# **Executive Summary**

### **Operators Summary**

- South Africa is the key rail market in the region, accounting for 60% of track, 73% of locomotives, 36% of wagons, 58% of haulage capacity, and around 80% of Capex and Opex in the region. However, the utilities in South Africa are beset with a range of problems, including lack of finance, corruption, ageing fleets and damage to infrastructure.
  - Operations in countries such as Angola, Tanzania and Namibia, as well as Mozambique are increasingly competing with South Africa's for cargoes to and from the landlocked regions of Southern Africa.
  - However, as individual rail operators, they are still very small by comparison at this stage.
- Most operators in the region are struggling financially from years of underinvestment and increased competition from road haulage. There are efforts in several countries to legislate for bulk goods to be carried only on rail, but a lack of rolling stock in many cases is preventing this – Zambia, Zimbabwe and Mozambique are all in this conundrum.
- A new surge in mining and agricultural development in the region, as well as demands for consumer imports is seeing renewed interest in rail. Competition for hinterland cargoes in Southern Africa is also stimulating investment in port and rail infrastructure in several countries:
  - Rail lines in Angola, Tanzania and Mozambique are currently attracting the most investment, as they look to divert traffic away from South Africa's ports, roads and rail networks, which have suffered from neglect and criminality in recent years, increasing costs and risks.
  - The rapid growth of mining activity in the southern provinces of the DR-Congo is driving much of this and will see investment in the DRC's networks as well.
- Countries such as Botswana, Namibia, Eswatini, Zimbabwe and Zambia all rely heavily on transit cargoes, resulting in risks associated with planning and finance for new operations.
   However, as the region integrates and cargo demands rise, this risk should recede somewhat.

### **Corridor Summary**

- Most corridors in the region are conceptual or operational, rather than being developed.
- The North-South Corridor (NSC) is the prime example of this and revolves more around co-operation between utilities than developing new integrated rail infrastructure.
- Angola and Namibia have some interesting developments, as does Tanzania, although largely linking into Central Africa.
- Rail corridors in the region are developed incrementally, rather than as single projects, with the bulk of activity being extending existing rail infrastructure to meet new demands.
  - As such, whilst it is useful to understand the dimensions of these corridors, suppliers need to drill down into the individual components of corridors, rather than try to approach them as single opportunities.
  - This may require interaction with rail operators and regulators across a number of countries in total, but in many instances, just one rail company for an actual project.

### **Executive Summary**



## Background

- In addition to an overview of key rail utilities in Southern Africa, a 10-year view of exports of key rail equipment is provided to add granularity to the opportunity and the UK's position as supplier to the region.
- The Trade overview uses UN Comtrade data as a source, as this is standardised and includes data from 95% of reporting countries, including all key manufacturing countries.
- It reveals that exports to the region have declined significantly since the middle of the last decade, largely as a result of scaling back of new projects as mining demand slowed.
- It is expected that this will show signs of recovery as new build and expansion in some markets increases in 2022 and beyond – especially in Tanzania, Angola and South Africa, as well as potentially in Mozambique, DR-Congo and Namibia.

## Background

### • The basket of tariff headings includes:

730210	Iron or steel, railway or tramway track construction material; rails
730230	Iron or steel, railway or tramway track construction material; switch blades, crossing frogs, point rods and other crossing pieces
730240	Iron or steel, railway or tramway track construction material; fish-plates and sole plates
730290	Iron or steel, railway or tramway track construction material; n.e.c. in heading no. 7302
853010	Signalling, safety or traffic control equipment; for railways or tramways (excluding those of heading no. 8608)
860110	Rail locomotives; powered from an external source of electricity
860120	Rail locomotives; powered by electric accumulators
860210	Rail locomotives; diesel-electric powered
860290	Rail locomotives and locomotive tenders; other than diesel-electric powered
860310	Railway or tramway coaches, vans and trucks; self-propelled, powered from an external source of electricity (excluding those of heading no. 8604)
860390	Railway or tramway coaches, vans and trucks; self-propelled, powered other than from an external source of electricity (excluding those of heading no. 8604)
860400	Railway or tramway maintenance or service vehicles; whether or not self-propelled (eg workshops, cranes, ballast tampers, trackliners, testing coaches and track inspection vehicles)
860500	Railway or tramway coaches; passenger coaches, luggage vans, post office coaches and other special purpose coaches, not self-propelled (excluding those of heading no. 8604)
860610	Railway or tramway goods vans and wagons; tank wagons and the like, not self-propelled
860630	Railway or tramway goods vans and wagons; self-discharging, not self-propelled, excluding those of item no. 8606.10
860691	Railway or tramway goods vans and wagons; covered and closed, not self-propelled
860692	Railway or tramway goods vans and wagons; open, with non-removable sides of a height exceeding 60cm, not self-propelled
860699	Railway or tramway goods vans and wagons; n.e.c. in heading no. 8606, not self-propelled
860711	Railway or tramway locomotives or rolling stock; parts, driving bogies and bissel-bogies
860712	Railway or tramway locomotives or rolling stock; parts, bogies and bissel-bogies (excluding driving bogies and bissel-bogies)
860719	Railway or tramway locomotives or rolling stock; parts, axles and wheels, and parts thereof
860721	Railway or tramway locomotives or rolling stock; parts, air brakes and parts thereof
860729	Railway or tramway locomotives or rolling stock; parts, brakes (other than air brakes) and parts thereof
860730	Railway or tramway locomotives or rolling stock; parts, hooks and other coupling devices, buffers and parts thereof
860791	Railway or tramway locomotives; parts n.e.c. in heading no. 8607
860799	Railway or tramway rolling stock; parts n.e.c. in heading no. 8607
860800	Railway or tramway track fixtures and fittings; mechanical (including electro-mechanical) signalling, safety or traffic control equipment for railways, tramways, etc; parts thereof

