Train detection system for tram

Transdev Reims

ACS2000 and RSR180

Country
France

Segment
Urban & Mass Transit

Application
Train detection

Project start
2008

Requirement

The realisation of a new public transport concept for the city of Reims in Northern France involved the laying of two tram lines with a total of 23 stations, covering a catchment area with around 70,000 residents and in which around 26,500 jobs are based. The task of equipping the track network and the vehicle fleet supplied by Alstom with highly-efficient train detection technology was awarded to Frauscher Sensor Technology.

Solution

The implementation of the axle counting system ACS2000 in combination with the wheel sensor RSR180, an evaluation board IMC and the SK420 and SK140 rail claws enabled the highest quality outcome, both in the area supplied using overhead cables and those powered by conductor rails (APS).
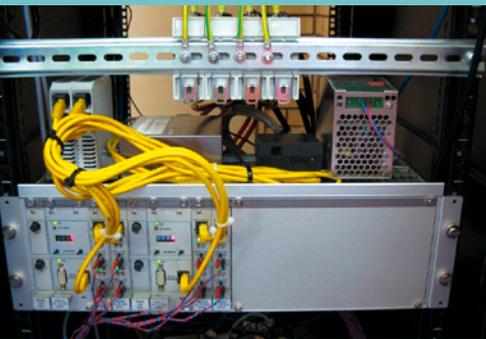
Benefit

Transdev is very satisfied with how „le tramway de Reims" is running, as are its tens of thousands of passengers, who have been able to access and rely on state-of-the-art public transport since 2011.

FRAUSCHER
SENSOR TECHNOLOGY

Wheel sensor in operation

ACS2000

Fine-tuning with Alstom

Project details

In April 2011, „le tramway de Reims" went into operation after three years in construction, with two lines covering a total of eleven kilometres of network. The majority of the track runs on an over-head 750 V DC cable. It is only in the historic city centre of Reims that the tram runs for a two-kilometer stretch without overhead cables, where the required power is provided by conductor rails (APS), which can only be supplied with power when a tram is actually running on the section of track.

The contract to supply the vehicle fleet and the signalling system was awarded to the French fitter Alstom, which for its part chose Frauscher to supply train detection systems. Alstom had already completed numerous projects with Frauscher.

During the course of an extensive test phase with trial installations, all possible traversing and operating scenarios were simulated using different speeds, braking and acceleration situations and so forth, and the best-performing Frauscher components were selected according to CENELEC SIL4.

During implementation in the real-life field, a number of variations initially emerged in relation to installation and environmental conditions as well as geometry and attachment of the magnetic rail brakes. Irregularities in the start-up phase were therefore unavoidable. Working in close cooperation with operator Transdev and project partner Alstom, detailed measurements were taken at sensitive points and analyses were carried out in the Frauscher laboratory.

On the basis of these results, it was possible to definitively adapt, accept and immediately replace the indoor equipment components in respect of software parameters and assembly.

Operator	Transdev Reims
Partner	Alstom, France
Scope of Supply	Trial, Components, Commissioning
Scope of Project	45 track sections, 70 counting heads
Axle Counting System	ACS2000 with ACB119 and IMC
Wheel sensor	RSR180