

ERRIN PARTNER SEARCH: Improved durability of building and infrastructure material by innovative new coatings

Outline

Häme University of Applied Sciences is looking for partners and coordinator for the project. Especially partners which have new advanced materials for corrosion protection of steel and other materials are needed. The problem to be solved is that painted steel structures are corroding too rapidly and they need too much maintenance, which cause remarkable costs. The durability of steel and metallic materials is largely dependent on the properties and long term durability of the coatings used in corrosion protection.

Call

Call: H2020; NMBP-06-2017 - Improved material durability in buildings and infrastructures, including offshore

The corrosion resistance of the paint coated steel materials can be improved by several methods in which new innovative nanoscale materials can be one solution. The long term durability and corrosion resistance of coatings can be improved by:

- improving the adhesion of paint coating to substrate
- preventing increase of pH on cathodic area of corrosion, which prevents cathodic delamination. This is often the factor which controls the corrosion rate in scratches and cut edges.
- slowing down the diffusion of water, oxygen and ions through the coating
- improving the corrosion protection in scratches and cut edges (self-healing effect)

By finding good solutions to these problems, the long term durability of building and infrastructure materials can be remarkably improved. Remarkable economical savings can be achieved by more durable building materials.

The aim of the project is to research the long term durability of existing new nanoscale or other innovative coating material and further develop their properties to get coatings which give remarkably better long term durability and corrosion protection than existing materials.

The role of Häme University of Applied Sciences in this project will be knowhow of the use of coated steel in building and infrastructure, knowledge of corrosion resistance of steel materials and skills in accelerated corrosion and weathering

testing of materials. We have good facilities and equipment for testing of coating materials and long experience in coating research.

Duration

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Partners involved

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Partners type and roles of interest

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Financial aspects

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Deadline

Thursday, 27 October, 2016

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Workinggroup

Advanced Manufacturing & Nanotech