## Global Exports of Product Basket to Region

- Exports to the region grew sharply from 2012 to 2015, reaching US\$1.16bn in 2015, before declining thereafter 2018 to 2021 has seen far more modest levels.
- Initial surge was based on South African recapitalisation of rolling stock and investment in Mozambique's mining-led rail developments in the centre and north of the country.
- Angola has also seen sporadic investment in the sector, and can expect higher levels of investment as the country concessions key rail and port infrastructure.
- Tanzania will also see increased activity as the Standard Gauge Railway projects ramp up.
- Other countries have struggled to invest in infrastructure and rolling stock in recent years, largely as bulk export projects slowed in the latter part of the decade, but this could change with a renewed surge in mining activity in Botswana, Namibia, Zambia, Zimbabwe and DR-Congo, especially around copper, cobalt and other battery minerals.
- 2022 figures should be up on 2021 as a result, with the outlook for the next five to ten years improved as well, on the back of commodity trade (minerals and agricultural), upgrades to key ports allowing greater inbound trade, and linking of 'stranded' resources and regions into the regional rail network.
- Data from key exporters including Austria, France, India, Malaysia and a number of smaller exporters is not yet available for 2022, but it would appear that global exports to the region last year would be the highest since 2017.



Exports of Rail Equipment to SADC, US\$, Millions

## Key Suppliers of Rail Equipment to Region

- China is the key supplier, with 32% of the market overall, but only 24% since 2018 large rolling stock contracts account for bulk of supply;
- USA is also key supplier of rolling stock to SA, with 21% overall, dropping to 14% since 2018;
- SA is largest import market and 3<sup>rd</sup> largest regional supplier – some goods destined for SA are probably re-exported. SA share is steady at ~11%;
- Austria a consistent supplier in 4<sup>th</sup> place with 7% overall, rising to 10% in last four years;
- Brazil's share largely based on rolling stock to projects in Angola and Mozambique in early part of decade, share is 1% in last four years;
- Italy only other consistent supplier to region, with 3% overall, but rising to 10% once early rolling stock figures are removed in last four years;
- UK share is very small at this juncture, at just 1% overall and in the last four years;

	Exports to Southern Africa of Rail Equipment (US\$, Million)											
Rank	Supplier	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
	Total	558	593	858	1,156	467	567	223	271	285	253	5,232
1	China	187	103	256	670	72	138	37	95	73	43	1,673
2	USA	110	113	212	178	87	271	36	16	84	12	1 117
3	South Africa	72	118	114	93	46	54	24	28	21	41	609
4	Austria	69	59	55	48	23	8	21	39	22	18	360
5	Brazil	12	64	21	18	182	35	3	5	2	3	344
6	Italy	7	13	14	12	5	20	11	28	36	24	169
7	Japan	0	41	47	11	0	1	19	38	-	-	157
8	India	5	8	26	17	3	4	2	3	4	42	113
9	Germany	18	5	9	19	13	3	4	4	6	4	86
10	Spain	9	4	27	38	1	1	2	1	0	0	83
13	υк	9	10	18	4	2	1	2	3	2	3	55
	Others	61	56	60	49	34	32	63	13	35	63	465

## Key Products Exported

- Diesel locomotives are the key export to the region, and together with electric locomotives accounted for 31% of the total over the decade, although only 14% in the last three years.
- Rail supply remains key, as does exports to Southern Africa of coaches, wagons and the like.
- Parts for locomotives, wagons and the like are a consistent source of exports to the region, whilst exports of signalling and control equipment, switch blades, , crossing pieces and the like averaged around US\$32 million a year to the region over the decade.

HS Code	Description (Reduced)	Total: 2012-2021	Share	Total: 2018-2021	Share
Total		5,232	100	1,032	100
860210	Diesel Locomotives	1,114	21	138	13
730210	Iron or steel; rails	619	12	202	20
860719	Parts, axles and wheels, and parts thereof	577	11	118	11
860110	Electric (external source) Locomotives	540	10	5	1
860791	Locomotive Parts n.e.c. in HS-8607	355	7	60	6
860500	Coaches, not self-propelled (excl, HS-8604)	231	4	19	2
860692	Goods vans & wagons; open, non-removable sides etc, not self-propelled	206	4	8	1
860799	Rolling stock parts n.e.c. HS-8607	195	4	67	7
730290	Iron or steel, track construction material; n.e.c. in HS-7302	157	3	78	8
860310	Coaches, vans and trucks; self-propelled, external electric (excl. HS-8604)	133	3	0	0
860800	Railway or tramway signalling and control equipment parts	130	2	64	6
860699	Goods vans and wagons; n.e.c. in HS-8606, not self-propelled	129	2	39	4
860390	Coaches, vans & trucks; self-propelled, not external electricity (excl. HS-8604)	122	2	50	5
860400	Maintenance etc vehicles; (eg workshops, cranes, trackliners, testing & inspection etc.)	111	2	32	3
860730	Locomotives or rolling stock; parts, hooks, other coupling devices, buffers, parts	101	2	13	1
853010	Signalling, safety or traffic control equipment; (excl. HS-8608)	90	2	35	3
730230	Iron or steel switch blades, crossing frogs, point rods and other crossing pieces	87	2	25	2
860290	Rail locomotives and locomotive tenders; other than diesel-electric powered	80	2	19	2
860721	Locomotives or rolling stock; parts, air brakes and parts thereof	69	1	23	2
860610	Goods vans and wagons; tank wagons and the like, not self-propelled	52	1	3	0
860729	Locomotives, rolling stock; parts, brakes (other than air brakes) and parts thereof	43	1	16	2
	Locomotives, rolling stock parts; bogies & bissel-bogies (excl. driving bogies & bissel-bogies)	24	0	5	0
860711	Locomotives, rolling stock; parts, driving bogies and bissel-bogies	22	0	4	0
730240	Iron or steel, track construction material; fish-plates and sole plates	20	0	3	0
860630	Goods vans & wagons; self-discharging, not self-propelled, excl HS-8606.10	17	0	5	1
860691	Goods vans & wagons; covered and closed, not self-propelled	3	0	0	0
860120	Rail locomotives; powered by electric accumulators	3	0	1	0



