Cost-effective aluminium die casting for automotive industry

Fact Sheet

Project Information

FC21S

Grant agreement ID: 733619

Project website

DOI
10.3030/733619

Project closed

EC signature date
27 July 2016

Start date
1 August 2016

End date
31 October 2018

Funded under
SOCIETAL CHALLENGES - Smart, Green And Integrated Transport

Total cost
€ 1 877 978,75

EU contribution
€ 1 314 585,13

Coordinated by
FONDERIE CERVATI S.R.L
Italy

Objective

"The automotive industry needs cost-effective solutions that enable it to reduce the weight of vehicles and in this way their emissions, so as to comply with increasingly stringent environmental regulations. The usual way of doing so is through the use of light car pieces which maintain structural performance concerning security, and in this way comply both with EU legislation and consumer needs. Aluminium die casted pieces perfectly address these needs: its light density enables to reduce weight by 40% compared to steel parts, and it presents outstanding mechanical performance. However, its die casting presents drawbacks such as high energy consumption and generation of large amounts of waste from release agents which are hardly

avoidable.
Our consortium, integrated by two Italian SMEs with expertise in the metal casting sector, aims to provide a solution to this issue: #FC21S is an innovative spraying process for aluminium die casting in which a pioneer concentrated mould release agent is nebulised through an ad-hoc micro-spraying head, rendering pieces with better mechanical properties and enhanced impact resistance. This system enables to reduce the amount of release agent from the current 12L to only 10 ml per piece, implying a cleaner and cheaper process. Moreover, it reduces bubble formation, what reduces the porosity in the aluminium casted piece, increasing its impact resistance. The overall objective of #FC21S is to achieve the industrialisation for the manufacturing of both #FC21S systems and structural aluminium car pieces, and in this way contribute to reducing the environmental impact of both the die-casting and the automotive industries.
Moreover, through this project we aim to boost the competitiveness of both our companies, reaching overall revenues of about €21 million in the fifth year of commercialization, and increasing our personnel in about 15 people. With a Phase 2 investment of 1.99 million, this would imply a Return of Investment of 4.4.
"

Fields of science (EuroSciVoc)

engineering and technology > mechanical engineering > tribology > **lubrication**

engineering and technology > mechanical engineering > vehicle engineering > **automotive engineering**

natural sciences > chemical sciences > inorganic chemistry > **post-transition metals**

natural sciences > mathematics > pure mathematics > **geometry**

Programme(s)

H2020-EU.3.4. - SOCIETAL CHALLENGES - Smart, Green And Integrated Transport

MAIN PROGRAMME

H2020-EU.2.1.1. - INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies - Information and Communication Technologies (ICT)

H2020-EU.2.3.1. - Mainstreaming SME support, especially through a dedicated instrument

Topic(s)

SMEInst-10-2016-2017 - Small business innovation research for Transport and Smart Cities Mobility

Call for proposal

H2020-SMEInst-2016-2017

See other projects for this call

Sub call

H2020-SMEINST-2-2016-2017

Funding Scheme

SME-2 - SME instrument phase 2

Coordinator

FONDERIE CERVATI S.R.L

Net EU contribution

€ 995 510,25

Total cost

€ 1 422 157,50

Address

VIA VALCAMONICA 21/S
25132 BRESCIA
Italy

SME

Yes

Region

Nord-Ovest > Lombardia > Brescia

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

Contact the organisation
Participation in EU R&I programmes
HORIZON collaboration network

Participants (1)

VIBE DI VITO BECCHETTI & C. S.R.L.

Italy

Net EU contribution

€ 319 074,88

Address

VIA VALLESABBIA 98
25065 S. APOLLONIO LUMEZZANE

SME

Yes

Region

Nord-Ovest > Lombardia > Brescia

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

Contact the organisation
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

€ 455 821,25

Last update: 12 August 2022

Permalink: https://cordis.europa.eu/project/id/733619