

## ERTMS DEPLOYMENT IN SUB-SAHARAN AFRICA

A major area of the World that has shown few signs or ambitions to introduce ERTMS into the operational railways has now suddenly and emphatically moved into the world of ERTMS with 3 projects to introduce ERTMS being announced in a relatively short time. The three countries involved are Zambia, Ethiopia and Nigeria who have led this move which, it is expected, will be the vanguard of a railway renaissance in Sub-Saharan Africa.

The state of the railways in these areas has been a story of decline due to lack of investment and poor or almost no maintenance. However, the pressure for growth to cope with growing populations and growing economies makes these railway initiatives more important and ERTMS is in a position to fully address the different circumstances of each country working with a stable and fully supported set of standards and solutions with different ERTMS Level variants that can match the varying operational ambitions of each country.



### Zambia

Under a consortium arrangement consisting of 3 key players, a contract has been put in place to deploy an ERTMS Regional solution still in a preliminary state regarding specification and implementation and represents the idea of ERTMS Level 2 over a 980 km route passing 42 stations from Livingstone (at the southern border with Zimbabwe) up to Chingola in the Copperbelt area of the country. This historic line will be upgraded over 500 km of its length to double tracking and an operational speed of 80km/h will become possible.



The Zambian Railway's aim is to support the mining industry by promoting and driving a modal shift of freight transport from road to rail and to support economic diversification by promoting tourism, support agriculture and improve distribution. Currently the national rail network of 2166km handles less than 20% of Zambia's freight. The target is to secure a 50% freight share for rail.



### Ethiopia

Under a turnkey consortium arrangement, Ethiopian Railways have committed to deploy an ERTMS Level 1 line from Awash to Weldia. This 389 km route will be a single track, standard gauge line with electrification.

The line is intended to enhance the links between the Northern, Central and the Eastern areas of Ethiopia and to capture a larger percentage of the growing road freight market as well as and at the same time being highly environmentally positive.

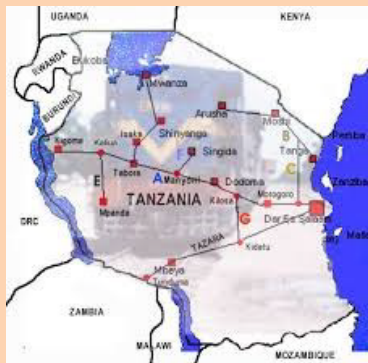


## Nigeria

Following many years of decline of the national rail network, there is now a new determination by the Nigerian Government to reinvigorate the railway system not least because Nigeria has the largest population of Africa and also the largest economy of Africa. The reasons for an available, reliable and safe railway system is self-evident.

A series of new contracts have been placed to provide an ERTMS Level 2 route supported by radio communications, connecting Itakpe through Ajaokuta to the port at Warri over a total route length of 328km. The route will be designed to operate up to 150km/h with the initial intention of linking iron ore mines to Warri port.

With the economic growth being witnessed in Nigeria and the need also to encourage a modal shift of freight from road to rail the success of this line assumes great importance. The demands of 167 million people and the now largest economy in Africa must be addressed quickly and effectively.



## Tanzania

New contracts have been initialled for two phases of ERTMS deployment on standard gauge electrified railway (1435mm) have been launched – Phase 1 will see 300km from Dar es Salaam being prepared for ETCS Level 2 control system followed by Phase 2 launched in 2018 for 422km from Morogoro to Makutupora as part of a 5 phased plan to reach Mwanza on Lake Victoria. The total infrastructure requirement and the delivery of the signalling and electrification technology including the vehicle On-board units are included in the initial contract.

The planned phases for the Standard Gauge Railway (SGR) network consisting of five phases covering 1,395 main track are listed as follows:

- Phase 1 Dar es Salaam – Morogoro (Km 300)
- Phase 2 Morogoro- Makutupora (Km 422)
- Phase 3 Makutupora –Tabora (Km 294)
- Phase 4 Tabora – Isaka (Km 130)
- Phase 5 Isaka – Mwanza ( Km 249)

The benefits to and for Tanzania are seen as:

- Increase of freight service, whereby the railway will be able to carry up to 10,000 tonnes equal to the 500 trucks.
- Improved travel times for passenger and freight trains will boost economic growth
- Increased employment opportunities
- Improved Social Community Welfare through Corporate Social Responsibilities i.e. new Schools and hospitals in the railway vicinity and surrounding areas.
- Boosting agriculture, mining, business and industry sector by ensuring safe and reliable rail transport of raw and processed agriculture products in Tanzania and neighbouring Countries.
- Economic benefits from the reduction of reliance on road transport, the associated costs and the road maintenance costs.

## Conclusion

The selection by these 4 countries of Sub-Saharan Africa are leading the way for the deployment ERTMS at its various levels, offering clear evidence that the tested and stable ERTMS technology with its inherent high levels of safety is the most obvious technological choice for Infrastructure Managers and Railway Undertakings. The offer of a migration growth path to the railway companies and an open and competitive supply market situation adds to the attractiveness of ERTMS with a number of competent suppliers actively competing for this business.

As has been seen in other countries the potential of introducing ERTMS will provide opportunities for system expansion and capacity growth coping with mixed traffic scenarios but also offering solutions linked to the operator's available financial resources – but always with safety in mind. Sub-Saharan Africa is moving to real rail growth and revival with ERTMS technology leading the way - as no other signalling solution can

## SUPPLIERS

ALSTOM



PRAHA

SIEMENS

CAF

HITACHI  
Inspire the Next



MERMEC  
AN ANGEL COMPANY

THALES



Part of the Signal Division of  
Progress Rail, A Caterpillar Company



MERMECste  
AN ANGEL COMPANY