# Botswana Railways

Number of Locomotives	34	Track in KMs'	888	Country	Botswana				
Engine Type	D E H O	Gauge	B M S	Established	1987				
Engine supplier	General Electric and General Motors	Capacity tonnes	Unstated – volumes have dropped from 2Mtpa to 1Mtpa over last decade	Est. Personnel	601				
CAPEX (2022/3)	Not Stated	Number of Wagons	1164	Website	https://www.botswanarailway s.co.bw/				
		Project	pipeline	Ownership	PP P C O				
	1. No Capex expenditure	1. Mmamabula - Leph	alale	Client Base					
Top five	at present. Lack of finance	<ol> <li>Mosetse- Kazaungu</li> <li>Dry Port Facility Go</li> </ol>	-	Corridors           1. Trans Kalahari – no finance at present, coal driven           2. Ponta Tachebaning – no finance at present, coal					
		<ol> <li>4. Trans Kalahari</li> <li>5. Mahikeng-Swartrug</li> </ol>	ggens						
				<ol> <li>Ponta Techobanine – no finance at present, coal driven</li> </ol>					
OPEX (2021/2)	US\$0.37 million	Top five o	challenges	3. Kazungula – key pro	oject, by environmentally sensitive				
Regular parts and components including technical within a FY	<ol> <li>Rail and parts (US\$0.24mn)</li> <li>Locomotive Parts (US\$0.1Mn)</li> <li>Fixtures, fittings &amp; parts (US\$0.12mn)</li> </ol>	<ol> <li>Lack of finance for 0</li> <li>Restrictions and reg</li> <li>Ageing rolling stock</li> <li>Maintenance backle</li> <li>Theft and Vandalisr</li> </ol>	gulatory challenges		Sowa Bulawayo Francistown Francistown Palagye Mahalagye Gaborone Lobase				

### Botswana Rail Imports



- Small market, small rail company imports averaged US\$11.4mn a year over last decade
- Locomotives and Rolling Stock are key imports;
- Rail and signalling & safety equipment relatively large;
- Potential for development of links to SA/Zambia?
- Local procurement ensures SA suppliers get orders local partners in Botswana, proximity of supply

Tariff	Product	US\$, Million
860699	Goods vans & wagons; n.e.c. in HS8606, not self-propelled	48.8
860210	Locomotives; diesel-electric powered	29.1
860500	Passenger coaches, luggage vans, post office coaches etc	8.9
860719	Locomotives or rolling stock; parts, axles & wheels, & parts	8.6
730290	Iron/steel, railway track material; n.e.c. in HS7302	3.4
860630	Goods vans/wagons; self-discharge, etc. Excl. HS8606.10	2.8
730210	Iron/steel: rails	2.8
860791	Locomotives; parts n.e.c. in HS8607	1.7
860729	Locomotives/rolling stock; parts, brakes (not air brakes) & parts	1.6
860799	Rolling stock; parts n.e.c. in HS8607	1.0
860290	Locomotives & tenders; other than diesel-electric powered	1.0
860721	Locomotives or rolling stock; parts, air brakes & parts	0.8
730240	Iron or steel; fish-plates & sole plates	0.7
860800	Track fixtures & fittings: signalling, safety or traffic equip	0.6
853010	Signalling, safety or traffic control equipment; (excl HS8608)	0.5
730230	Iron/steel, switch blades, crossing frogs, point rods etc	0.4
860110	Locomotives; powered from an external source of electricity	0.4
860730	Locos/rolling stock; parts, hooks/other coupling, buffers, parts	0.3
860390	Coaches, vans & trucks; self-propelled, etc	0.1
860712	Locomotives or rolling stock; parts, bogies & bissel-bogies etc	0.1
860711	Railway locomotives, rolling stock; parts, driving & bissel-bogies	0.1
860691	Goods vans & wagons; covered & closed, not self-propelled	0.1
860120	Locomotives; powered by electric accumulators	0.1
860400	Railway maintenance vehicles; whether/not self-propelled	0.0
860610	Tank wagons etc, not self-propelled	0.0
860310	Coaches, vans, trucks; self-prop, external elec (excl. HS8604)	0.0
Total		113.9



