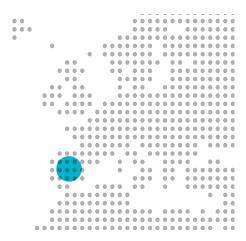
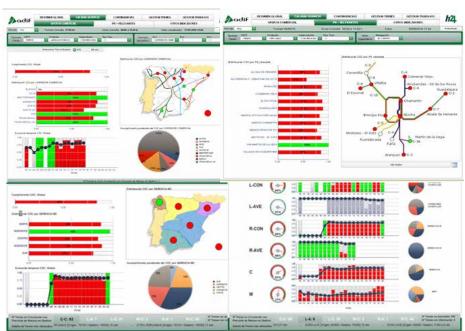




INTRACK, BUSINESS INTELLIGENCE AT THE ADIF 24H NETWORK MANAGEMENT CENTER

EFFICIENT MANAGEMENT OF RAIL TRAFFIC IN REAL TIME





Context

CUTTING-EDGE TECHNOLOGY

The ADIF 24H Network Management Center (CGRH24) inaugurated in 2010, designed as a multidisciplinary management center for Spain's rail traffic, coordinates the operating areas that intervene in railway traffic management for over 13,900 km of railway lines.

This center manages and coordinates all incidents that arise at the heart of the railway network 24 hours a day, 365 days a year, and is the epicenter for decision-making.

The goal was to enable responding to emergency situations by extracting, organizing and relating data from different sources in real time. A global vision was sought of Operations to facilitate analysis, simulation and generation of relevant online information for decision-making purposes.

INDRA IS THE TECHNOLOGY PARTNER CHOSEN BY ADIF TO CONTRIBUTE ITS EXPERIENCE AND CAPACITY FOR RAILWAY MANAGEMENT.

INTRACK GLOBAL VISION OF RAILWAY MANAGEMENT OPERATIONS

Indra proposed a BI analytical solution aimed at improving service quality and optimizing resources and processes related to the railway business.

It was comprised of six phases:

- Phase I: Analysis of informational needs of the CGRH24.
- Phase II: Pilot project in the production environment: Punctuality scorecard in real time.
- Phase III: Consulting: Identification of operations and information requirements. Integration with

- corporate systems. Design of the analytical environment's solution.
 Operating scenarios (reporting, analysis and scorecard) based on BI standards.
- Phase IV: Detailed architecture, dimensioning, installation and deployment of high-availability platform (3 environments). Pilot.
- Phase V: Implementation of a single information repository, load and update processes in real time and creation of the analytical environment that permits data mining (reporting, unrestricted analysis and scorecards).

 Phase VI: Training, post-implementation support and platform management.
 Definition of processes.

INTRACK, ANALYTICAL SOLUTION THAT INTEGRATES DIFFERENT OPERATIONAL RAILWAY SYSTEMS IN REAL TIME.

Benefits

RESPONSE TO EMERGENCY SITUATIONS IN REAL TIME

The solution contributes to the CGRH24:

- Synergies across diverse areas by integrating several operational systems.
- Real-time support for decision-making.
- Real-time monitoring of service quality through business indicators and scorecards based on the commercial offer defined for each operator and product.
- User autonomy for unrestricted analysis and reporting.
- Availability of different options for publishing the information generated, facilitating its dissemination.
- Historical analysis of trends and their forecast.

 Improvement of strategic and operating processes, as a key tool for post-analysis of incidents, the goal of the continuous improvement process for minimizing the impact of future, similar contingencies.

Indra in rail traffic

LEADER IN THE USE OF NEW TECHNOLOGIES

We equip infrastructures with intelligence and make them more efficient and sustainable in both environmental and financial terms.

Applied to transportation, these smart technologies provide real-time information for decision-making and offer added value to services for citizens, increasing security levels, effectiveness and respect for the environment, while increasing control and improving the mobility of infrastructures.

Applying technology to public transportation management allows for improving the service and optimizing its use by citizens, a key aspect at a time when one of the most significant future challenges, particularly in urban settings, is addressing the need for more efficient, ecological and sustainable transportation and mobility. Indra has implemented an integrated control center for the light rail and monorail systems in Kuala Lumpur, Malaysia, as well as the management technology for the Medellin

Subway in Colombia. These projects are moving toward intermodal transportation models, which integrate management of different modes of transportation.

Additionally, in the field of public passenger transportation management, our operation assistance systems (OAS) manage over 13,500 buses worldwide, with references in countries like Brazil, Colombia, Mexico, Argentina, Poland, Morocco, Portugal or Spain.

