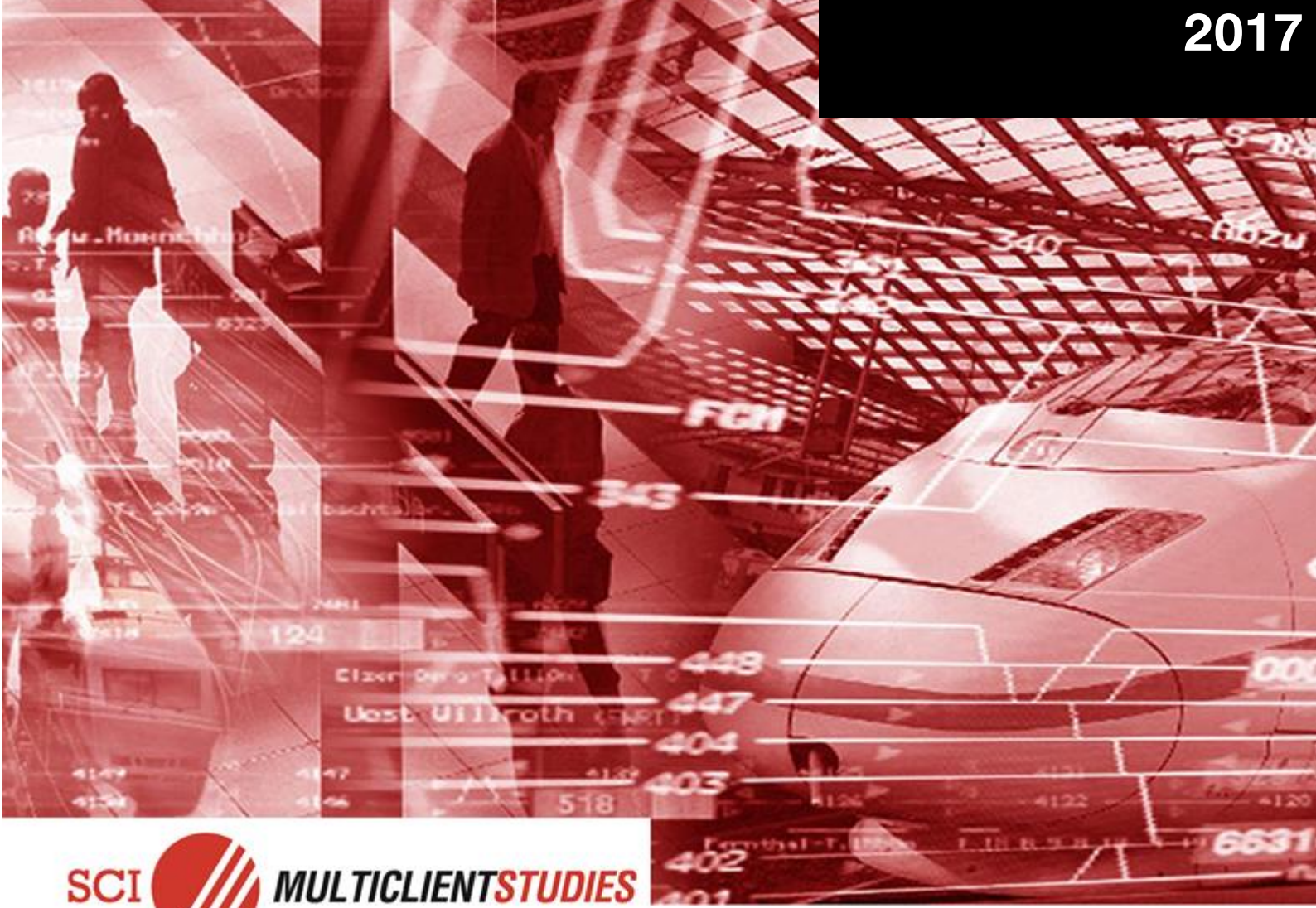


2017



RAIL TRANSPORT MARKETS – GLOBAL MARKET TRENDS 2016–2025

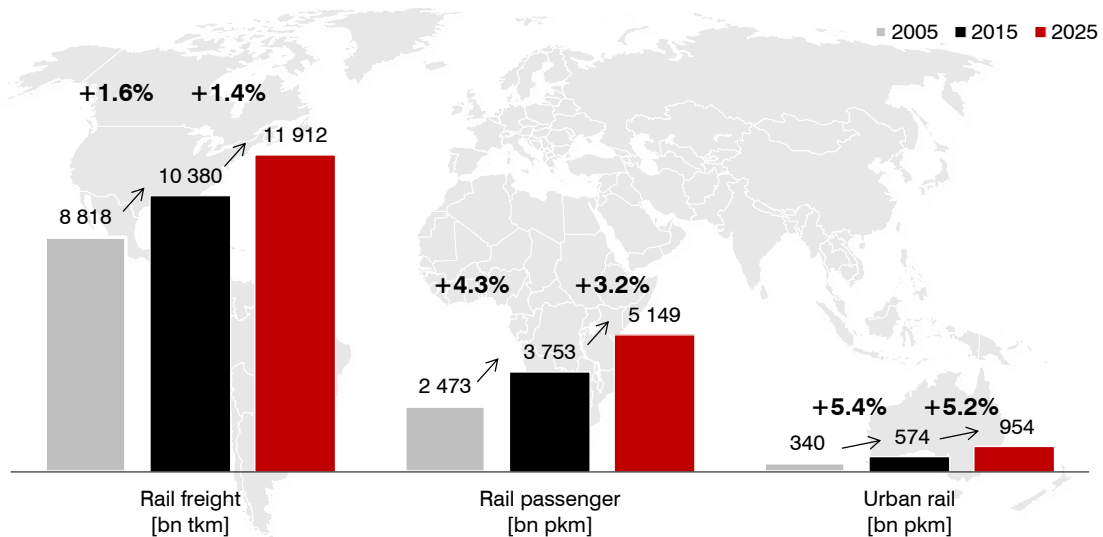
THE WORLDWIDE RAIL TRANSPORT
MARKETS AND THEIR DRIVERS

RAIL TRANSPORT MARKETS – GLOBAL MARKET TRENDS 2016–2025

The worldwide rail transport markets and their drivers

Through the MultiClient Study “Rail Transport Markets – Global Market Trends 2016-2025”, SCI Verkehr delivers core data of competitive relevance on the development of the worldwide rail transport performance. The study presents and assesses detailed information for 30 core markets and eight world regions. It also analyses the main drivers of transport performance and points to the latest trends, including historical data since 2005 and forecasts of market development up to 2025.

Worldwide rail transport performance and CAGR by segment



“Rail Transport Markets – Global Market Trends 2016-2025” includes information and explanation of the development in three segments: rail freight transport, rail passenger transport and urban rail transport.

Rail transport is a growing market. Since 2005, positive growth rates have been observed in freight, passenger and urban segments. **Despite short-time and regional volatilities, the overall picture remains positive**, with increasing transport performance. This trend is expected to continue, although at a different speed.

The **rail freight segment** has grown less positively in the past five years and it registered an absolute reduction in 2015 for the first time after 2009. Its development will continue facing challenges in the short term, but it is expected to return to growth in the long run. Rail **passenger transport has shown a constant positive development** over the past years and it is expected to continue growing significantly, although at slightly lower rates. Similarly, **urban rail transport** has registered a constant positive development, but at higher rates. Its **growth is expected to decelerate slightly only after 2020.**

