

## Success Story



# Thales Axle Counter Az LM on the Orient/East-Med Corridor

## MODERNIZING THE LAST NON-ELECTRIFIED SECTION OF THE BULGARIAN RAILWAY CORRIDOR

A consortium of Thales and Alcatel-Lucent (today Nokia) won the contract and delivered the rail signaling turn-key solution on the 150km stretch between Plovdiv and Svilengrad. The contract had been issued by the National Railway Infrastructure Company (NRIC). The consortium of Alcatel-Lucent and Thales was responsible for signaling and telecommunications. The line has been electrified with 25kV AC 50Hz and equipped with European Train Control System (ETCS) Level 1.

The railway line between Plovdiv and Svilengrad is part of the European Orient/East-Med Corridor, which is a crucial connector for central and southern European countries to the rest of the European Union, fostering thereby the internal market.

This railway line is not only of national importance to Bulgaria, but plays a vital global role as a part

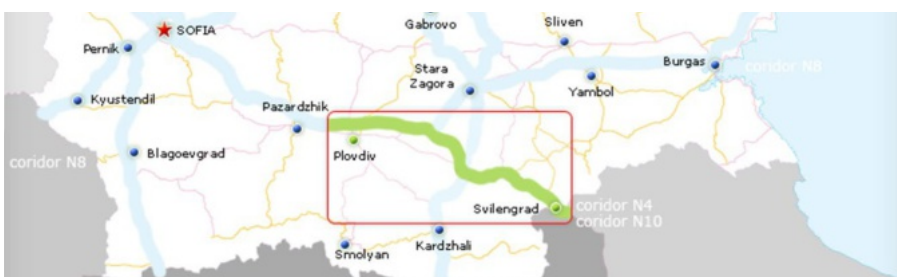
of the transcontinental route: beyond Svilengrad, the railway line connects to the Turkish border. In Istanbul, the Marmaray tunnel under the Bosphorus links Europe with Asia. From Turkey, Iran and Iraq are accessible by freight trains. China is accessible as well through the iron silk road via Turkey, Georgia, Azerbaijan and Kazakhstan.

The project involved the reconstruction and electrification of the railway line. It was the beginning of a remarkable journey that was aimed at modernizing this route: increasing the line speed and equipping it with ETCS Level 1. The permissible speed of the railway line after the upgrade is 160 km/h for passenger trains, 200 km/h for tilting trains and 120 km/h for freight trains. This upgrade requires a highly reliable train detection system with low life cycle cost. Therefore Thales Axle Counter Az LM was selected as train detection system.

The ETCS Level 1 turn-key solution for the railway line between Plovdiv and Svilengrad comprises

- 7 stations with Thales ELEKTRA 2 electronic interlocking
- a Thales centralized traffic control system in Plovdiv
- 420 ETCS Level 1 trackside balises
- 210 Thales Point Machines L826H, electro-hydraulic point machine with variable stroke
- 419 detection points of Thales Axle Counter Az LM

150 km of ETCS Level 1 railway line, with 12 stations and a centralized traffic control system are now in operation in Plovdiv.



Svilengrad lies close to the road borders of Greece and Turkey. The route is located along Corridor IV and IX, and connects the large city of Plovdiv with the Greek, Turkish and Bulgarian borders.



The National  
Railway Infra-  
structure Com-

pany (NRIC) is Bulgaria's state railway infrastructure company. Bulgaria has a long tradition in the railway industry: in 1866, the first line, between Ruse on the Romanian Border and Varna on the black sea was opened, fueling the growth of adjacent towns and communities. Today Bulgaria has over 4,000 km of railway network.