



The ALIS Project

ABENGOA

Abengoa is developing innovative software capable of modelling railway electrification systems and their environment. It is comprised of a series of modules that are expected to revolutionize the sector due to the fact that for the first time, there is an integration in terms of electrification design, passenger safety and that of the installations as well as energy efficiency, both in terms of design and operation, regardless of the type of catenary technology, electricity supply system or rolling stock type.

Key Data:

Typology:

Development of rail simulation software, high speed, conventional, subway and tram



Modelling based on intelligent algorithms for the integration of electrification, safety and energy efficiency in rail systems.

Participating companies:

Abengoa Inabensa



Research institutions:

University of Málaga.
Technical University of Madrid



Funding:

Ministry of Economy and Competitiveness



ALIS is a calculation and simulation tool designed to simulate rail electrification systems in their entirety, covering electric traction simulations, dynamic movement simulations, dimensioning, the optimal location of substations and even pantograph-catenary interaction studies.

The tool is designed to simulate situations that can affect the railway system installation or passenger-safety, in addition to studies on electromagnetic compatibility, induced and accessible voltage, short circuits, errant currents and network imbalances.

The tool is designed to perform simulations to improve the energy efficiency of the rail environment, optimizing efficient train gears, optimum dimensioning of storage systems and renewable energy integration studies in the rail sector.