The data provided by “Rail Transport Markets – Global Market Trends 2016-2025” is an excellent basis to build and review expectations over the rail market development considering geographic, segment type and time period particularities.

The English version of the study “Rail Transport Markets – Global Market Trends 2016-2025” is available from March 2017 at the price of EUR 3,400 + VAT (PDF-version).

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1 Executive Summary (excerpt)

Asia: Largest market and dynamic growth rates push worldwide development

Asia is the most important regional market for rail passenger transport in the world with 79% of total performance. Its importance is expected to continue growing thanks to the developments of passenger services in China and India, and to reach 82% by 2025. Influenced by the Asian driver, global rail passenger performance has been growing continuously since 2005. Growth rates have not varied much, staying stable at around 3% p.a., expect in 2009.

Commuter rail and high-speed services are among the most dynamic sub-segments in terms of performance growth. Commuter rail is more widespread and focuses on passenger transport in metropolitan areas. Its implementation is relatively simple, especially if previous railway infrastructure exists. High-speed rail, however, is still restricted to a few countries, most of them with high development levels. The main reason for this are the high implementation costs linked to this technology. High-speed services still do not exist in many regions, such as South and Central America, Africa and Australia/Pacific, and they have been implemented only to a limited extend in North America and the CIS. China is an important exception in this respect, since it has managed to develop the world’s largest high-speed rail network in a very short period of time.

