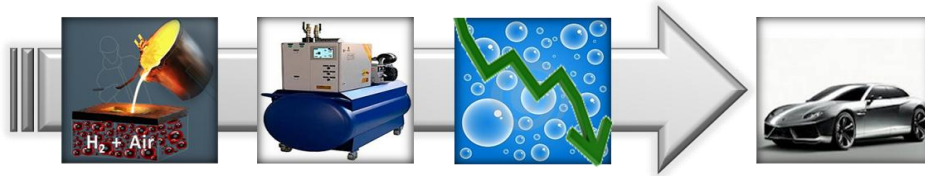


# SOUNDCAST



## VACUUM-ASSISTED HIGH PRESSURE DIE CASTINGS WITH REDUCED POROSITY AT LOW COST

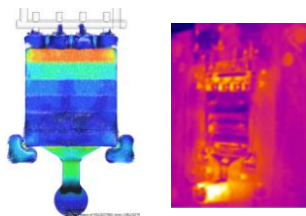
### OBJECTIVE

The aim of this project is to provide a **SOUNDCAST technology** which allows the fabrication of sound and weldable vacuum-assisted HPDC (VPDC) components at low cost by using secondary alloys with enhanced mechanical properties and to establish a VPDC control system that assures casting quality.



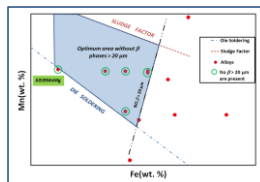
### MAIN EXPECTED RESULTS

- Design of test piece & Simulation of cavity filling.

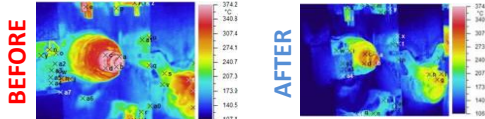


- Formulation of a new recycled alloy with good ductility.

Challenge: Convert the harmful  $\beta$  phases into  $\alpha$  phase by microaddition.

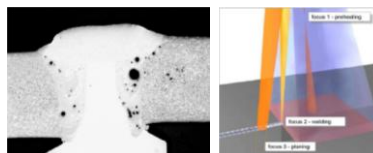


- Die lubrication.

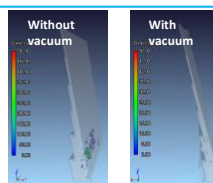


- New welding process.

Challenge: Develop economical laser beam welding technique at reduced pressure reliable to weld aluminum die-cast.



- High speed vacuum valves



### CONSORTIUM:

SME



HPDC Foundry: Weldable demonstrator



Vacuum System and valves Manufacturer



HPDC Foundry: High ductility demonstrator

RTD



Research Alliance  
Metallurgy: New Alloys, Die Design, Melt treatment



Vacuum HPDC Process  
Mechanical Properties



HPDC Lubrication,  
Welding HPDC parts

ADDITIONAL INDUSTRIAL PARTNER



Lubricant supplier



7th Framework Programme for Research and Development

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