

# TECHNOLOGICAL MIGRATION IN LIMA'S SUBWAY

NEW EQUIPMENT AND TECHNOLOGICAL MIGRATION OF SALES AND ACCESS CONTROL SYSTEMS



## Context

### The challenge: upgrading the subway's technology

Line 1 of the Lima Subway had 16 stations in operation and an average of 180,000 travelers a day.

After expanding the line to other areas of the city through the construction of 10 new stations, a new sales and access control system needed to be installed.

After opening the new stations, the flow of travelers exceeded 300,000 a day.

The project was planned in two stages. The first stage involved the migration of the existing systems in operation to the new sales and access control system from Indra. This technological migration was done transparently to the user and included the migration of over one million cards, equipment and software from the 16 stations in operation.

During the second stage the system was installed and set up at the new stations.

### Sales and access control systems for Peru's first subway

## Cutting-edge technology

The solution we have designed includes:

- Migration all of the equipment and implementation of the new sales and access control system without interrupting operation.
- Migration support from coordination and traveler information personnel.
- System installation and set-up at the new stations.
- Monitoring and control of all transportation operator activities, such as improvement of traveler information, revenue control, maintenance and increase of equipment operation time and resource management.
- Turnkey project that includes manufacturing, installation, set-up and implementation of the equipment and the sales and access control system software.
- Operator support during the migration process.

**Solutions and services designed to achieve constant improvements in: traveler control, information, financial management and resource monitoring**

## Benefits

### Technological training to improve traveler management

- Complete solution for the entire line in operation to integrate sales and access control.
- Performing the migration without interrupting the operation of a service with more than 180,000 travelers a day at 16 stations. Migration of 80% of the cards in operation in less than two months.
- Traveler support to facilitate management of the change to new systems.

## Indra in the sector

### More efficient, ecological and sustainable transportation and mobility

Indra is a leader in the use of new technology for creating smart infrastructures and making them more ecologically and financially efficient. Applied to transportation, these smart technologies provide real-time information for decision-making and offer added value to the citizen's service, increasing security levels, effectiveness and respect for the environment, giving infrastructures greater control and improving mobility.

Applying technology to public transportation management allows the service to be improved and optimized for use by the citizens, a key aspect at a time when one of the biggest challenges for the future, particularly in urban areas, is addressing the need for more efficient, ecological and sustainable transportation and mobility.

We have 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.

In public passenger transportation management, our operation assistance systems (OAS) manage over 13,500 buses worldwide, with references in Brazil, Colombia, Mexico, Argentina, Poland, Morocco, Portugal and Spain.