In the short and long term, passenger rail performance is expected to continue growing dynamically, with an average growth rate of 3.2-3.3% p.a. up to 2025. Growth is forecasted for all world regions, with Africa/Middle East showing the highest relative development, totalling 50% growth between 2015 and 2025. Asia as well as South and Central America will also grow strongly at 42% in the same period. Other world regions will grow below average and are thus likely to lose market shares in the global rail passenger performance.

Share of the worldwide rail passenger transport by country and by region
[pkm, %]

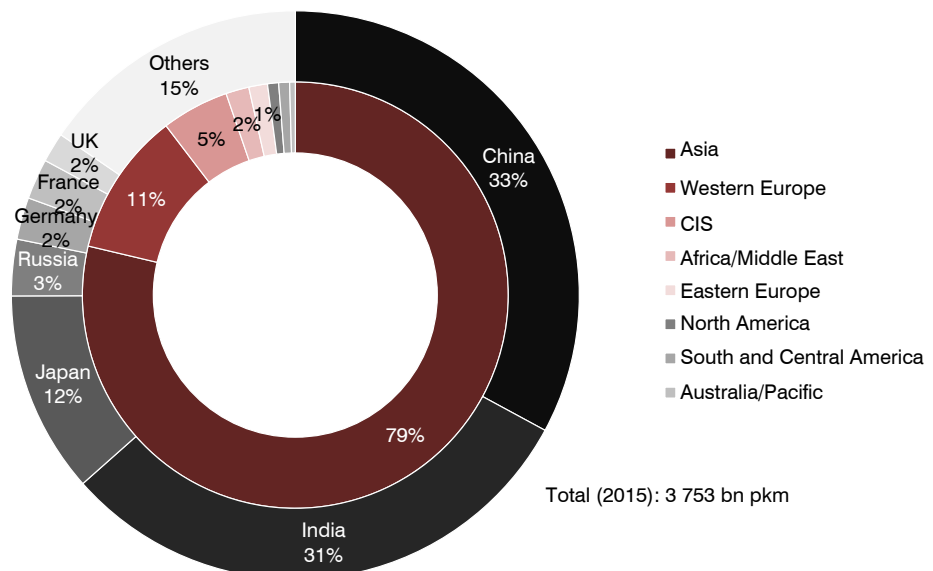


Figure 7: World – share of the worldwide passenger transport by country and region

5.3 Mexico (excerpt)



Socio-economic data 2015	
Population (million)	127
CAGR population 2015-2020 (%)	1.2
Degree of urbanisation (%)	79
GDP per capita (in PPP, USD)	17 534
GDP (current prices, USD billion)	1 144
CAGR GDP (real) 2015-2020 (%)	2.8
Rail infrastructure 2015	
Mainline railway network (km)	17 200
Urban transport network (km)	270

Rail transport 2015	Transport performance (billion)	Forecast SCI CAGR 2015-2020 (%)	Modal split (%)	Average transport distances (km)	Transport intensity (per EUR 1 000 GDP/per capita)
Rail freight transport (tkm)	83	1.4	23.2	697	69
Rail passenger transport (pkm)	1	4.5	2.7	26	7
Urban rail transport (pkm)	14	0.5	-	8	93

