IZADI

nano2industry

www.izadinano2industry.eu

To Impulse the Uptake of Nanotechnology Based Solutions

Project Coordinator

Cristina Elizetxea Ezeiza
cristina.elizetxea@tecnalia.com

tecnalia Inspiring Business

Project Scientific Coordinator

Maider Garcia De Cortazar
maider.garciadecortazar@tecnalia.com

tecnalia Inspiring Business

Dissemination & Communication Manager

Isella Vicini
isella.vicini@warrantgroup.it

WARRANT GROUP

Exploitation Manager

Andrea Torcelli
andrea.torcelli@bonfiglioli.com

Bonfiglioli Forever Forward

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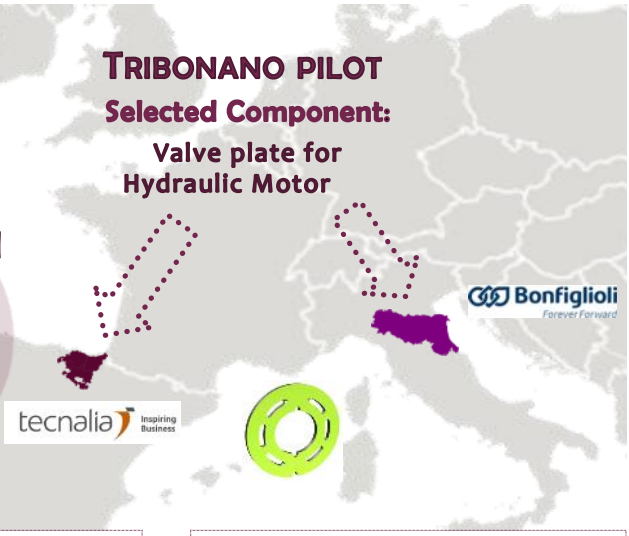
1

Thermal Spray Technology for Nanostructured Coatings by Solid State Deposition

FOR

INDUSTRIAL MACHINERY SECTOR



Technological Needs

- METALLIC COMPONENTS WITH IMPROVED DURABILITY
- MORE EFFICIENT MANUFACTURING PROCESS

Proposed Solutions

- NANOSTRUCTURED POWDERS FOR METALLIC CERMET COATINGS
- THERMAL SPRAY TECHNOLOGY FOR SOLID STATE DEPOSITION

Provided Benefits

REDUCTION IN PROCESS COSTS
10% in wear resistance

REDUCTION OF PARTS' MACHINING
–20% of costs associated to the finishing of the component

REDUCTION OF MECHANICAL FRICTION LOSSES
-15%

REDUCTION OF RAW MATERIAL USE
-15%

Early Adopter

Riccardo Borghini
riccardo.borghini@bonfiglioli.com
Bonfiglioli Forever Forward

Technology Provider

Ignacio Fagoaga
Inaki.fagoaga@tecnalia.com
tecnalia Inspiring Business

Nanostructured Powders Producer

Delphine Maury
maury@mariontechnologies.com
Marion Technologies

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New Gravity Casting Process for Nano-Reinforced Metal Parts

FOR

FOUNDRY MACHINERY SECTOR

HARDCAST PILOT

Selected Component:

Swash plate for Hydraulic Motor

Technological Needs	Proposed Solutions
METALLIC COMPONENTS WITH IMPROVED DURABILITY AND WEAR RESISTANCE	NANOREINFORCEMENTS ADDITION AND DISPERSION VIA MASTER-PELLETS
INDUSTRIAL MACHINERY WITH INCREASED MECHANICAL EFFICIENCY AND REDUCED PRESSURE LOSSES	NEW, LOW COST AND SAFE METAL CASTING PROCESS

Provided Benefits

INCREASED EFFICIENCY OF THE COMPONENT

+15%

REDUCTION OF POWER LOSSES

-15%

INCREASED COMPONENT'S LIFETIME

AGE

–15% wear/temperature resistance

Early Adopter

Diego Boroni
dboroni@fonderiemoragavardo.it

Technology Provider

Pedro Egizabal
pedro.egizabal@tecnalia.com

Nanostructured Powders Producer

Lucile Cornu
cornu@mariontechnologies.com

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Innovative Injection Moulding Process for Nano-Reinforced and Nanotextured Plastic Surfaces FOR AUTOMOTIVE SECTOR

ESTCRATCH PILOT

Selected Component:

B-pillar
Automotive part

Technological Needs

- AESTHETIC PARTS WITH EXCELLENT MECHANICAL PROPERTIES AND APPEARANCE
- AESTHETIC PARTS WITH LIGHT, WEATHERING AND SCRATCH RESISTANCE

Proposed Solutions

- NANOREINFORCED THERMOPLASTIC BASED ON MASTERBATCHES
- INSERTS FOR INJECTION MOULDS WITH NANOTEXTURED SURFACES

Provided Benefits

- IMPROVED RESISTANCE OF THE MATERIAL: +50%
- LESS EXPENSIVE COMPONENTS: -20%
- IMPROVED RECYCLABILITY OF THE PARTS
- GREENER PRODUCTION PROCESS
- MORE COLOUR AND FUNCTIONALITY

Early Adopter

Mario Ordonez
marord@mtc.maier.es

Technology Provider

Cristina Elizetxea
cristina.elizetxea@tecnalia.com

Masterbatch Producer

Zina Vuluga
zvuluga@icechim.ro

Insert Developer

Renè Hansen
rh@michaellundbech.dk

Developer of the Nanotexturing of the Inserts

Alicia Johansson
alicia@nilt.com

Designer of Plasmonic Colors

Anders Kristensen
Anders.kristensen@nanotech.dtu.dk

Nanostructures Patterner

Konrad Bienk
kbi@cemecon.dk