# Caminho de Ferro Benguela

	Total Operation Recoverable Yes No										
Number of Locomotives	Tes         No           72         21         40         11	Track in KMs'	1,344			Country	Ango	ola			
Engine Type	D E 📔 O	Gauge	В	м	S	Established	1899	1899			
Engine supplier	GE U20C – 8; GE 30ACi – 50; CKD 8F – 8; Diesel SL/60T Manobra - 6 Concession to spend US\$450	Capacity tonnes	24Mtpa, - avo in 2020-2022		Лрtа	Est. Personnel	1325				
CAPEX (2023- 2026)	million on rolling stock, line upgrades – 35 locos, 1,555	Number of Wagons	567 – 391 are o with the balance	•		Website		://www. ?id=100			profil
	wagons 1. China Railway 20 has	Project	pipeline			Ownership	S	PP	Р	C	0
	<ul><li>completed line upgrade</li><li>2. Evenly split between rolling stock, traction</li></ul>	1. Acquisition of: a) Passenger C	Carriages			Client Base	AG	A M	СТ	М	0
Top five	equipment and line maintenance. 3. Requirement for passenger rail?	<ul> <li>b) Wheel Maintenance machine</li> <li>c) Workshop Tools and Spare Parts</li> <li>2. Entry into operation of the 3 Multiple</li> <li>Diesel Units</li> </ul>				Corridors					
OPEX (2022)	<ul> <li>4. Station rehabilitations and upgrades.</li> <li>Not Stated – new concession yet to begin</li> </ul>	Lobito - Luau sectio					nking An ally Solv	•			
Top five	<ol> <li>Priorities include:</li> <li>Fitting out of workshops, maintenance yards.</li> <li>Staff training.</li> <li>Rehabilitation of rolling stock that is recoverable.</li> <li>Establishing rail track manufacturing facility?</li> </ol>	<ol> <li>Insufficient operation</li> <li>Rolling stock wheel</li> <li>Vandalization of Infraction of Infraction (Construction)</li> <li>Vandalization of Infraction (Construction)</li> <li>Capacity of Line to construction</li> <li>Lack of reliable construction</li> <li>DRC</li> </ol>	wear rastructure (re lestruction of tc.) along the arry DRC carg	emoval railway line. pes	y	ANGOLA Lopito Huambo	Lua ha k	(iseng		iuezi Tenqu BIA	IP C

### Angola Rail Imports



- Relatively large market by regional standards large recaps;
- Averaged US\$58mn in imports per year, but unevenly spread;
- Locomotives and Rolling Stock are key imports;
- Rail and signalling & safety equipment relatively large;
- Expect large orders as upgrade of Benguela Rail takes place;
- US locos, Chinese track construction dominate;

Tariff	Product	US\$, Million
860210	Locomotives; diesel-electric powered	362.4
860500	Passenger coaches, luggage vans, post office coaches etc	67.9
860390	Coaches, vans & trucks; self-propelled, etc	46.8
730210	Iron/steel: rails	40.1
860699	Goods vans & wagons; n.e.c. in HS8606, not self-propelled	8.2
853010	Signalling, safety or traffic control equipment; (excl HS8608)	5.9
860800	Track fixtures & fittings: signalling, safety or traffic equip	5.7
730230	Iron/steel, switch blades, crossing frogs, point rods etc	5.2
860400	Railway maintenance vehicles; whether/not self-propelled	5.2
730290	Iron/steel, railway track material; n.e.c. in HS7302	4.6
860610	Tank wagons etc, not self-propelled	4.0
860799	Rolling stock; parts n.e.c. in HS8607	3.8
860692	Goods vans/wagons; open, non-removable sides >60cm, etc	3.8
860719	Locomotives or rolling stock; parts, axles & wheels, & parts	3.4
860791	Locomotives; parts n.e.c. in HS8607	3.1
730240	Iron or steel; fish-plates & sole plates	2.4
860721	Locomotives or rolling stock; parts, air brakes & parts	1.7
860630	Goods vans/wagons; self-discharge, etc. Excl. HS8606.10	0.9
860691	Goods vans & wagons; covered & closed, not self-propelled	0.8
860729	Locomotives/rolling stock; parts, brakes (not air brakes) & parts	0.3
860730	Locos/rolling stock; parts, hooks/other coupling, buffers, parts	0.3
860110	Locomotives; powered from an external source of electricity	0.1
860120	Locomotives; powered by electric accumulators	0.0
860712	Locomotives or rolling stock; parts, bogies & bissel-bogies etc	0.0
860310	Coaches, vans, trucks; self-prop, external elec (excl. HS8604)	0.0
860290	Locomotives & tenders; other than diesel-electric powered	0.0
Total		576.8

## Efficiency Re-defined Eswatini Railways



### Eswatini Rail Imports



- Tiny market, with bulk of spend on goods wagons and tanks;
- Average imports of only US\$2.5mn per annum;
- Little in the way of rail expansion over the period;
- Some small projects in the pipeline;
- South Africa supplies almost all requirements to Eswatini Rail;

Tariff	Product	US\$, Million
860699	Goods vans & wagons; n.e.c. in HS8606, not self-propelled	13.4
860610	Tank wagons etc, not self-propelled	2.2
730210	Iron/steel: rails	1.9
730290	Iron/steel, railway track material; n.e.c. in HS7302	1.3
860290	Locomotives & tenders; other than diesel-electric powered	1.2
860210	Locomotives; diesel-electric powered	1.0
730230	Iron/steel, switch blades, crossing frogs, point rods etc	0.8
860719	Locomotives or rolling stock; parts, axles & wheels, & parts	0.7
860799	Rolling stock; parts n.e.c. in HS8607	0.5
860791	Locomotives; parts n.e.c. in HS8607	0.3
860400	Railway maintenance vehicles; whether/not self-propelled	0.2
860730	Locos/rolling stock; parts, hooks/other coupling, buffers, parts	0.2
860712	Locomotives or rolling stock; parts, bogies & bissel-bogies etc	0.2
730240	Iron or steel; fish-plates & sole plates	0.2
853010	Signalling, safety or traffic control equipment; (excl HS8608)	0.2
860729	Locomotives/rolling stock; parts, brakes (not air brakes) & parts	0.2
860721	Locomotives or rolling stock; parts, air brakes & parts	0.1
860800	Track fixtures & fittings: signalling, safety or traffic equip	0.1
860711	Railway locomotives, rolling stock; parts, driving & bissel-bogies	0.0
860120	Locomotives; powered by electric accumulators	0.0
860110	Locomotives; powered from an external source of electricity	0.0
860691	Goods vans & wagons; covered & closed, not self-propelled	0.0
860390	Coaches, vans & trucks; self-propelled, etc	0.0
860310	Coaches, vans, trucks; self-prop, external elec (excl. HS8604)	0.0
Total		24.9



