

R&D PROJECT



Title of the project

New solution for the automatic, real-time detection of defects in the drive system of a railway switch, as well as its diagnosis

Acronym

DESVÍOS

Content of the project

The maintenance and exhaustive control of the railway turnout drive systems is of the utmost importance. Currently, and despite its low effectiveness, the periodic visual inspection of these elements is the most used technique for their maintenance. However, some turnout condition monitoring systems have been developed, based on the combination of a series of sensors and algorithms capable of detecting anomalous behaviour in turnouts, but they do not reach very high accuracies and are limited to the detection of the existence of a fault.

Nowadays, railway administrators are looking for a complete monitoring service and not an alarm in the event of an anomaly, i.e. they need a service that can not only detect the anomaly but also diagnose it, thus optimising maintenance investments, and this is what the tool developed in this project aims to offer.

General objectives

The general technological objective of this project is to obtain an innovative tool with which to develop a technical service for monitoring the railway turnout drive system, low-cost and easy to install, capable of detecting anomalies with maximum precision (no false positives) and diagnosing the existing defect. All this in real time and continuously, thus allowing the insertion of the predictive maintenance philosophy in these critical points of the railway network.

Results and conclusions

The tool developed in this project enables continuous, real-time monitoring of the turnout drive system. This is not limited exclusively to error detection, but also provides early diagnosis by determining the failure mode.

On the other hand, the proposed robust, easy-to-install and low-cost solution allows for increased detection accuracy compared to current systems. Furthermore, it is a non-invasive system, so it does not interfere with normal turnout operations and does not compromise safety.

Finally, the tool reduces the costs associated with maintenance tasks and traffic interruptions due to turnout failures, as well as providing automatic, real-time information on the status of the drive system through the implemented platform.



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BUSSINESS AREAS

**Infrastructure area
COMSA, S.A.**

DURATION

2018-2020

BUDGET

722.091,00 €

KEYWORDS

Railway switches, maintenance, monitoring, software

COORDINATOR

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EXTERNAL FUNDING



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