

R&D PROJECT



Title of the Project

Revolutionary Embedded Rail with 3D printing

Acronym

ERRAIL

PROJECT CONTENT

State of art

Traditionally, the most commonly used type of track was the so-called ballast track. Among the main advantages associated with this track, its relatively low cost of construction, its high elasticity, its easy preservation at a moderate cost or its ability to absorb noise stands out.

General objectives

Develop a new solution for embedded rails by additive manufacturing in order to respond efficiently to the problems detected in the embedded rail manufacturing processes. Specifically, the technological objectives are:

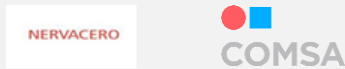
- Development of new high-strength concretes with specific slags for 3D printing for the railway sector
- New strategies for structural reinforcement of embedded rails for their manufacture in a new 3D printing cell
- Optimization of the structural topology of embedded rail systems for their manufacture in the new 3D printing cell
- New process control algorithms

Tasks

- I. Investigation of specific concrete forms for 3D printing with slags
- II. Research into railway 3D printing
- III. Research in optimized structural topology
- IV. Investigation of construction methods and execution on the ground
- V. Analysis and preventive maintenance
- VI. Project management and dissemination

Project conclusions

This Project is in execution period



BUSINESS AREAS

Área Infraestructuras
COMSA, S.A.U

PROJECT DURATION

2020-2022

BUDGET 2020
113.189,73 Euros

KEYWORDS
Embedded Rail, high-strength
concrete, 3D printing

COORDINATOR
MECANIZADOS ASUA

CALL
HAZITEK-2019