Modal split 2015

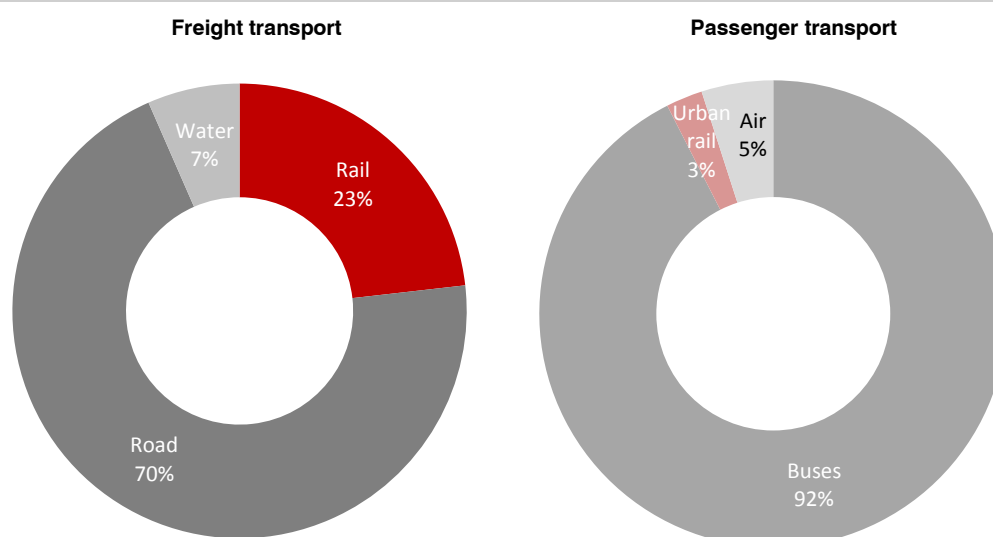


Figure 98: Mexico – modal split of freight and passenger transport

5.3.3 Urban rail transport (excerpt)

Urban rail performance in Mexico [Index 100 = 2005]

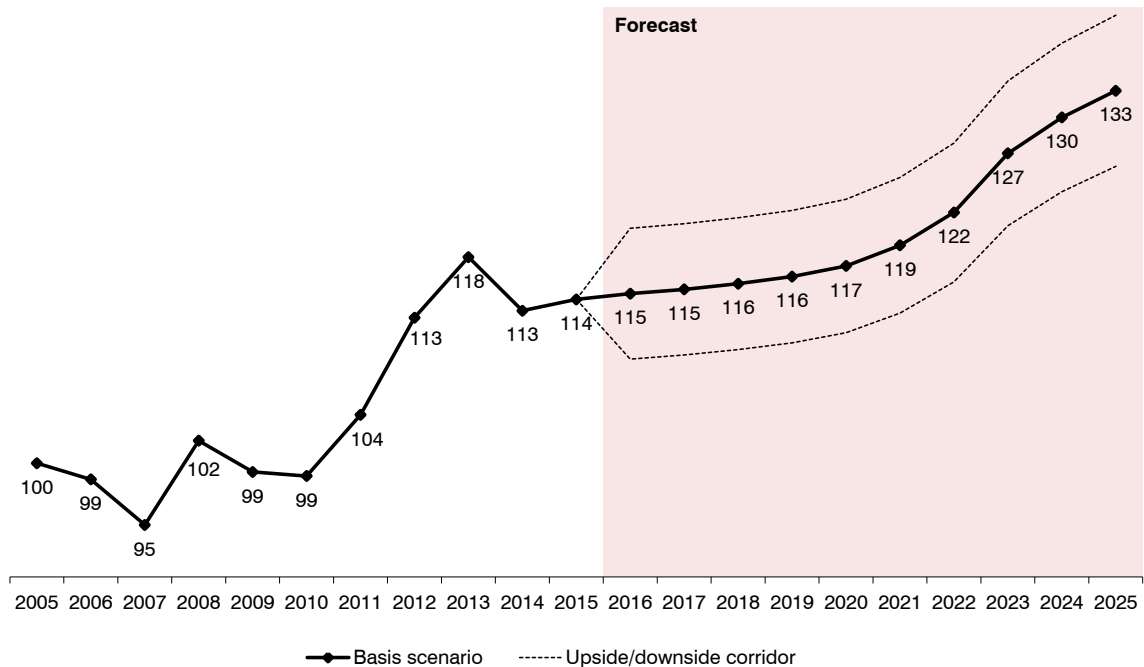


Figure 103: USA – urban rail performance

Transport performance (billion pkm)					CAGR (%)	
2005	2010	2015	2020	2025	2015-2020	2020-2025
11.9	11.8	13.6	14.0	15.8	0.5	2.5

Transport performance development

Mexican urban rail in Mexico grew 14.3% between 2005 and 2015. Between 2005 and 2007, performance decreased, as it did in the 2008-2010 period, but especially from 2010 to 2013, the volume increased rapidly.

Mass transit is limited to Mexico’s largest cities and includes metro as well as LRT. Especially the development of **Mexico City’s Metro**, one of the largest metro systems in the Americas, is crucial for the urban rail performance in Mexico.

For the next five years, only moderate growth of 0.5% p.a. is forecasted. **Growth will accelerate in the 2020 to 2025 period** when urban rail performance will grow 2.5% p.a., reaching 15.8 billion pkm.