# Mozambique Railway (CFM)

Number of Locomotives	CFM South – 29, (23 operational) CFM Centre – 19 (15 operational) CFM North – 110: 85 GE Dash 9-BBW	Track in KMs'	3130	Country	Mozambique
Engine Type	D E H O	Gauge	B M S	Established	1931
Engine supplier	General Electric (recent, not defined for others)	Capacity tonnes (	9.5Mtpa; total of 18.9Mt in 2021 10.6Mtpa by CFM, balance 3 <sup>rd</sup> arties	Est. Personnel	Not Stated
CAPEX (2021/22)	US\$30.14 million	Number of Wagons	arties CFM South – 1,200 (1.165) CFM Centre – 845 (651) CFM North – 1,962	Website	https://www.cfm.co.mz/index .php/en/
Top five	<ol> <li>Rail track and accessories (US\$29.9mn)</li> <li>Rolling stock (US\$0.23mn – 2020/22 – US\$5.16mn)</li> <li>Future:</li> <li>Standard Bank- Moçambique finance to CFM - US\$22.4mn for acquisition of 300 wagons with high side</li> <li>Acquisition of 20 locomotives for CFM Sul and CFM Centro (US\$70mn)</li> <li>Consolidated Group (incl.</li> </ol>	<ol> <li>Chitama-Macuse Railwa</li> <li>Acquisition of rolling stu</li> <li>Doubling of Ressano de</li> <li>Restoration of operatio IDAI and Ana ((CFM-C))</li> <li>Rehab of Machipanda L Standard Bank, FNB and</li> <li>Acquisition of rolling stu (CFM-C)</li> <li>Link railways north-sour</li> </ol>	ock for bulk freight (CFM-S) Garcia Line (CFM-S) nal capacity, after cyclones ine, financed by (BCI, d Absa) over 3 years (CMF-C) ock, financed by Exim Bank th (India proposal)	Ownership Client Base 1. CFM South 2. CFM Central 3. CFM North	Image: Second system    Image: Second system    Image: Second system    Image: Second system      Image: Second system    Image: Second system    Image: Second system    Image: Second system      Image: Second system    Image: Second system    Image: Second system    Image: Second system      Image: Second system    Image: Second system    Image: Second system    Image: Second system      Image: Second system    Image: Second system    Image: Second system    Image: Second system      Image: Second system    Image: Second system    Image: Second system    Image: Second system      Image: Second system    Image: Second system    Image: Second system    Image: Second system      Image: Second system    Image: Second system    Image: Second system    Image: Second system      Image: Second system    Image: Second system    Image: Second system    Image: Second system      Image: Second system    Image: Second system    Image: Second system    Image: Second system      Image: Second system    Image: Second system    Image: Second system    Image: Second system      Image: Second system    Image: Second system    Image: Second system    Image: Second system      Image: Second system    Image: Second system    Image: Second system    Image: Second system      Image: Second system    Image: Second system    Image: Second system    Image: Seco
OPEX (2021/22) Top five	<ul> <li>Ports) US\$99mn</li> <li>1. Specialized works (US\$13mn)</li> <li>2. Maintenance and repair (US\$11mn)</li> <li>3. Surveillance and security (US\$5.68mn)</li> <li>4. Maintenance and repair materials (US\$4.45mn)</li> <li>5. Exchange of rolling stock (US\$2.37mn)</li> </ul>	<ol> <li>Lack of integrated r</li> <li>Connectivity challer neighbours</li> </ol>	cargoes from SA and	Mulare C. Porto de Beira Porto de Maputo / Maputo	nha de Limpopo / Limpopo Line (4.7 MPTA) na de Ressano Garcia / Ressano Garcia Line (17 MPTA)

### Mozambique Rail Imports



- Relatively large market by regional standards, complicated by three rail lines and multiple concessionaires;
- Over US\$100mn a year in imports;
- 'Pit to Port' lines driven by coal mining from 2012 to 2015;
- Spread of suppliers reflects multiplicity of contracts, origin of developers and contractors;
- Strong project pipeline, funding an issue for some projects;
- Prone to flooding emergency repairs a feature in centre and north

Tariff	Product	US\$, Million
860210	Locomotives; diesel-electric powered	374.5
860692	Goods vans/wagons; open, non-removable sides >60cm, etc	196.4
730210	Iron/steel: rails	145.6
860500	Passenger coaches, luggage vans, post office coaches etc	46.0
860699	Goods vans & wagons; n.e.c. in HS8606, not self-propelled	37.8
730290	Iron/steel, railway track material; n.e.c. in HS7302	34.1
860400	Railway maintenance vehicles; whether/not self-propelled	32.1
860791	Locomotives; parts n.e.c. in HS8607	30.5
860800	Track fixtures & fittings: signalling, safety or traffic equip	28.7
730230	Iron/steel, switch blades, crossing frogs, point rods etc	28.6
860799	Rolling stock; parts n.e.c. in HS8607	28.3
860290	Locomotives & tenders; other than diesel-electric powered	24.3
860719	Locomotives or rolling stock; parts, axles & wheels, & parts	15.8
860712	Locomotives or rolling stock; parts, bogies & bissel-bogies etc	13.1
730240	Iron or steel; fish-plates & sole plates	11.5
860630	Goods vans/wagons; self-discharge, etc. Excl. HS8606.10	11.4
860721	Locomotives or rolling stock; parts, air brakes & parts	11.0
860711	Railway locomotives, rolling stock; parts, driving & bissel-bogies	7.9
860610	Tank wagons etc, not self-propelled	6.6
860729	Locomotives/rolling stock; parts, brakes (not air brakes) & parts	6.4
853010	Signalling, safety or traffic control equipment; (excl HS8608)	4.8
860730	Locos/rolling stock; parts, hooks/other coupling, buffers, parts	1.3
860390	Coaches, vans & trucks; self-propelled, etc	0.8
860120	Locomotives; powered by electric accumulators	0.3
860691	Goods vans & wagons; covered & closed, not self-propelled	0.0
860110	Locomotives; powered from an external source of electricity	0.0
860310	Coaches, vans, trucks; self-prop, external elec (excl. HS8604)	0.0
Total		1,098.2



