

LTA Awards 6 Downtown Line Contracts Totalling \$1.13 Billion

1. The Land Transport Authority (LTA) is pleased to announce the award of six contracts with an approximate value of \$1.13 billion for the entire Downtown Line (DTL) project. These are system-wide contracts and will cover all the three DTL stages. The contracts will include the procurement of trains and the other electrical and mechanical component systems.

Contract for 73 three-car trains

2. Contract 951 for the procurement of electric trains for Downtown Line (DTL) has been awarded to the consortium of Bombardier Transportation GmbH / Bombardier (Singapore) Pte Ltd. The approximately S\$570.7 million contract is for the supply of 73 three-car trains.

3. The fleet of trains is fully automated and driverless. The trains will be operated from the 750V d.c. (volts direct current) third rail power supply system on the DTL. Driverless trains are currently used to service the existing North East Line and will also be used for the upcoming Circle Line (CCL).

4. Bombardier Transportation has its global headquarters in Berlin, Germany with a presence in over 60 countries, including 43 production sites and 22 service centres. It has an installed base of over 100,000 vehicles worldwide. The Bombardier Group is recognised as one of the leaders in the global rail sector. Bombardier Transportation was also part of the consortium that built the Bukit Panjang Light Rapid Transit (LRT) System which was completed in 1999.

(Please refer to [Annex 1](#) for the artist's impression of the new DTL trains)

Contract for Signalling System & Platform Screen Doors

5. This approximately \$287.5 million contract for Contract 952 for the provision of signalling system and platform screen doors is awarded to Westinghouse Brake and Signal Holdings Ltd for the design, manufacturing, supply, installation, testing and commissioning of the Signalling System and Platform Screen Doors for the entire DTL MRT system.

a. The signalling system is designed based on the communication based train control moving block signalling technology, automatic train supervision system and computer-based interlocking. This signalling system provides a basic framework to support the fully automated driverless train operation.

b. Platform screen doors are provided at all underground stations. It enhances commuter safety as it provides a barrier between the station platform and the track to prevent unauthorised entries onto the track thus minimizing service disruption due to track intrusion. In addition, it acts as an environmental screen to conserve energy.

(Please refer to [Annex 2](#) for the graphic presentation of the signalling system)

c. Westinghouse Brake and Signal Holdings Ltd is currently involved in the Boon Lay Extension project. It is also the contractor for the signalling system of the existing North-South East-West lines and the Changi Airport Extension.

Provision of Integrated Supervisory Control System (ISCS) and Communications System

6. These two system contracts - Contract 955 for the provision of integrated supervisory control system (ISCS) and Contract 960 for provision of the communications system - have been awarded to Singapore Technologies Electronics. The approximate value for each contract is S\$28.7 million for C955 and S\$123.3 million for C960.

a. The ISCS is a software-based system which provides a basic framework to enable the Operation Control Centre (OCC), the Depot Control Centre (DCC) and Passenger Service Centre (PSC) to remotely supervise and control the various respective systems such as

power supply, communications, fire protection, tunnel ventilation and environmental control that are critical to the safe and efficient operation of DTL. ICS also controls the lifts and escalators operating throughout the entire DTL.

b. The communications system for DTL comprises many sub-systems such as the communications backbone network, radio, video surveillance, public address, telephony and travel information. A good communications system is especially critical for the safe and efficient operation of a fully automated, driverless system.

(Please refer to [Annex 3](#) for the graphic presentation of the communications system)

c. ST Electronics has a strong presence in the rail transportation market in Singapore, the Philippines, Taiwan, China, Thailand, the UAE and Turkey since 1983. Its rail solutions include Integrated Supervisory Control Systems, Communication Systems, Automatic Fare Collection Systems, Platform Screen Doors and Maintenance Management Systems. They are also currently involved in the Circle Line and the installation of Half-height Platform Screen Doors projects.

Provision of Lifts

7. The approximately \$22.7 million Contract 971A to provide lifts for DTL has been awarded to Otis Elevator Company (S) Pte Ltd and is for the design, manufacturing, supply, installation, testing and commissioning of the 108 lifts for all DTL stations.

8. To facilitate ease of access for commuters, lifts are provided in all MRT stations from each of the station entrances into the station concourse level and from the concourse to the platform. The provision of lifts in our station ensures that our public transport system meets the barrier free accessibility requirement. Unlike conventional lifts that requires a machine-room next to the lift shaft, the lifts for DTL will be machine room-less for better utilisation of space within the station public area.

9. Otis is an established manufacturer of lifts based in the United States and has supplied lifts for the existing MRT lines.

