

Tenerife – SPAIN

Tranvia

A unique project and environment



Contract facts

TRANSIT AUTHORITY

Cabildo Insular de Tenerife

OPERATOR

Metropolitano de Tenerife

CONSORTIUM

80% Cabildo
8.5% Veolia Transdev
6% CajaCanarias
4% Sacyr
1.5% Ineco

CONTRACT START

March 2003

Key figures

SYSTEM

2 lines

LINE 1

12.5 km, 21 stations
4 station extension project
to Tenerife airport

LINE 2

3.8 km, 6 stations
3 station extension project
(1.7 km)

RIDERSHIP

52,000 passengers/day

VEHICLES

26 vehicles
Alstom Citadis 302
200 passenger capacity
20-70 km/h

STAFF

188 employees
including 71 drivers

Challenge

Located in the volcanic Canary Islands, the establishment of a light rail system presented a range of challenges:

- > design a network in a very constrained environment: average continuous slope of 5%, very narrow streets,
- > tackle a growing population coupled with an ever-increasing number of private cars across the city in order to avoid government expectation of gridlock on the metropolitan area's roads by 2012,
- > create minimum disturbance to the local community.

Veolia Transdev's solution

Deliver a light rail concept and infrastructure in response to a unique landscape

- > Extensive feasibility study phases and population mapping to ensure the most efficient network.
- > Plan and design tracks and electrical infrastructure over 5-9% inclines.
- > Veolia Transdev's company, Transdata worked throughout the conception and construction phases to provide an operational management system and IT backbone fit for the highest standards of operational quality.

Result: 66% of the metropolitan area population of 400,000 lives within 500 m of a station.

Respect Tenerife's precious environment

- > Tenerife's light rail maintenance depot produces 900 kilowatts of electricity, representing 16% of the system's energy requirements.
- > To conserve energy, regenerative brake technology saves 30% more than conventional braking systems.

Drive modal shift and relieve the city from congestion

- > At peak hour frequency, trams run every 5 minutes across the double track lines.
- > Services right through the night on Fridays and Saturdays have proved popular.

Objectives

- > Master technical difficulties of up to 8.5% gradients in construction and operation.
- > Drive modal share and transform mobility patterns.
- > Demonstrate reliability and quality for the tramway project, the very first step of an ambitious mobility and rail development plan.

- > Real-time passenger information, clear multi-lingual signage and instructions, adapted to assist every one to take the light rail.
- > Extensive redesigning of urban space has created new pedestrian areas.

Result: Over 10,000 car journeys eliminated from the metropolitan area in the first year of operation, 55% of trips made by light rail were previously made by car or on foot, 78% of our passengers have a personal car.

A passenger friendly service

- > The light rail is equipped with on-board Wi-Fi Internet for the convenience and comfort of the passengers.
 - > Clear audio information traces the stations along the route and is also available on screens.
 - > The system is completely accessible for people with reduced mobility.
- Result:** The low floored vehicles and stations are 100% accessible; first Spanish operator to obtain the AENOR certificate of universal accessibility in 2011.

Results

- Line 1 achieved 50,000 passengers per day during its first days of running, a two year advance on original objectives
- 2018: Metropolitano de Tenerife will be the first rail operator to run on 100% clean energy sources