# National Railways of Zimbabwe

Number of Locomotives	166	Track in KMs'	2,760km		Country	Zimbabwe		
Engine Type		Gauge	ВММ	S	Established	1897		
Engine supplier	General Motors	Capacity tonnes	18Mtpa – currently 2.3Mtpa		Est. Personnel	3587		
CAPEX (2018- 2023)	US\$400mn over five years (not fully secured)	Number of Wagons	7023		Website	www.nrz.co.zw/		
	<ol> <li>Refurbishment and procurement over three phases of:</li> </ol>	Project	pipeline		Ownership	PP P C O		
	<ol> <li>Refurb 132 locomotives, + 43 new</li> <li>Refurb 2,761 wagons + 1,280 new</li> <li>Refurb 144 coaches, + 56 new</li> </ol>				Client Base	AG A CT M O		
Top five	<ol> <li>250 track caution removals</li> <li>Yard lighting to 100% by Phase 3</li> <li>Train control and lighting systems</li> </ol>	<ol> <li>Lions' Den- Kafue Railway link</li> <li>Harare – Moatize</li> </ol>			Corridors			
	upgrades: entry-level track warrant system; Integrated & Centralised Train Control System	3. Harare Chitungwiza	light commuter rail		1. North-South Corridor (Multiple linkages)			
OPEX (2022)	US\$20 million from PSIP Fund	Top five c	Top five challenges					
Top five	<ul> <li>Key Spend:</li> <li>Salaries</li> <li>Fuels</li> <li>Maintenance spares</li> <li>Utilities</li> <li>Statutory obligations</li> </ul>	Opex for maintenar track	and retention oad transport		Zimbaby			

# BBBR Beitbridge Bulawayo Railway



### Zimbabwe Rail Imports



- Small budgets, inadequate rolling stock hamper service;
- Country imports on average US\$4.6 million of rail equipment a year;
- Years of under-investment have crippled much of NRZ capacity BBR still operates relatively well;
- Rail links to SA, Mozambique, Botswana, Zambia make Zimbabwe key link in North-South Corridor;
- RSA is key supplier, but Chinese involvement growing;

Tariff	Product	US\$, Million
730210	Iron/steel: rails	7.2
860791	Locomotives; parts n.e.c. in HS8607	6.6
860799	Rolling stock; parts n.e.c. in HS8607	5.0
860400	Railway maintenance vehicles; whether/not self-propelled	4.7
860719	Locomotives or rolling stock; parts, axles & wheels, & parts	4.1
860390	Coaches, vans & trucks; self-propelled, etc	2.9
730290	Iron/steel, railway track material; n.e.c. in HS7302	2.8
860290	Locomotives & tenders; other than diesel-electric powered	1.9
860120	Locomotives; powered by electric accumulators	1.4
860500	Passenger coaches, luggage vans, post office coaches etc	1.3
860210	Locomotives; diesel-electric powered	1.2
860711	Railway locomotives, rolling stock; parts, driving & bissel-bogies	1.0
860110	Locomotives; powered from an external source of electricity	1.0
860729	Locomotives/rolling stock; parts, brakes (not air brakes) & parts	0.8
860699	Goods vans & wagons; n.e.c. in HS8606, not self-propelled	0.7
730240	Iron or steel; fish-plates & sole plates	0.6
860800	Track fixtures & fittings: signalling, safety or traffic equip	0.5
860730	Locos/rolling stock; parts, hooks/other coupling, buffers, parts	0.5
860630	Goods vans/wagons; self-discharge, etc. Excl. HS8606.10	0.4
860721	Locomotives or rolling stock; parts, air brakes & parts	0.4
853010	Signalling, safety or traffic control equipment; (excl HS8608)	0.3
860712	Locomotives or rolling stock; parts, bogies & bissel-bogies etc	0.2
860692	Goods vans/wagons; open, non-removable sides >60cm, etc	0.1
730230	Iron/steel, switch blades, crossing frogs, point rods etc	0.0
860310	Coaches, vans, trucks; self-prop, external elec (excl. HS8604)	0.0
Total		45.7



