

PROJECT

DINTRA

Innovative railway sleeper design increasing track lateral resistance, reducing significantly costs related to track misalignment events

Funding: European (Horizon 2020)

Duration: Dec 2017 - Nov 2019

Status: Complete

Total project cost: €1,938,094

EU contribution: €1,356,657



Call for proposal: H2020-SMEINST-2-2016-2017

[CORDIS RCN : 213224](#)

Background & policy context:

Railway track lateral movement occurs when lateral resistance is not enough hold track in place. This movement is known as track misalignment (when it is a progressive defect associated to train loads) or track buckle (when it is an abrupt event associated mainly to unusually high temperatures). Track alignment must be restored as even small track misalignments induce additional dynamic forces in the vehicle.

Track maintenance operations to restore track alignment (tamping) require 26% of track maintenance and renewal cost (2.989M€/year in Europe). Besides, cost of rail grinding and renewal operations are estimated to be around 10% of total EU railway maintenance and renewal costs (1.118M€/year).

Moreover, track misalignment eventually causes a great risk of derailment. It is estimated that around 25% of train derailments are due to track geometry deterioration, causing on average 18 derailments per year in Europe with an associated economic loss of 32M€, not considering the potential human losses.

Objectives:

To solve this situation, ACCISA has developed DINTRA sleepers, an innovative solution capable of increasing significantly lateral track resistance. Reduction of track maintenance and renewal cost and track buckle events and derailments due to track misalignment will be experienced. DINTRA sleepers have a low implementation cost and no need for extra calculation or new equipment for their implementation.

Our overall objective with the present project is to industrialize the production process of DINTRA sleeper to introduce them into the international market through the construction of three advanced demonstration element in the most complex and demanding conditions.

When implementing DINTRA sleepers, railway infrastructure managers will save over 978M€ in track maintenance and renewal cost during the lifespan of the product (40 years), while only investing 53.7M€. DINTRA sleepers will lead to 13.7M€ of benefits for ACCISA by the 5th year.

Parent Programmes:

[H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport](#)

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Lead Organisation:

Accisa - Associação Central de Construção Ferroviária, S.A.

Agrupacion Cantabra De Construccion E Ingenieria Sa**Address:**

POLIGONO INDUSTRIAL DE BARROS, C/ALFONSO ALVAREZ MIRANDA N 11 C
39408 LOS CORRALES DE BUELNA
Spain

EU Contribution: €1,356,657

Technologies:

Infrastructure management
Track improvements for higher reliability and reduced maintenance
Development phase: Demonstration/prototyping/Pilot Production

STRIA Roadmaps: Vehicle design and manufacturing

Transport mode: Rail transport

Transport sectors: Passenger transport, Freight transport
Societal/Economic issues,

Transport policies: Safety/Security

Geo-spatial type: Other