CUSTOMER BENEFITS

- Fully automated operation
- Passenger service frequency enhancement
- Re-signalling with minimal disruption to existing service
- One of the world’s largest re-signalling projects
“The SelTrac train control system offers the reliability passengers on the London Underground rightly demand. More frequently trains will reduce the time people spend waiting on platforms, and faster trains mean quicker journeys.”

Terry Morgan
Chief Executive, Tube Lines

THE CHALLENGE

One of the oldest and largest subway systems in the world, London’s Tube is in the process of significant overhaul and upgrading to accommodate growing passenger demand. Tube Lines is responsible for the maintenance and upgrade of the infrastructure on the Jubilee, Northern and Piccadilly lines, and in 2002 promised to deliver an outstanding Tube for London through a massive improvement program. This included upgrading the train control and signalling system to achieve a 20% improvement in capability improvement leading to a more frequent and less crowded service.

This significant undertaking includes upgrades to the 37 km, 27 station, 63 train Jubilee line and to the 58 km, 50 station, 106 train Northern line, and to the 63 km, 46 station, 92 train Piccadilly line. All depots on the lines are to be signalled separately. Test tracks are allocated for each line.

THE SOLUTION: SELTRAC® CBTC

Only Communication-based Train Control could cost efficiently meet Tube Lines’ needs for throughput enhancement. In 2003, SelTrac CBTC with proven moving-block technology was selected. The system solution provides automatic train operation, supervision and protection, however Tube Lines will retain attendant drivers on-board.

The new CBTC equipment will be installed and commissioned successively in sections before the old signalling system is disabled and removed. Our sophisticated NetTrac MT central control equipment, to be integrated with passenger information and SCADA systems, will allow the operator to easily track and control train movements and routes, and automatically launch more trains at peak service times. For passengers, this will mean more reliable and convenient train service.

The train control design is similar to the Docklands Light Rail (DLR) SelTrac CBTC system operating successfully since 1994, and proven to provide safe, reliable short headway between trains for improved throughput. The technology is upgradable and provides reduced operating and maintenance costs.

THE RESULT

Thales has established a partnering/team process that assures efficient project management as proved with the DLR, DLR Extension and Jubilee Line Extension projects.

Project teams from both Thales’s centre-of-competence in Toronto, Canada and Thales UK were assembled to achieve the project goals most efficiently. Customer support teams were also put in place during the Summer Olympics in 2012, when TfL announced that its metro system along with the DLR had moved double its regular passenger numbers to the various events, with no major signalling issues. SelTrac CBTC performed as intended.