# Societe Nationale des Chemins de Fer du Congo

Number of Locomotives	38-42	Track in KMs'	3,641km	Country	Dem	ongo			
Engine Type	D E 📕 O	Gauge	B M S	Established	1902				
Engine supplier	CRN-Dalian supplied locomotives, with US- made engines from 2004 to 2015. They comprise: CK1F2 x 4; CKD8C4 x 10; CKD8C1 x	Capacity tonnes	3Mtpa (largely inoperable)	Est. Personnel	4,00	D			
CAPEX (Yr 2023/4)	20; Unstated x 4 US\$60 million	Number of Wagons	4-5,000	Website	https	s://www	w.snccs	sa.com/	L
		Project	pipeline	Ownership	S	PP	Р	С	0
	1. Emergency rehabilitation of rolling		requirement to feed in e 1 – emergency rehab –	Client Base	AG	A M	СТ	Μ	0
Top five	stock and track,is US\$60m)including signalling2. Potential infusion of US\$100m by Lobito Railequipmentconsortium			Corridors					
equipment		<ol> <li>Raise axle capacity from the compatible with A</li> </ol>	<ol> <li>North-South Corridor</li> <li>Dar es Salaam Corridor (NSC)</li> <li>Jabita Corridor</li> </ol>						
OPEX (Yr 2021/2)	Not Stated	Top five o	challenges	3. Lobito Corridor		~			
Top five	<ol> <li>Very little actual Opex</li> <li>In 2021/2 key imports were:</li> <li>Passenger carriages (US\$4.2m)</li> <li>Rolling stock parts (US\$1.2m)</li> <li>Track (US\$1m)</li> <li>Signalling etc equipment (US\$0.2m)</li> </ol>	<ol> <li>Despite US\$500mn investment from 2008- 2015, most of the infrastructure and rolling stock is dysfunctional</li> <li>Lack of funding needed to upgrade rolling stock and track</li> <li>Historical mismanagement of assets</li> <li>Competition from road freight</li> <li>Skills shortage, vandalism of infrastructure</li> </ol>							

### **DR-Congo Rail Imports**



- World Bank-funded refurb of SNCC from 2008 to 2015 saw (relatively) large outlays;
- Rail system badly neglected since, needs major finance injection;
- Opening of Lobito link will see some emergency funding for track, signalling and loan of rolling stock;
- Last two years has seen almost no maintenance or rehabilitation of infrastructure

Tariff	Product	US\$ <i>,</i> Million
860210	Locomotives; diesel-electric powered	54.1
730290	Iron/steel, railway track material; n.e.c. in HS7302	21.3
730210	Iron/steel: rails	14.7
860500	Passenger coaches, luggage vans, post office coaches etc	14.6
860799	Rolling stock; parts n.e.c. in HS8607	6.3
860791	Locomotives; parts n.e.c. in HS8607	3.6
860400	Railway maintenance vehicles; whether/not self-propelled	3.5
860719	Locomotives or rolling stock; parts, axles & wheels, & parts	2.7
860699	Goods vans & wagons; n.e.c. in HS8606, not self-propelled	2.7
853010	Signalling, safety or traffic control equipment; (excl HS8608)	1.8
860729	Locomotives/rolling stock; parts, brakes (not air brakes) & parts	1.4
860610	Tank wagons etc, not self-propelled	1.0
860290	Locomotives & tenders; other than diesel-electric powered	0.8
860711	Railway locomotives, rolling stock; parts, driving & bissel-bogies	0.8
860800	Track fixtures & fittings: signalling, safety or traffic equip	0.5
860730	Locos/rolling stock; parts, hooks/other coupling, buffers, parts	0.5
860712	Locomotives or rolling stock; parts, bogies & bissel-bogies etc	0.4
730240	Iron or steel; fish-plates & sole plates	0.4
860721	Locomotives or rolling stock; parts, air brakes & parts	0.3
730230	Iron/steel, switch blades, crossing frogs, point rods etc	0.1
860120	Locomotives; powered by electric accumulators	0.0
860310	Coaches, vans, trucks; self-prop, external elec (excl. HS8604)	0.0
860390	Coaches, vans & trucks; self-propelled, etc	0.0
860691	Goods vans & wagons; covered & closed, not self-propelled	0.0
Total		131.7



# Tanzania Railway Limited

Number of Locomotives	30 (in 2020), down from 45	Track in KMs'	2707	Country Tanzania				
Engine Type	E H O	Gauge	B M S	Established	1977			
Engine supplier	Not Stated	Capacity tonnes	2.16Mtpa – 340,000 tons in 2020; 3.1m passengers	Est. Personnel	Not stated			
CAPEX (Yr XXXX)	Not stated	Number of Wagons	380 serviceable in 2020, down from 1,200 in 2013	Website	https://www.trc.co.tz/pages			
		Project	pipeline	Ownership	S PP P C O			
	1. XX 2. XX	1. Tanzania Standard Gau 2. Tanga-Arusha–Musoma	ge Railway Network I Standard Gauge Railways	Client Base	AG A CT M O			
Top five	3. XX 4. XX 5. XX	Line 3. Mtwara – Mbambabay Standard Gauge Railwar 4. Mtwara – Mbambabay Standard Gauge 5. Second Tanzania Interr Project (TIRP-2) (US\$15	y Line –Mchuchuma/Liganga nodal and Rail Development	Corridors 1. North-South Corridor				
OPEX (Yr XXXX)	Not stated	Top five o	challenges					
Top five	1. XX 2. XX 3. XX 4. XX 5. XX	<ol> <li>Shortage of rolling :</li> <li>Outdated rolling stores</li> <li>Poor infrastructure</li> <li>Shortage of qualifies</li> <li>Lack of adequate further</li> </ol>	ock ed staff					



### Tanzania Rail Imports





- Two key rail companies, linking Tanzania to hinterland;
- Many years of neglect, but strong push to revitalise, expand rail network will come through in later trade data;
- Averaging US\$44mn a year in imports;
- Major project basket being delivered;
- China, RSA are key suppliers, but many other countries active in Tanzania as well Turkey may emerge as well;

