

The Municipality of Amsterdam

Metropolis™

Alstom helps modernize and expand Amsterdam’s metro with the supply of Metropolis trainsets and Urbalis CBTC system which enables automatic train operation and will increase heavy metro network capacity by 50 % by gradually reducing the headway to 80 seconds.



KEY BENEFITS

Higher performance & reliability

Urbalis enables shorter headways (80 seconds) between 116 meter long train, better journey times, accurate station stopping which can increase Amsterdam Metro transport capacity by 50%.

Versatility

Urbalis and Metropolis will be deployed on the new North-South line and on the existing metro lines in Amsterdam with zero service disruption.

Optimal comfort

One of the quietest metros in the world, the Metropolis provides almost twice as much capacity as the older trains. Its high ceilings, large windows and LED lightning allow for an unparalleled optimal traveling experience. Additionally, the train can run at speeds of up to 80 km/h.

Country.....

The Netherlands

Context.....

Amsterdam Metro Service: 28 Metropolis trains with start of service in 2013; installation of URBALIS on 5 lines; 39 km; 40 stations; 1 depot and 3 stabling yards between 2013 and 2017.

The Amsterdam municipality is investing 4.5 billion Euros in the transport network over the next 20 years to meet the needs of commuters which has risen to 1.3million, representing almost twice the city’s population. To modernize Amsterdam’s urban transport system, Alstom was selected to design, manufacture and supply a complete CBTC system on the four existing metro lines and on the new Nort

Solution.....

February 2010 - Alstom won a contract for 23 Metropolis trainsets slated to replace the M2/M3 cars on routes 53 and 54. In February 2013, Amsterdam Transport officials exercised the option to purchase five more Metropolis trainsets. Alstom’s Metropolis provides almost twice as much capacity as the older trains.

April 2012 - Alstom was chosen to supply a CBTC solution based on its radio-based Urbalis platform on the metro network’s four existing lines and the new North-South line, presently under construction. The CBTC system will increase network capacity, allow automatic train operation and save energy. Alstom will also replace the existing train control, signalling and train supervision systems. h-South line.

TECHNICAL FEATURES

Line	Length: 39 km, surface and underground, inc. 9 km new line Design capacity: 43.000 pphdd on North-South Line network, based on 80 seconds headway and 960 passengers/metro (4 pers/m ²) Stations: 40 (33 on existing lines and 7 new stations)
METROPOLIS trains	28 six-car trains (138 cars) - additional 17x6 cars option Length: 116,2 m Width: 3005 mm Train composition: T-M-M-M-M-T 960 passengers (4p./m ²), 174 seating places Axle load: 12 tons Maximum operating speed: 80 km/h Average commercial speed: 35 km/h Electrical braking down to 0 km/h
Passenger comfort	Large doors, continuous low floor Wide gangways Large seats: 500 mm, 2 specific PMR seats Large windows, LED lighting Low noise level, Air-conditioning
Passenger information & Security	Real time journey information displayed CCTV (surveillance cameras)
URBALIS driverless train control	URBALIS Communication Based Train Control (CBTC): Automatic Train Protection and Automatic Train Operation (ATP/ATO) on 5 lines (30 km re-signalling and 9 km new line) and 85 trains including 28 new Alstom METROPOLIS. Design headway: 80 seconds
SMARTLOCK interlocking	SMARTLOCK 400 Computer-based interlocking Point machines and signals
ICONIS Operation control center	Automatic Train Supervision (ATS) Maintenance Support System (MSS) Data Communication System
Maintenance	TRAINTRACER providing continuous monitoring of the train's main components for real time data on-line. 1 depot and 3 stabling yards



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