AridLap

ABENGOA

Abengoa is developing a project which aims to minimize the effects of extreme climates on high-performance rail infrastructures in arid zones.

Key data:

Tipology:
Methodology for the mitigation and experimental development of sensors and equipment

Participating companies:
Abengoa Inabensa, Adif, Ineco, OHL, Elecnor-Deimos, Win Inertia and Nervados

Research institutions
The universities of Seville, Granada, Madrid Complutense and Almeria, CSIC and Fada-Catec

Funding:
The Centre for the Development of Industrial Technology (CDTI)

MINISTERIO DE ECONOMÍA Y COMPETITIVIDAD

CDTI Centro para el Desarrollo Tecnológico Industrial

AridLap is a consortium I+D+I project which is led by Abengoa Inabensa, and that aims to address the meteorological conditions in desert areas, such as the impact of sand (both accumulated and suspended) or high-temperature variation (this can swing from -5 to 50 ºC on the same day) on railway infrastructures.

AridLap has developed sensors to monitor accumulated and suspended sand, sensors to measure voltage as well as the temperature of both the track and the contact line, procedures that enable the level of negative build-up of sand in ballast by means of a GPR system. In addition, new designs have been developed which serve to protect the most critical catenary which is exposed to suspended dust.

The AridLap project implements the use of unmanned systems (drones) to inspect infrastructures, and satellite imagery which serves to help their maintenance. The knowledge that has been acquired during the Aridlap project has led to technical requirements being made for the implementing of new operational and maintenance procedures for cases of extreme climates.