(Please refer to [Annex 4](#) for the graphic presentation of the lifts)

Provision of Escalators

10. The approximately \$100.3 million Contract 971B is for the design, manufacturing, supply, installation, testing and commissioning of 299 escalators for all DTL stations. It has been awarded to Constructions Industrielles de la Mediterranee (CNIM).

11. The escalators provided in our MRT lines are heavy duty with higher capacity than normal ones found in commercial buildings. This is critical to move heavy commuter traffic to their desired destination in the most efficient and safe manner. These escalators are also designed with energy saving features to conserve energy when the commuter traffic is low.

12. CNIM is an established French manufacturer with experience in supplying similar heavy duty escalators for metro systems in Europe.

Competitive Procurement

13. LTA monitors developments in the railway industry worldwide and actively encourages new suppliers to enter the Singapore market. It is through MSI Global, the LTA Academy and its participation in international organisations like the Union Internationale de Transport Public (UITP), that LTA has developed a strong network of international contacts. From these contacts and through regular visits to existing contractors and potential suppliers in Europe, Japan and China, LTA thoroughly examines the credentials of all prospective tenderers.

14. These measures ensure that the open competitive bidding process for the RTS component systems works well and that the systems procured are high quality offering the best value for money.

Progress Update of Downtown Line Contracts

15. Seven major civil contracts for DTL1 have been awarded thus far with the final award for the Bugis Station and tunnels to be announced soon.
16. For DTL2, 10 major civil contracts will be awarded from early 2009 onwards.
17. Major civil contracts for DTL3 will be called in 2010.
18. "With the award of these six DTL contracts, I am pleased that the progress of the project is on-time. We are looking forward to the completion of DTL1 in 2013," said Mr Yam Ah Mee, Chief Executive, LTA.

About Downtown Line

19. At 40 km with 33 stations, DTL is the longest underground rail project to date and will run through high-traffic and built-up corridors. It will be fully underground and will be built in three stages. It is targeted to be completed by 2016.
20. With the DTL, the connectivity of the existing Rapid Transit System (RTS) network will be strengthened. The DTL will facilitate direct travel from the northwestern and eastern areas of the island to the Central Business District (CBD) and the Marina Bay. It also provides a strategic transport link to support the development of the Marina Bay area.
21. DTL is projected to see a daily ridership of around 500k when in full operation.

[Map of DTL](#)

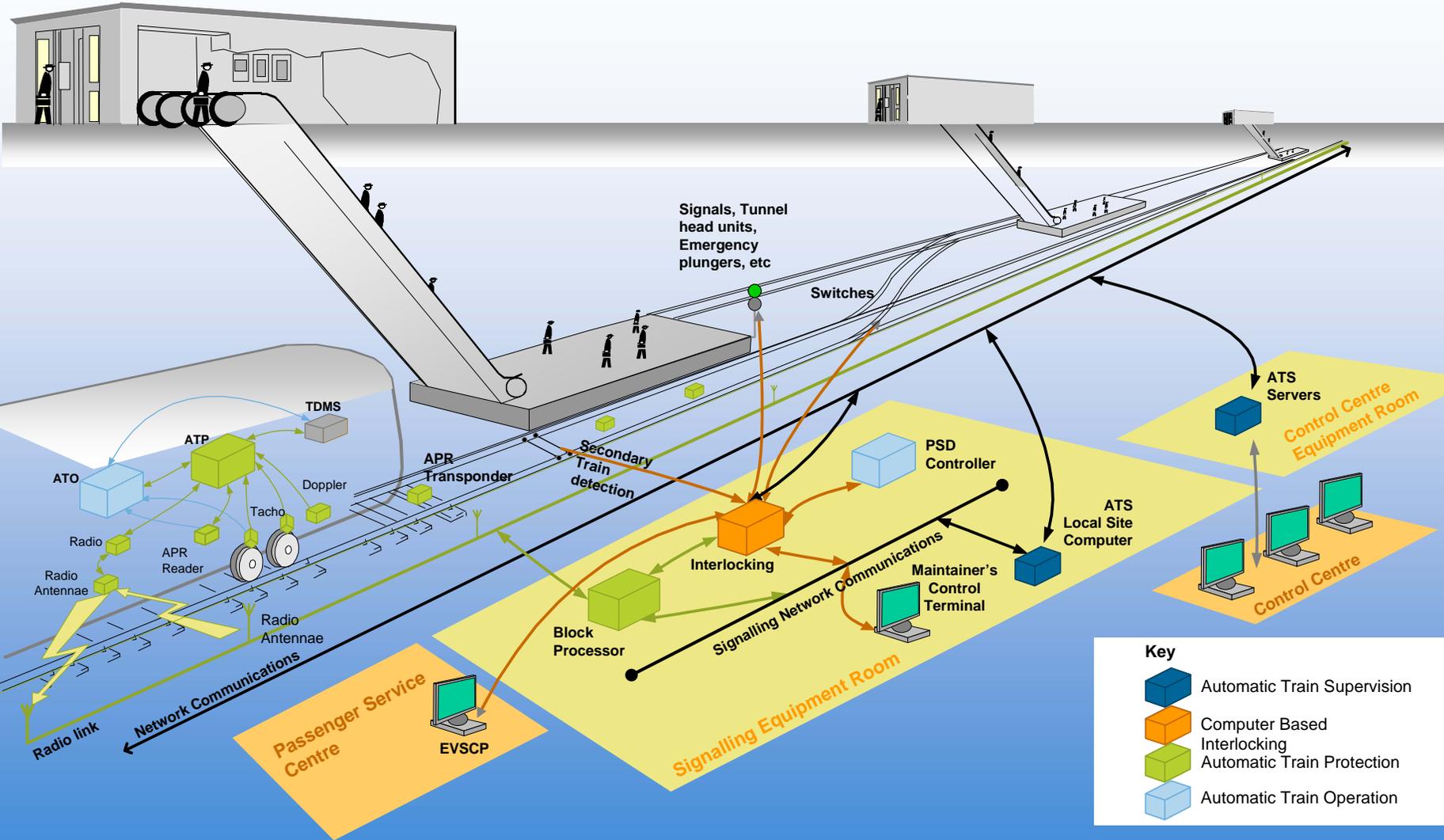
Annexes:

