



USE CASE

ABOUT ACKSYS

For almost 40 years, ACKSYS Communications & Systems has acquired a solid know-how in designing and manufacturing industrial communication solutions (WiFi and cellular). Particularly well established in the transportation market, ACKSYS has developed a rugged offer adapted to environmental constraints, enabling optimization of transport infrastructures, improvement of passenger safety and reduction of operating costs.

CHALLENGE

SNCF Voyageurs has launched a renovation and modernization program for TER (Regional Express Train) with the regions.

Mid-life, which means after about 20 years of service, the trains are fully revised to allow them to run for at least another 15 years.

Signed with 12 French regions and the Luxembourg Railways, this program potentially concerns 40% of the TER fleet, or 931 sets acquired between 2004 and 2011, including 699 AGC (High Capacity Railcar) sets and 232 TER 2N NG (TER 2 New Generation Level Sets).

During this renovation operation, many pieces of equipment are refurbished.

The regions also take the opportunity to introduce new services such as passenger counting or to address the obsolescence of equipment such as rear-view for the train driver, allowing the latter to check if he can proceed with closing the doors safely.

SOLUTION

It is in this context that the Train Digital-Market 6 tender was won by ACKSYS for the supply of inter-carriage modules.

These ACKSYS modules allow the establishment of an inter-car WiFi link, thus creating a complete IP network on board the train. Each inter-carriage module consists of two ACKSYS WiFi access points - also called wireless couplers - installed at each end of the sets. The antennas connected to ACKSYS access points are supplied by Huber+Suhner.

In addition to providing WiFi access points, ACKSYS has developed a software that allows the automatic configuration of the IP network on board the train.

This ACKSYS SRCC (Smart Redundant Carriage Coupling) solution, based on the IEC 61375-2 standard, relies on ACKSYS wireless couplers requiring a unique initial configuration.

It allows for automatically handling any changes in the train's composition while ensuring a redundant and reliable onboard network.

ACKSYS worked in collaboration with the Clusters of Material Engineering and the SNCF Material Engineering Centers throughout the project phase, from the design of the solution to the delivery of the products in series.

The first sets equipped with this solution are those of the Grand Est, Occitanie, PACA, and CVDL regions.