

Consortium



CERTH
CENTRE FOR
RESEARCH & TECHNOLOGY
HELLAS

PROCETS

Centre for Research & Technology,
RTD, Hellas
www.certh.gr



Tenneco Inc, Large Enterprise,
Belgium
www.tenneco.com/europe/



POLITECNICO
DI MILANO

Politecnico Di Milano, RTD, Italy
www.polimi.it

avanzare

AVANZARE Innovacion Tecnologica
S.L, SME, Spain
www.avanzare.es



Universitat de Barcelona

Universitat de Barcelona – Thermal
Spray Centre, RTD, Spain
www.cptub.com



Instituto de Soldadura e Qualidade,
RTD, Portugal
www.isq.pt



TEKNISKA HOGSKOLAN
HOGSKOLAN I JONKOPING

Jönköping Tekniska Högskolan,
RTD, Sweden
www.jth.hj.se



Falex Tribology NV, SME, Belgium
www.falex.eu

Husqvarna

Husqvarna, Large Enterprise,
Sweden
www.husqvarnagroup.com



MBN Nanomaterialia, SME, Italy
www.mbn.it



Cromomed S.A., SME, Spain
www.cromomed.es/en/



Artia Nano-Engineering and
Consulting, SME, Greece
www.artianano.gr

MATRES
material research & design

Matres S.c.r, SME, Italy
www.matres.org



BRITISH ALLIED TRADES
FEDERATION LBG, SME-AGs, UK
www.sea.org.uk



CETRI
Center for Technology Research and Innovation

Center for Technology Research and
Innovation, SME, Cyprus
www.cetri.net

Wienerberger

Wienerberger AG, Large Enterprise,
Austria
www.wienerberger.com

Project Profile

Call: H2020-NMP-PILOTS-2015
Topic: NMP-02-2015 Integration of
novel nanomaterials into existing
production lines

Total Cost: 8.652 M€
EC Contribution: 6.977 M€
Duration: 01.01.2016 – 30.06.2019

Project Website: www.procets.eu

Contacts

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This project has received
funding from the European
Union's Horizon 2020 research
and innovation program under
grant agreement No 686135

H2020-NMP-PILOTS-2015

PROTECTIVE
composite Coatings
via Electrodeposition &
Thermal Spraying



The need

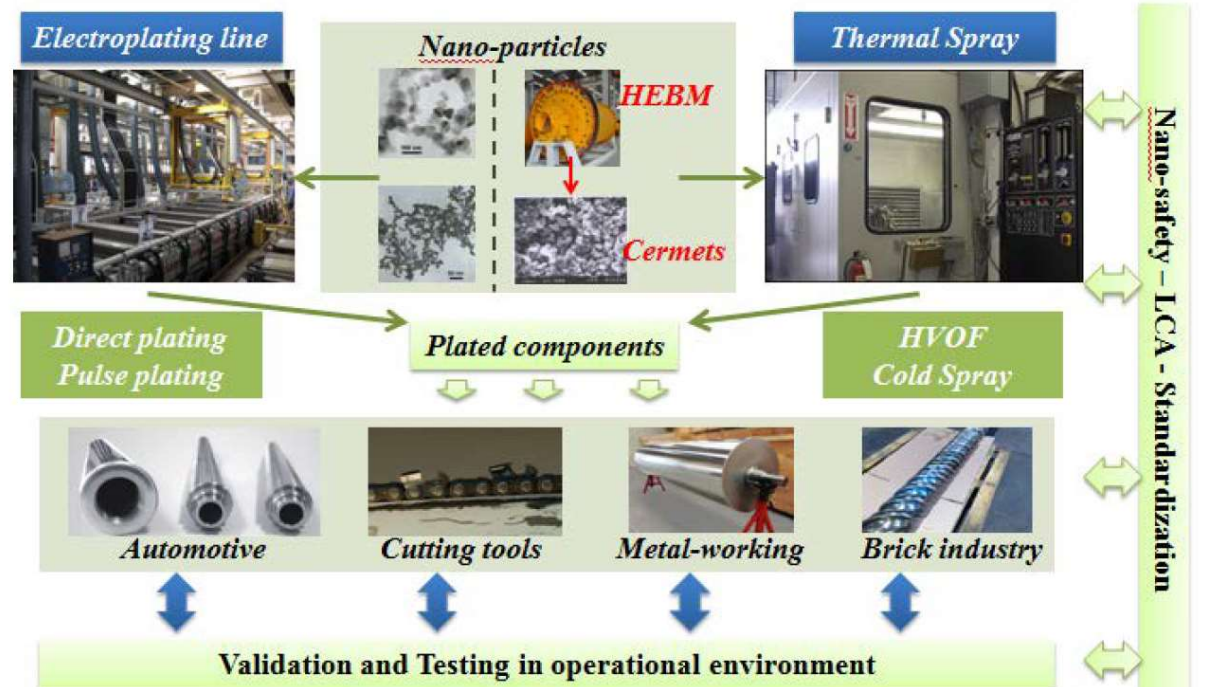
Wear and corrosion of materials causes losses of 3-4% of GDP in developed countries, while billions of Euros are spent annually on capital replacement and control methods for wear and corrosion infrastructure. As a result, many important industries are dependent on surface engineering of protective coatings, making it one of the main critical technologies underpinning the competitiveness of EU industry. There are two main techniques that dominate the protective coatings sector: hard chromium (HC) plating and thermal spray (TS). However, HC plating faces a series of issues including negative health and environmental impact leading to the EC restriction of this method for using Cr⁺⁶ by the end of 2017.

The scope

The main PROCETS target is to deliver protective coatings covering a wide range of applications such as automotive, aerospace, metal-working, oil and gas and cutting tools industries via thermal spray and electroplating methods, by utilizing more environmental friendly materials, compared to the currently used. This will allow the replacement of the hazardous process of hard chromium plating and WC-Co coatings via thermal spray.

The project idea

The PROCETS project will take advantage of the use of nano-particles for production of composite coatings with superior properties compared to those of HC produced by electroplating or to Co-WC produced by TS. These novel nano-particles will be incorporated into existing production lines after appropriate modifications. The new procedures will be easily transferred by minor adaption to the present electroplating and TS facilities, and will combine flexibility and mass customization abilities, restrict environmental and health hazards and finally be available at acceptable cost.



Schematic concept of the PROCETS project

