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Factsheets

ERTMS DEPLOYMENT IN TURKEY

MODERNISING SIGNALLING TO OPTIMISE TRAIN OPERATIONS

Historically, Turkey has always sat at the crossroads of trade between Europe, Asia and the Middle East, providing it with an enviable geographical location that offers high prospects for both freight and passenger transportation. In recent years, the country embarked into a major railway investment program to size this opportunity. ERTMS now plays an essential part in the modernisation of the rail network and the establishment of high-speed lines.

When was the Turkish railway network built?

The first railway in Turkey was established in 1856 and linked Izmir to Aydin. Turkey experienced its railway golden age from 1923 to 1959 when over 3,700km of new track was constructed. Unfortunately, this growth could not be maintained, and for the second half of the 20th century rail investment suffered at the expense of road transport. Consequently, between 1950 and 1997, the road network increased in length by 80% and the railways just by 11%.

Fortunately, all this changed in 2002 when a radical change in Turkish transport policy put railways back at the forefront. Ambitious plans were put in place to rehabilitate existing lines, build a brand new High Speed network and develop an advanced railway industry. Just over a decade on, many of those plans have now become reality.

What are the major rail investments going on?

As far as freight rail, the Logistics Centres Project (several regional logistics centres being established) has been launched to improve expedite freight transfers from road to rail. For passengers, investment has been equally ambitious, with major investments in mass transit and light rail systems (Istanbul's metro system first opened in 2000). Most important and significant of all and playing a key role in the development of Istanbul and the surrounding region as much as fostering economic exchange between Europe ans Asia is the Marmaray Project whichconnects Gezbe and Halkali by a seamless high capacity suburban railway system. This means that the tunnel will be equally used for local transport (metro), high-speed trains and even freight trains, setting a milestone for the re-establishment of a new "Silk Route", renamed as "Iron Silk Route".

The importance of developing an inter-city High Speed rail network is also recognised. With Ankara at its hub, three corridors are being built linking Istanbul-Ankara-Sivas, Ankara-Afyon-Izmir and Ankara – Konya (already in service).

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Is ERTMS part of this major investment program?

Yes – Turkey has become one of the largest ERTMS investors in the world. The first deployment of ERTMS in Turkey was completed in 2008 on a 196km section of the Istanbul to Ankara High Speed line between between Hasanbey and Esenkent, with 10 trains operating at 250km/h under ERTMS Level 1 supervision; while the most important milestone was set on 29 October 2013, on the occasion of the 90th anniversary of the Republic of Turkey, when the Marmaray tunnel was officially inaugurated.

The second High Speed line entering into operation in August 2011 was the Ankara to Konya line, which added 212km to the High Speed network under ERTMS Level 1 supervision.

Other notable projects are , the 419km route linking Bogazkopru to Yenice and Mercin to Toprakkale, the 58km Sincan to Esenkent and Hasanbey to Inonu extension, on which work started in 2009. More recently, contracts have been awarded on the 328 km long line, single track between Eskisehir-Balikesir, the 56 km route between Gebze and Kosekoy, the 310 km route, single track between Bandirma and Menemen. the 415 km, single track between Irmak and Zonguldak and the 70 km route linking Pamukova and Köseköy.

When the current set of projects is complete and in operational service, Turkey will enjoy over 250 ERTMS equipped vehicles operating on over 2,300km of track, at speeds of up to 250km/h.

Is Turkey using only ERTMS Level 1?

Near all lines were initially designed to operate at ERTMS Level 1 but Level 2 has now been specified for the Ankara- Istanbul corridor, and the Ankara to Konya, Eskisehir to Balikesir lines. Bandirma – Menemen line project includes both ERTMS Level 1 and 2.

Are there further investment plans scheduled?

Ambitious plans exist to invest over EUR$28billion in the country's rail network by 2023, the 100th Anniversary of the establishment of the Republic of Turkey. This includes an additional 14,000km of track, of which over 10,000km will be high speed lines. By 2035 an additional 2,400km will be built giving the country a network of virtually 28,000km, hence ERTMS deployment is set to grow rapidly in the next two decades.

What are the benefits of ERTMS for the Turkish railways?

Not only ERTMS deployment will provide Turkey with a modern, safe and reliable railway network, but also the new High Speed lines will cut journey times dramatically between the major cities, providing a more convenient and efficient alternative to road and domestic air travel. For example, the historic journey time of 10 hours and 30 minutes from Ankara to Konya has fallen to just 1 hour 15 minutes now that the new High Speed line is operational. Likewise the historic journey time of 12 hours and 25 minutes between Istanbul and Konya will decrease to just 3 hours and 50 minutes, significantly faster than both road and air on a city centre to city centre journey.

In addition to this, as the new High Speed lines will be dedicated for passenger traffic only, capacity will therefore be freed up along the existing network, allowing for more local passenger and freight trains capacity.

A new High Speed rail terminus station is being finished in Ankara as well as new stations across the network including Istanbul, Izmir and Sivas. By integrating the new High Speed network with the Marmary Project, the country will be able to provide seamless passenger transport between Europe and Asia for the first time in history, carrying an estimated 17 million passengers a year. This figure has to be added to the new commercial possibilities that the tunnel offers for seamless freight transport between both continents in the so called Iron Silk Route. Finally, the use of ERTMS will also make it possible to link the Turkish rail network with that of the EU and the Middle East.

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