

VIA QUATRO PROJECT SP LINE 4

LINE OVERVIEW (IMPLEMENTATION IN TWO PHASES)



PHASE 1



– First 6 metro stations:

Butanta
Pinheiros
Faria Lima
Paulista
República
Luz

OPERATIONAL
700.000 PASSENGERS / DAY

PHASE 2



– Additional 5 metro stations:

Vila Sonia
Morumbi
Fradique Coutinho
Oscar Freire
Higiênópolis

IMPLEMENTATION STARTS IN 2013
1.000.000 PASSENGERS / DAY EXPECTED

LINE CHARACTERISTICS (1/2)

- Length of the line approx. 13.0 km (after phase 2)
- Number of stations: 11
- 14 passenger trains for phase 1, consisting of 6 cars each + 15 trains for phase 2
- Fully automated operation (CBTC-UTO): driverless
- Headway: 75 seconds theoretical headway
- Stations equipped with Platform Screen Doors (PSD)
- Length of platforms 132 m



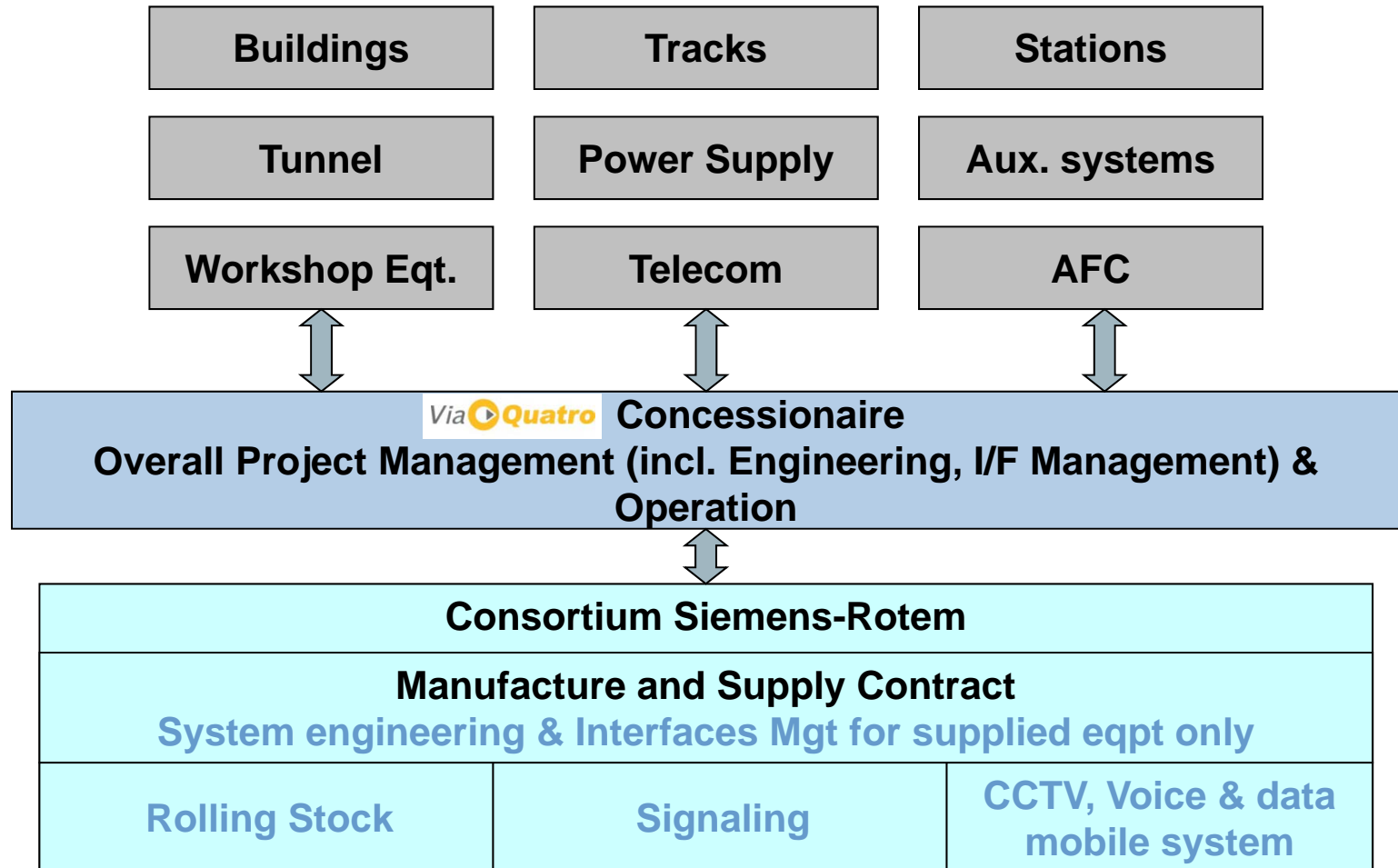
LINE CHARACTERISTICS (2/2)

- Track gauge 1.435m
- Power supply through catenary (1500 VDC nominal)
- Line completely underground with a single tunnel
- Yard at surface in open air
- Maximum operating speed
 - 80 km/h on main line and test track in the yard
 - 25 km/h in the yard



SPLIT OF RESPONSABILITIES

SAO PAULO L4 - OVERALL SCOPE



LINE 4 INNOVATIONS

- Driverless System - UTO (CBTC / Mobile Block)
- Headway of 75 seconds in special heavy traffic situations
- Platform screen doors
- Air conditioning in the trains
- Continuous passage between cars (tube train)
- Background music on trains and at stations
- Full video camera monitoring in the trains (26 cameras per train)
- Technology allowing the use of mobile phone
- Direct communication between the user and OCC
- Low noise level
- Automatic escalators with speed adjust according to the amount of users
- Energy-efficient lighting system



IMPROVEMENTS AND TECHNOLOGICAL ADVANCES

INTEGRAL AUTOMATION:

Some of the major metros in the world has adopted this technology in search of:

- Reduction of costs
- Increase in operational and public safety
- Implementation of Platform Doors for the elimination of intrusion in the track and tunnels
- Higher speeds and lower travel time
- Shorter headway and waiting time
- Increased efficiency and reliability
- Increased safety, comfort and speed for users
- Operational team more focused to assist the user
- Flexibility of the operation



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