



Comfort for the passenger **TRANSPAÍS**

Offering “Comfort for the passenger” is a clear instruction that is always in the mind of TRANSPAÍS, which is why, given the extreme weather conditions that exist in the geographical region where the service is offered, the importance of being able to monitor the ambient temperature during the trip and thus determine if the comfort conditions were optimal for the passengers.

Given a long working relationship and technological developments with didcom, we are asked to evaluate the implementation and implementation of said project, which would be implemented in all units that offer the federal transportation service.

This innovative challenge arose from a common problem: how to know if there was a pleasant ambient temperature for passengers regardless of the assigned seat during each trip.

TRANSPAÍS

About the client

TRANSPAÍS, a company with more than 80 years of experience dedicated to serving in the field of passenger transport, has routes in the states of Tamaulipas, Nuevo León, San Luis Potosí and Veracruz, through different service options. It also offers bus rental for tourism, industrial and urban transport, as well as parcel service. It has a fleet of more than 1,000 units and a work team of more than 3,400 employees.

TRANSPAÍS is a leading company that is distinguished by its focus on service, and its constant effort to provide trust and security, including constant innovation and direct customer service, with the spirit of “Bringing people together.”

Being always at the forefront of technology is a constant for TRANSPAÍS, which is why it has a standard of modernity and security that makes your trip a unique experience.

**Better by Bus, Better by
TRANSPAÍS**

How to know if the temperature inside our buses is pleasant for passengers, regardless of the area in which their seat is during the trip?

It was important to identify this variable to determine the solution to be implemented and correct the problem of origin, since it could be due to the configuration of the air conditioning system, or to a failure in some mechanical component such as the compressor or thermostat.

For TRANSPAIS, this issue led them to discover an opportunity to improve the experience of their passengers, and that at the same time could help them identify problems in the operation and functionality of the air conditioning system.

Questions such as:

Why do we have customer complaints about the temperature condition during the trip?

Will the compressor be running?

Will there be ignorance of the driver in the operation of the AC?

Could the temperature and also the functionality of the compressor be monitored?

Given this scenario, didcom was asked for a technological development proposal to meet this requirement, which had to be adapted to be implemented in the different types of buses that are within the fleet, and which would be integrated into the online telemetry platform.





The solution

A unique, easily adaptable product was developed, which consists of monitoring a network of temperature sensors distributed evenly throughout the bus, also adding a digital sensor to that network to determine the operating status of the compressor.

For this, 2 versions (Kits) were determined, which are identified as Temp 3 (3 Sensors) and Temp 5 (5 Sensors), which are depending on the type of bus, 1 and 2 floors respectively.

All the information is concentrated in an electronic interface installed in the bus called Master, which is integrated into the telemetry device for the transfer of information in real time, so that each data recorded is related to the geographical position, which allows us to understand the temperature variation behavior depending on the GPS location of the bus.

For the complete development of the solution, the project was divided into 3 areas: Hardware, Firmware and Software, which were essential to deliver the expected result.

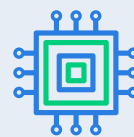
The main activities of technological development are shown below in general:



Hardware

Electronic Design:

- + Master Interface
- + Interface Sensors
- + Physical connection between interfaces
- + Type of Sensors
- + Sensor Network
- + Communication topology



Firmware

Protocol Design:

