONIDERIA

Vuoi aderire alla rete Sinfonet?





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