Main drivers

Income is a main indicator for urban rail performance. It is expected to grow by 2% between 2015 and 2020. Although this may shift passengers from rail to road, urban rail benefits from growing mobility demand. **Congestion and pollution** is a serious problem in Mexico’s large cities, especially in the capital Mexico City. In 2015, Mexico City was the city with the worst traffic congestion in the world. One strategy of the city to fight congestion and pollution is to strengthen public transport systems.

These problems will only become more serious given the expected growth of large cities. **Population living in cities with over 500 000 inhabitants** is expected to grow 1.9% p.a. up to 2020, boosting the potential demand for mass transit systems.

Infrastructure expansion is also an additional driver for urban rail development. Recently, it was decided to extend the metro Line 12 by 4 km until 2017 and to connect it to Line 1. The Mexico City metro is currently undergoing a vehicle and infrastructure refurbishment programme. Under this programme CAF was awarded a contract to supply 10 rubber tired trains for Line 1.

Additionally, Guadalajara's metro will start operation of its 21.5 km long LRT Line 3 in March 2017. At the same time new vehicles for Line 1 were ordered. This investment will strengthen rail based public transport in Mexico and an improved service quality is expected to increase total ridership.

9 Africa/Middle East (excerpt)

9.1.1 Rail freight transport

Rail freight performance in Africa and Middle East [Index 100 = 2005]

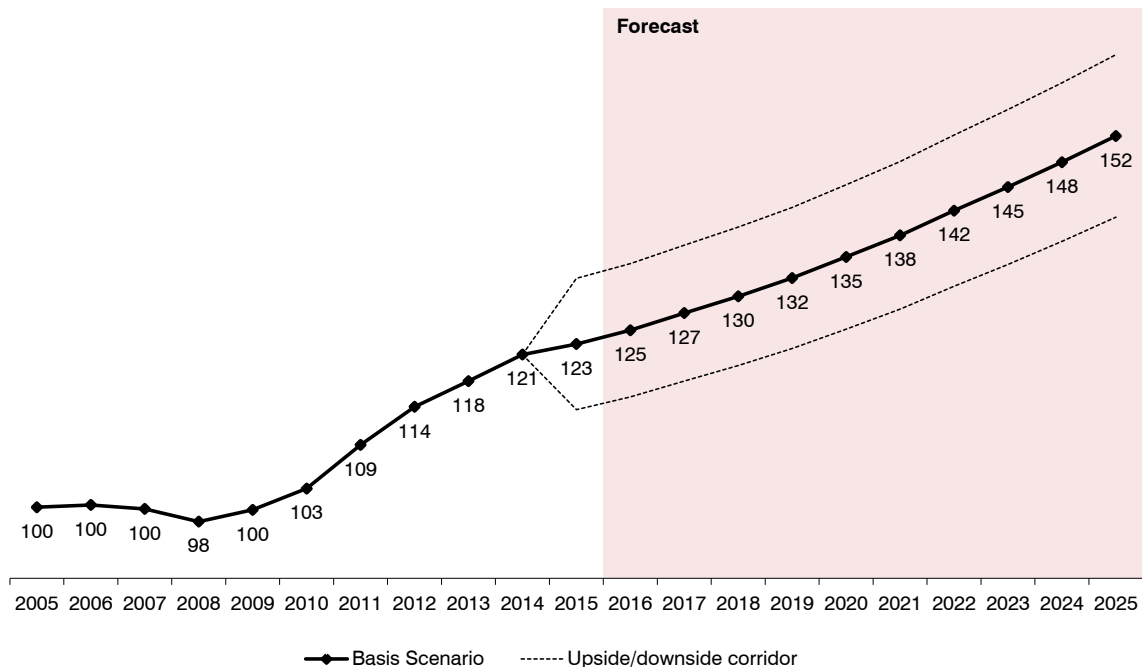


Figure 164: Africa/Middle East - rail freight performance

Transport performance (billion tkm)					CAGR (%)	
2005	2010	2015	2020	2025	2015-2020	2020-2025
173	178	213	234	263	1.9	2.4

Transport performance development

Rail freight performance grew 23% between 2005 and 2015 in Africa/Middle East. The greatest growth was observed from 2010 onwards. The absolute volume increased from 173 billion tkm in 2005 to 213 billion tkm in 2015. Africa/Middle East accounts for around 2% of the worldwide rail freight transport performance.

The main rail freight market in the region by far is South Africa, which is responsible for 67% of the regional rail freight performance. In almost all countries, the modal share of rail is very low. Road transport dominates in all cases except South Africa, where rail has a 26% participation in the transport matrix.