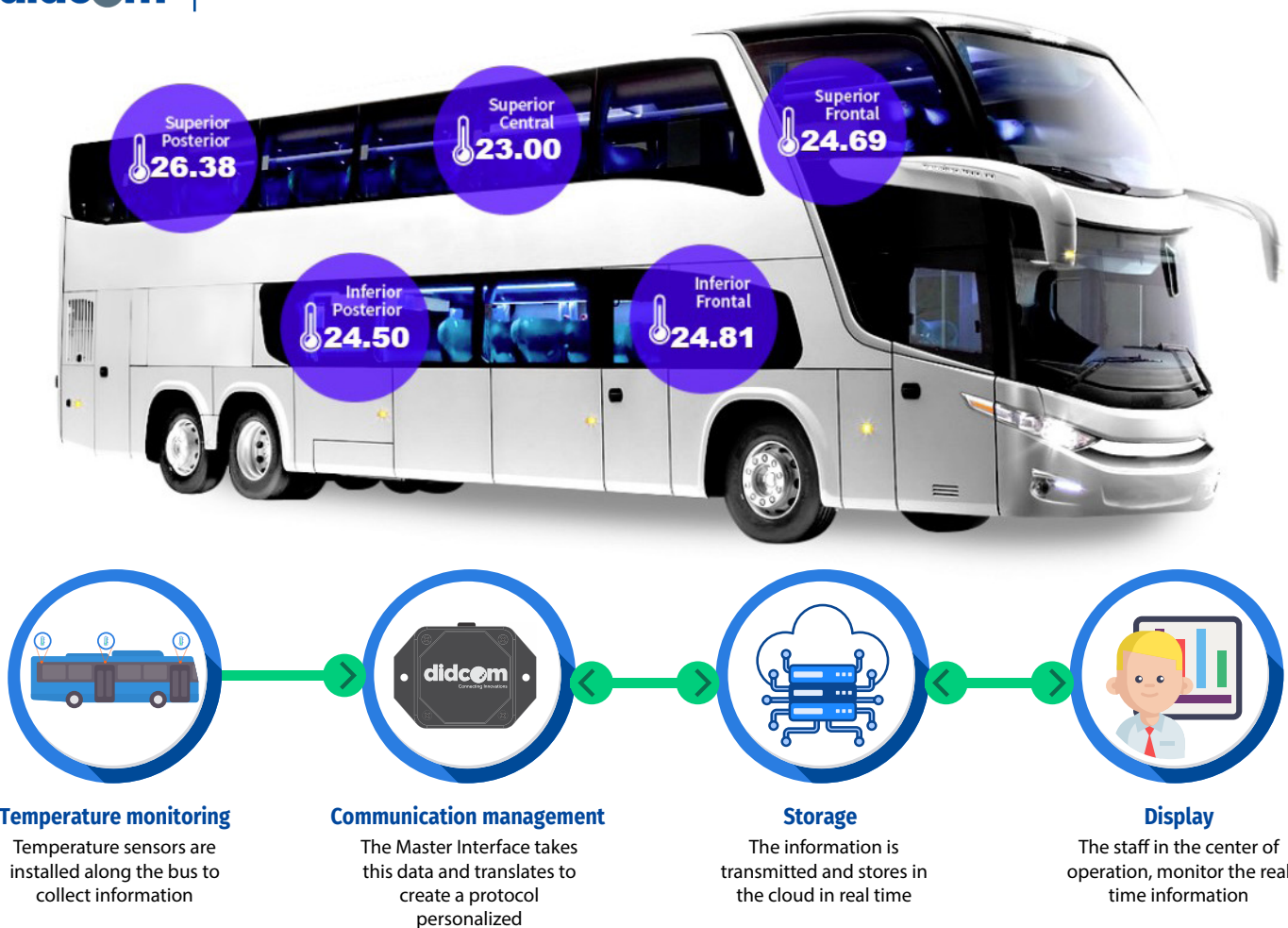
- + Communication between sensors and Master
- + Communication between Master and telemetry device
- + Variation and frequency of records
- + Information transfer in real time



Software

Platform Design:

- + Interpretation of information
- + Database Structure
- + User interface for viewing information at the logbook, reports and graphs level
- + Creation of operating rules and comfort ranges
- + Notifications and Alerts



Results that transcend

With the implementation of this technology for temperature measurement, real-time control of passenger comfort during their trips was achieved, business rules were also established, with which you could act quickly in case of any incident, whether to inform the driver about the regulation of the AC system, or to identify a malfunction of some component to schedule a maintenance. Likewise, TRANSPAIS was able to determine the time that the bus should really be on to reach the comfort zone before each run, and thus avoid time and excessive idle fuel consumption.

Being the only bus company in Mexico that worries and monitors passenger comfort, this distinction is undoubtedly in line with the type of innovation vision that allows TRANSPAIS to offer a quality service to its customers.

didcom

About didcom

Didcom is a hub of engineering and technological development, offering to the international market complete solutions of Hardware, Software and Firmware, for the transportation industry, backed with personalized support and more than 10 years of experience.

Learn more at

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