Ankara–Konya
90 minutes with Siemens Rail Automation’s signaling technologies

In August 2011, the Prime Minister of Turkey, Mr. Recep Tayyip Erdogan, inaugurated the high-speed line between Ankara and Konya, which includes a new-build section of 212 km in length allowing speeds of up to 250 km/h, connecting the two cities in about 90 minutes.

The new section between Ankara and the city of Konya, in the southwest of the country, links with the Ankara–Istanbul line at Polatli station and will eventually connect with the cities of Izmir and Afyon.

As a result of the contract signed in 2008 with the Turkish company Yapı Merkezi Insaat, Siemens Rail Automation was responsible for the design, manufacture, supply, tests and commissioning of the signaling and ERTMS (European Rail Traffic Management System) for Turkish State Railways (TCDD).

The solution successfully delivered by Siemens Rail Automation included the Trainguard Futur 1300 trackside and Trainguard Futur 3000 onboard ERTMS systems, the Trainguard WESTRACE electronic interlocking, Clearguard FS 3000 jointless track circuits, LED-type wayside signals and the Controlguide Rail 9000 centralized traffic control (CTC) system, located at Ankara station.

ERTMS Level 2: Increasing security and transport capacity
In addition to this contract, TCDD also appointed Siemens Rail Automation to implement its Trainguard Futur 2500 ERTMS Level 2 system on the line between Ankara and Konya, which will significantly increase its capacity and will be the first one on Turkish railways.

The scope of this additional work, which is already underway, includes the design, manufacture, supply, installation supervision, testing and commissioning of the Trainguard Futur 2500 ERTMS Level 2 system, with radio block centers (RBCs), Juridical Recorder Unit (JRU) for ETCS Level 2 and enhancement of the onboard Trainguard Futur 3000 system for six train units.

The Prime Minister of Turkey inaugurated the Ankara–Konya HSL
Siemens Rail Automation’s ERTMS system:

Trainguard Futur

Trainguard Futur is the integrated train planning and control system from Siemens Rail Automation compliant with the specifications of the European Train Control System (ETCS). ETCS, together with GSM-R, the radio system for voice and data, forms a significant element of ERTMS, the signaling and management system for Europe and the world. Trainguard Futur 1300 is the ERTMS Level 1 system, a complete automatic train protection system based on the intermittent information sent to the train when passing over the system’s balises.

Trainguard Futur 2500 is the ERTMS Level 2 system, based on the interchange of bi-directional continuous information with the train through the use of GSM-R radio. The Trainguard Futur 2500 is applicable on several operational scenarios, from high-speed lines up to 500 km/h to commuter lines with intensive traffic and high degrees of occupancy.

Trainguard Futur 3000 is the onboard ERTMS system which provides high degrees of both efficiency and safety to railway operators throughout the world. Trainguard Futur 3000 combines the various functionalities that are required for the successive levels of ETCS application in the same hardware platform.

Centralized traffic control (CTC):

Controlguide Rail 9000

Controlguide Rail 9000 is a flexible system that allows the integration of functions such as the automatic route setting function and the regulation function. Integration with other systems present at the operations control center (OCC) is enabled through a safe interface with a dedicated open protocol for exchanging information with external systems.

Controlguide Rail 9000 can easily be adapted to different types of rail networks and is a high-technology showcase that has become an essential instrument in any rail network.

Siemens Rail Automation’s experience in Turkey

Siemens Rail Automation entered the Turkish railway market in 2008 after being awarded the contract for the supply and installation of ERTMS and signaling systems for the Ankara – Konya high-speed line.

In November 2011, DLH, the Turkish Directorate of Railways, Harbours and Airports Construction, awarded Siemens Rail Automation a contract to provide railway signaling and control technologies for the Gebze – Halkali commuter rail line, known as the CR3 Marmaray project. This new award in a project as challenging as Marmaray is an example of Siemens’ increasing presence in the country and yet another proof of Siemens’ commitment to Turkey.

In January 2012, TCDD again contracted Siemens Rail Automation with the implementation of its Trainguard Futur ERTMS Levels 1 and 2 signaling and communications on the Bandırma – Menemen railway.