- [Annex 1 - Artist's impression of the new DTL trains](#)
- [Annex 2 - Graphic presentation of the signalling system](#)
- [Annex 3 - Graphic presentation of the communications system](#)
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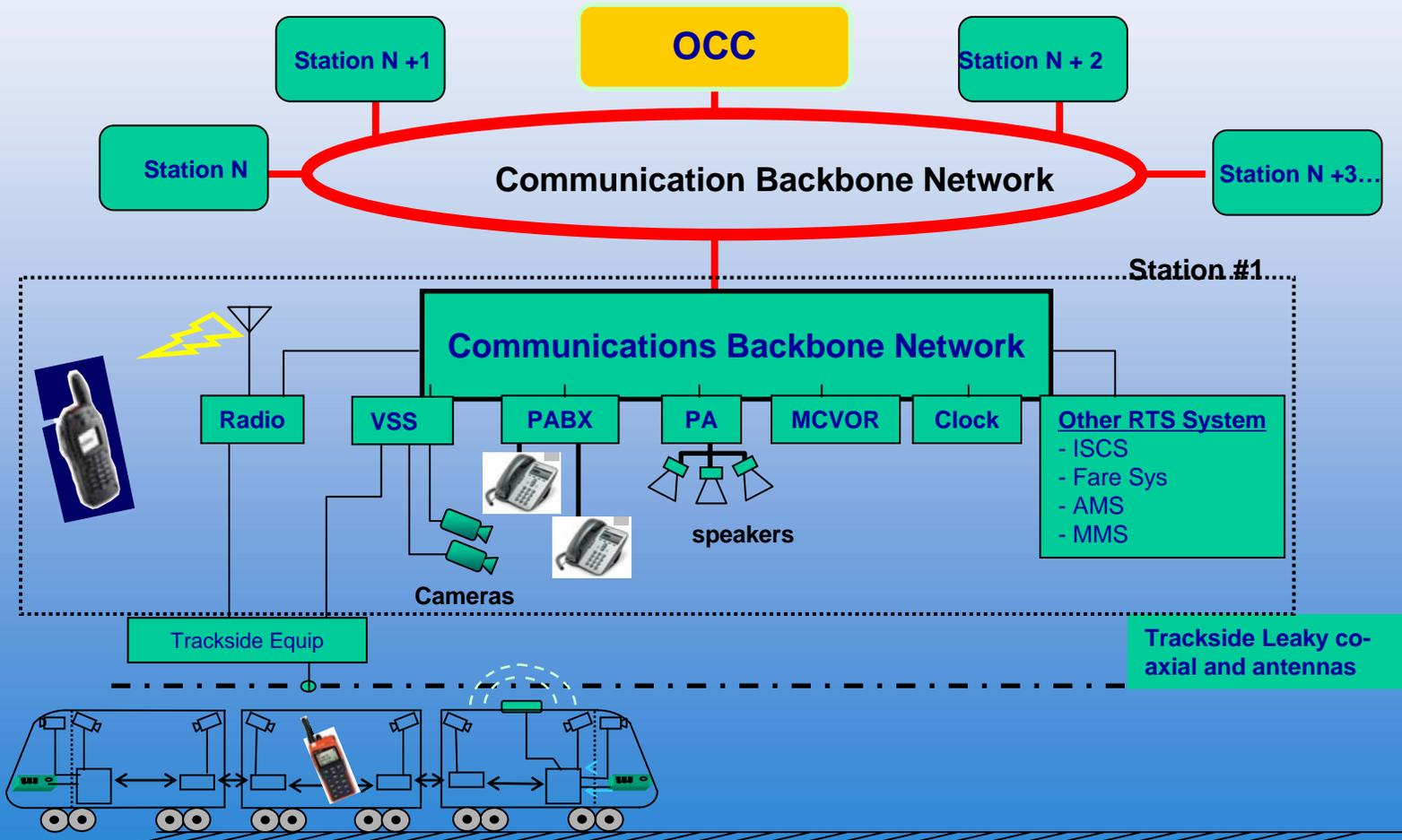


