

# Rio Porto Maravilha – VLT Carioca

## Rio de Janeiro Tramway

Alstom was awarded a contract by VLT Carioca to take part in the modernisation of Rio Porto Maravilha area with the supply of a full catenary-free integrated tramway system. This new network, totalling 28 km over three lines entered into service for the 2016 Olympic Games.



### KEY BENEFITS

#### Alstom’s integrated system solution secures opening date

Integrated system delivery commitment from Alstom allowed VLT Carioca to open the line in time for the Olympic Games opening with a high global system performance.

#### Advanced catenary-free offering

The lines will be the very first to be equipped with both Citadis Ecopack and APS, the most service-proven catenary-free solution, already in operation in 6 cities.

#### Transfer of technology

Alstom’s long experience in transfer of technology allows the achievement of high localisation requirements.

Country.....

Brazil

Context.....

In 2013, Alstom was chosen by VLT Carioca to supply an integrated tramway system solution including rolling stock, electrification, signalling, telecommunications and depot equipment for the Rio Porto Maravilha tramway line, a partnership project between the City of Rio and the Federal Government.

The City of Rio de Janeiro has the ambition to revitalise and embellish its historical districts, notably the Porto Maravilha district and the city centre, linked by the tram. The first line of this new network entered into service from June 2016 for the Olympic Games.

Solution.....

The new Rio tramway network consists of three lines covering more than 28 kilometres, with 32 stations and one depot. After completion, it will serve the Novo Rio bus terminal, Rio cruise boat Terminal, Santos Dumont regional airport, Central do Brasil train station as well as Barcas ferry terminal and the Metro.

The majority of the 32 Citadis trams are manufactured by Alstom in Brazil, in Taubaté – South America’s first modern factory for light rail vehicles. These full low-floor trams offer high accessibility and optimum passenger flow all along the platform, thanks to 6 large double-doors and 2 single doors per side.

This new network will provide the population with **smooth, efficient and economic transport**, opening the port area to the rest of the city. The system will be able to carry up to 300,000 passengers per day.

Alstom offers the **first 100% catenary-free** solution in South America with a combination of **APS**, Alstom’s ground-level electrification technology and **Citadis Ecopack** – on-board energy storage solution. This mixed integrated solution offers unlimited power supply and optimised infrastructure for maximum operational comfort.

## PROJECT HIGHLIGHTS

### ROLLING STOCK

Vehicle length	44 meters
Vehicle width	2.65 meters
Number of trams	32
Capacity	420 passengers (6p/m <sup>2</sup> ) 56 seats
Maximum speed	50 km/h
Comfort and accessibility	Interior optimised with comfort and exchange areas Full low-floor vehicle

### ENERGY

On-board energy storage equipment	Citadis Ecopack
Ground-level electrification solution	26 km of APS
Overhead contact line	2 km in depot
Power supply	13 traction substations
Line voltage	750 V <sub>DC</sub>

### SIGNALLING & TELECOMMUNICATIONS

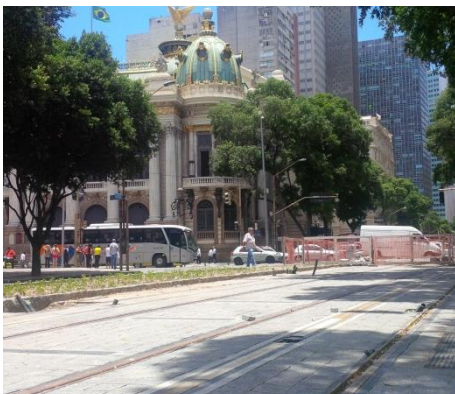
Communication	Public Announcement, Passenger Information System, Tetra Radio, Time, CCTV
Central control	AVLS, SCADA and ATS (based on Alstom ICONIS)

### MAINTENANCE

Infrastructure and Rolling Stock	2 years' corrective and supervision of preventive maintenance on the full system
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### LINE FEATURES

Stations	32 stations
Length	28 km



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