

Success Story



Train detection on the Iberian Peninsula: The dawn of modern axle counters

While track circuits still remain the most widespread train detection system in Spain, axle counters are being used in an increasing number of signalling applications: on high-speed lines, on conventional lines and third rail track systems. While introducing axle counters for train detection, ADIF makes use of new redundancy concepts:

- The first cutting-edge 2oo3-type Az LM with IP-based interlocking interface and slimline Zp30K detection points was commissioned in the Lebario facilities of the ETS network (Basque Country Infrastructures Authority) back in 2013.
- Subsequently, the same Az LM 2oo3 system concept was introduced as the primary train detection system on the Olmedo-Zamora section of the north-west high-speed corridor and successfully entered service in 2015. The Olmedo-Zamora line was also selected by ADIF to conduct testing to enable subsequent certification of the new redundancy function and detection points.
- The single line sections of the new Antequera-Granada HSL will also be fitted with the same type of equipment for train detection.



Thales will modernise signalling and traffic control in Irún



Thales' Zp30K at the ADIF testing site

Axle Counters on double gauge tracks: Resolving a train detection nightmare

The Mediterranean Corridor, which will link the south-western Mediterranean region up to the Ukrainian border with Hungary, is another challenging project. It will be equipped with both 2oo2- and 2oo3-type Az LM evaluator units with slimline Zp30K detection points on the third rail track on the Almusafes-Castellon section to enable transit of UIC gauge (1,435 mm) as well as Iberian gauge (1,668 mm) trains. 430 detection points and 20 evaluator units ACE will be installed.

Thales Espana has recently been awarded the contract for modernisation of the signalling systems and traffic control in Irún, Gipuzkoa, which will enable connection to the high-speed international gauge line between France and Spain.

This is an extensive and complex project and will be vital in connecting Spain with the rest of Europe. The contract includes modernisation of the signalling systems and railway traffic control through installation of the third rail for implementation of international gauge and integration of the new Basque Country railway network on the Astigarraga- Irún section.

Thales will deploy its most advanced signalling and railway traffic control systems including the next-generation Intersig L905E electronic interlocking, 139 Zp30K detection points and 5 Az LM evaluator units of the 2oo3 type as the primary train detection system on the mixed gauge lines.



ADIF, Administrador de Infraestructuras Ferroviarias, is Spain's state-owned rail infrastructure administrator. The company was founded in 2005 to separate infrastructure management from train operation, as this is required by European law.

ADIF's network extends over 15,000 km and includes the longest high-speed network throughout Europe, covering more than 2,500 km.

Thales has a long-standing presence in the Spanish rail market, with an involvement that stretches back to 1951.