Singapore DTL Overview

Contract 960

DTL Communications System

- Provide an infrastructure linking all stations/control centres/depots.
- Communications backbone network.



Precision-engineered governor

Compact, energy-efficient machine

Durable, quiet controller and drive

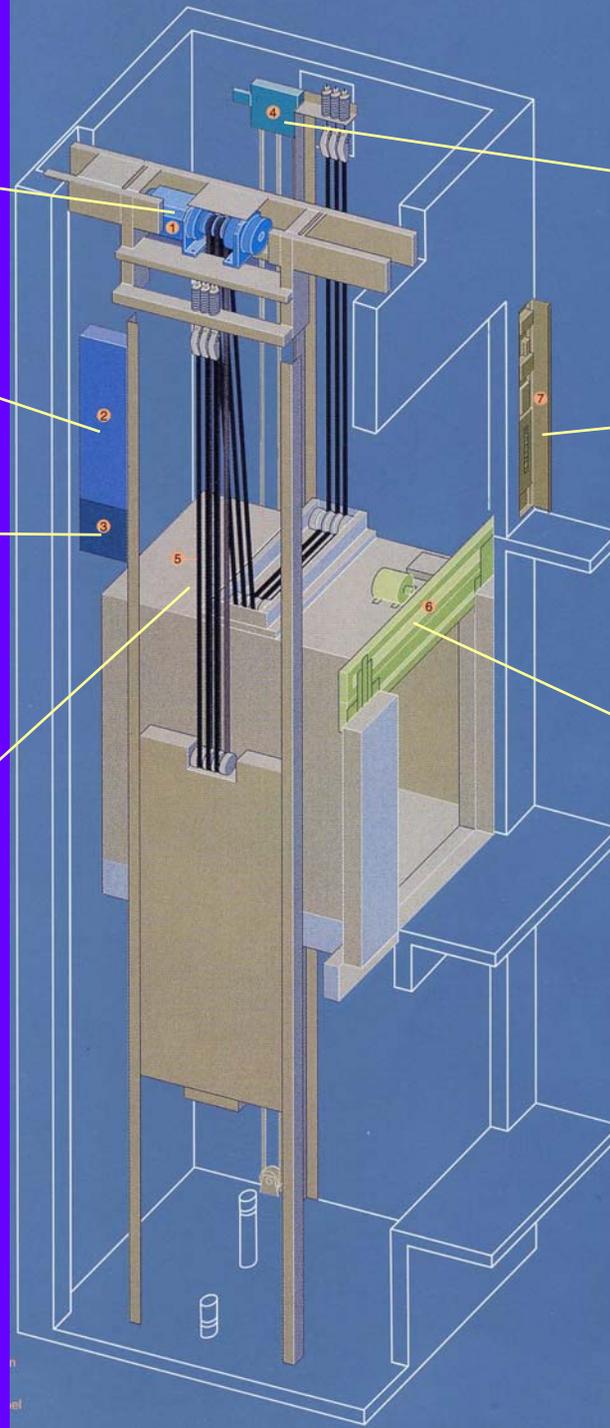
Revolutionary coated steel belts

Highly sophisticated remote elevator monitoring controls

Easy-access emergency and inspection panel

Variable frequency door control sub-system

Diagram of OTIS GeN2 Lift



Downtown Line (DTL)

