

## ERTMS Deployment in the Maghreb countries

### ERTMS to promote economic growth in North Africa countries

Three of the Maghreb countries (Algeria, Tunisia and Morocco) have been working together since 2005 on a common regional development plan to promote and accelerate economic growth and integration which naturally includes investment in infrastructure, including rail transport. Investment plans for rolling stock, electrification and signalling have already been or are in the process of being drawn up, working on common standards and with a longer term view of raising standards and achieving interoperability not only from an operational point of view but also from a safety aspect. The plans address both passenger and freight services.

#### How can ERTMS increase the competitiveness of the Maghreb countries?

Growing external demand for natural occurring minerals and energy resources has attracted investment interest from both Europe and Far East all over the region. These investments have been done on a Government to Government basis and by direct public investment in railway companies in order to support the extraction and transportation of minerals to suitable (upgraded) ports and international shipping thereafter. Investment is also provided for new intercity and urban services for cities with double digit population growth. Such a situation allows the incumbent railway companies to plan dramatic steps in adopting the latest, proven technology to provide a safe backbone transportation system that will provide life improving functionality to the local populations by opening up passenger and freight links into their neighbouring countries and open routes into the less populated areas within the countries. ERTMS, as the globally accepted international signalling system with its advanced technology and safety features is fully part of the Maghreb railway development plans providing a significant long term planning of the region's international network.



#### ALGERIA

Algeria, with a population of almost 44M, it is the second largest country in Africa and has a rail network of 4,300 km (3,200 km UIC track, 1,100 km of narrow gauge track, 394 km double track and 283 km of electrified track). Algeria has embarked on an ambitious Railway Network Development plan introducing new signalling and telecommunications systems including the doubling of some lines, providing the capability to operate at speeds of 160km/h on others and building new lines and electrifying existing lines. The goal is to reach over 12500km of lines by 2025. SNTF and ANESRIF are responsible for the execution of the investment. Algeria had seen a decline in the transportation of both passengers and freight which made the development of the railways a national priority. Increasing line speeds and electrifying lines, introducing GSM-R radio communications and introducing ETCS positions Algeria in the best place to enjoy full interoperability with its neighbours. The Rocade Nord passenger and freight route includes the deployment of ETCS Level 1 and 2. This double track route will run 96km between Annaba and Ramdane Djamel in the east of the country, 226km from Bordj Bou Arreridj to El Gourzi



## The Kingdom of Morocco

The Kingdom of Morocco has a population of 36M. Railways in Morocco currently count 2295km. The Moroccan railway network, managed and operated by the National Railways Office ONCF, has undertaken giant investment and development steps to improve the performance of its network. There are ambitious plans for the railway which has seen a restructuring phase, a performance consolidation phase and a development and extension phase. There was an urgent need to reduce costs which led to the railway manpower count drop from 14,000 down to 8,900 between 1995 and 2005. ONCF is also a keen supporter of the Maghreb-Europe freight corridor plan that will see a freight connection from Tangier to Tunis on a corridor 2,337 km long - which will depend heavily on the Moroccan railway being suitably prepared. Routes to be improved deploying ERTMS level 1 include the Casablanca - Rabat route, a distance of 80km with double track. A very high speed line operating at 320 km/h has been inaugurated in 2018 among the cities of Tangiers and Casablanca, cutting traveling time from 4h 45' to 2h 10'. But ERTMS has been delivered only in the section of almost 200km of double track from Tangiers to Kenitra. The delivery of ERTMS in the section between Kenitra and Casablanca will allow to reduce the travel time from Tangier to Casablanca to only 1h 30'. ERTMS level 2 has been the chosen signalling system with ERTMS level 1 as fall-back.

The strategy of ONCF in his plan "Plan Rail Maroc 2040" is to deploy 1500km of High Speed Lines and new 2743km of conventional railways. For conventional the idea is to have a total network of 5960km by 2040. Railway deployment will improve the life and connect with green transport the 80% of the Morocco population.



## Tunisia

Tunisia, with a population of 11.5M has a rail network of 2,218 km (1,991 km in operation, 673 km of which are reserved for freight services with a mix of standard and metric gauge lines. The network operated by SNCFT - the Tunisian Railways National Company - has yet to commit to the introduction of ERTMS/ETCS in its network but located, as it is, near to an ERTMS-equipped country as Algeria, Tunisia will surely start to feel the need to adopt ERTMS into its network if only to support the introduction of interoperability for the North African Link. There is an additional need to vastly improve the links into the interior to increase the competitiveness of the Phosphate mining industry.

### Summary

The development, availability and introduction of ERTMS has provided the ideal mechanism for railway operators across the Globe to find an easy way to interconnect their networks. The railways of the Maghreb can look forward to potential simplified cross border operations, introduction of high speed services with greater levels of safety and the ability to mix traffic on their lines with much greater capacity thanks to the advanced features brought by ERTMS. Bringing increased safety and capacity, ERTMS is ideally positioned to provide the core signalling technology for many years to come in the Maghreb and beyond.

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