



# TRAIN DETECTION COMPATIBILITY

## Opportunities

- Clearly defined interfaces between track and rolling stock allow for a more robust Train Detection System;
- Introducing a new rolling stock or a new TDC system into an interoperable network is easier;
- A harmonised system makes cross-acceptance of measurements data possible.

## Challenges

- A lack of defined interfaces between the rolling stock and train detection systems leads to an extended and more expensive authorisation process;
- Several open points remain in the list of standards in the TSI CCS and in the interface document;
- An extended use of national rules for compatibility slows down the roll out of interoperability.

## Objective

Train Detection Compatibility (TDC) defines the specifications of all Electro Magnetic Compatibility (EMC) issues related to interface parameters. This applies in particular to all compatibility issues related to train detection systems. These range, among others, from electromagnetic effects caused by traction and track circuits, sanding problems for track circuits, eddy current brakes, to more general frequency management issues of rolling stock. Train detection compatibility is defined in the [Regulation \(EU\) 2016/919 on the Technical Specification for Interoperability relating to the Control-Command and Signalling \(TSI CCS\)](#).

## Involvement of Infrastructure Managers

The IMs are responsible to ensure "Reliability, Availability, Maintainability and Safety" (RAMS) of their infrastructure. IMs are actively involved in this matter as they manage the EMC and the "immunity" of the signalling and telecommunications systems of their infrastructure with the emissions/frequencies of the rolling stock.

## EIM in action

- EIM's Train Detection Compatibility Working Group (TDC WG) works in cooperation with CER, notably on EMC compliance of track circuits, frequency management and migration;
- EIM advocates to improve compatibility in the CCS TSI by extending its scope to non-standard gauges.

## EC Regulation (EU) 2016/919 INTEROPERABILITY OF 'CONTROL-COMMAND AND SIGNALLING' SUBSYSTEMS