The goods transported by rail reflect local economic activities. Most countries transport large amounts of mining products, such as iron ore and coal, as well as petroleum and chemicals. The future development of rail freight is marked by a **moderate increase of 1.9% p.a. between 2015 and 2020.** In the period between 2020 and 2025, growth will accelerate and reach 2.4% p.a., letting the absolute volume rise to 263 billion tkm by 2025.

Main drivers

The main factors for growth are **positive economic development** linked to the **political will** to extend rail as a mode for rail freight transport and to implement **new and improved rail infrastructure**.

In **Saudi Arabia** in particular, political will is the main driver to increase the importance of rail as a mode for freight transport. This results in large infrastructure projects connecting mining activities in the north of the country with the port of Dammam in the east.

Infrastructure improvements also play a crucial role in **South Africa**, where important coal and iron ore railway lines have reached their capacity. Extending these capacities will unlock future growth potential. This is related to the positive economic developments in South Africa, but also to the demand of mining products in the global market.

In **Iran**, the lifted trade sanctions are determining the economy development, also influencing the domestic rail freight market. Iran has already started renewing its rolling stock by purchasing massive amounts of wagons and locomotives.

In **Israel**, rail freight transport does not play an important role, but the National Government has shown sympathy to strengthen the modal as a way to decongest highways, especially through container transport by rail. At the moment, rail transport focuses on the transportation of chemicals.

Competitive dynamics

Competition differs between markets but is **mostly limited**. The greatest source of competition is intermodal, since railways are mostly state-owned or part of industrial groups. Although there are two state-owned railways in Saudi Arabia, they do not compete with each other because they serve different regions.

Development of main rail freight markets in Africa/Middle East

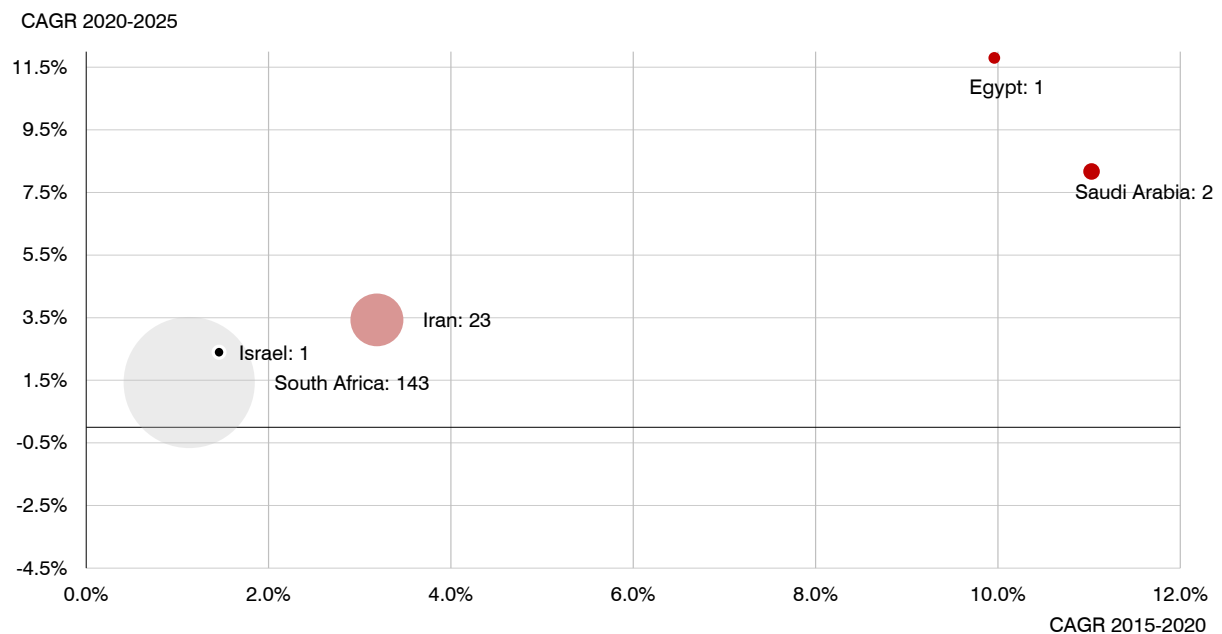


Figure 165: Africa/Middle East - largest rail freight markets



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