Tariff	Product	US\$, Million
730210	Iron/steel: rails	77.1
860390	Coaches, vans & trucks; self-propelled, etc	71.2
730290	Iron/steel, railway track material; n.e.c. in HS7302	59.0
860800	Track fixtures & fittings: signalling, safety or traffic equip	45.7
860400	Railway maintenance vehicles; whether/not self-propelled	33.0
860610	Tank wagons etc, not self-propelled	27.7
860210	Locomotives; diesel-electric powered	25.9
853010	Signalling, safety or traffic control equipment; (excl HS8608)	22.3
860791	Locomotives; parts n.e.c. in HS8607	18.1
860500	Passenger coaches, luggage vans, post office coaches etc	17.8
860290	Locomotives & tenders; other than diesel-electric powered	17.4
860799	Rolling stock; parts n.e.c. in HS8607	5.6
860699	Goods vans & wagons; n.e.c. in HS8606, not self-propelled	4.4
730230	Iron/steel, switch blades, crossing frogs, point rods etc	3.5
860719	Locomotives or rolling stock; parts, axles & wheels, & parts	2.9
730240	Iron or steel; fish-plates & sole plates	1.9
860691	Goods vans & wagons; covered & closed, not self-propelled	1.8
860721	Locomotives or rolling stock; parts, air brakes & parts	1.8
860729	Locomotives/rolling stock; parts, brakes (not air brakes) & parts	1.5
860730	Locos/rolling stock; parts, hooks/other coupling, buffers, parts	1.0
860711	Railway locomotives, rolling stock; parts, driving & bissel-bogies	0.6
860692	Goods vans/wagons; open, non-removable sides >60cm, etc	0.2
860712	Locomotives or rolling stock; parts, bogies & bissel-bogies etc	0.1
860630	Goods vans/wagons; self-discharge, etc. Excl. HS8606.10	0.1
860120	Locomotives; powered by electric accumulators	0.1
860110	Locomotives; powered from an external source of electricity	0.0
860310	Coaches, vans, trucks; self-prop, external elec (excl. HS8604)	0.0
Total		440.7

<b>trans</b> namib	Transnamib Holding Limited									
Number of Locomotives	42	Track in KMs'	2687	Country	Namibia					
Engine Type	E H O	Gauge	B M S	Established	1895					
Engine supplier	General Electric	Capacity tonnes	2,7 million, averaging 1.6Mt at present	Est. Personnel	1200					
CAPEX (Yr 2022)	None – no funds available	Number of Wagons	1669	Website	https://www.transnamib.com. na/					
			pipeline	Ownership	PP P C O					
		standard: 770 km to be d 2. PPP's to be developed fo	r commuter train services:	Client Base						
Top five	1. None	Kutako International Airp 3. Construction of rail from	Rehoboth, Okahandja & Hosea ort Ondangwa-Oshakati: 30 km Grootfontein-Katima Mulilo:	Corridors						
		<ul><li>700 km to connect Namit</li><li>5. Construction of railway b</li></ul>		<ol> <li>Trans-Caprivi</li> <li>Trans Cunene</li> </ol>						
OPEX (2022)	US\$48 million	Top five o	challenges	☐ 3. Trans-Kalahari						
Top five	<ol> <li>Fuel US\$9mn</li> <li>Employment US\$22mn</li> <li>Repairs &amp; Maintenance US\$2.5mn</li> <li>Operating Leases US\$3mn</li> <li>Municipal Expenses US\$2.5mn</li> </ol>		small volumes motives increased five- pults per 100,000km in ance, rehab and rastructure	Contraction Contra						

## Namibia Rail Imports



- Small budgets for large distances and small volumes;
- Transnamib working hard to double volumes, income;
- Linkages to SA, Botswana, Zambia key not all in place yet;
- SA largest supplier, but also involvement of others in sector;

Tariff	Product	US\$, Million
730210	Iron/steel: rails	31.0
860210	Locomotives; diesel-electric powered	26.7
730290	Iron/steel, railway track material; n.e.c. in HS7302	17.6
860610	Tank wagons etc, not self-propelled	10.1
860799	Rolling stock; parts n.e.c. in HS8607	6.0
860692	Goods vans/wagons; open, non-removable sides >60cm, etc	5.7
730230	Iron/steel, switch blades, crossing frogs, point rods etc	4.4
860290	Locomotives & tenders; other than diesel-electric powered	3.3
860791	Locomotives; parts n.e.c. in HS8607	2.2
860719	Locomotives or rolling stock; parts, axles & wheels, & parts	1.9
860729	Locomotives/rolling stock; parts, brakes (not air brakes) & parts	1.2
860800	Track fixtures & fittings: signalling, safety or traffic equip	1.1
860721	Locomotives or rolling stock; parts, air brakes & parts	0.8
860310	Coaches, vans, trucks; self-prop, external elec (excl. HS8604)	0.7
860711	Railway locomotives, rolling stock; parts, driving & bissel-bogies	0.6
730240	Iron or steel; fish-plates & sole plates	0.5
860400	Railway maintenance vehicles; whether/not self-propelled	0.3
860730	Locos/rolling stock; parts, hooks/other coupling, buffers, parts	0.3
860630	Goods vans/wagons; self-discharge, etc. Excl. HS8606.10	0.2
860712	Locomotives or rolling stock; parts, bogies & bissel-bogies etc	0.2
860390	Coaches, vans & trucks; self-propelled, etc	0.1
860500	Passenger coaches, luggage vans, post office coaches etc	0.1
853010	Signalling, safety or traffic control equipment; (excl HS8608)	0.1
860110	Locomotives; powered from an external source of electricity	0.0
860699	Goods vans & wagons; n.e.c. in HS8606, not self-propelled	0.0
860691	Goods vans & wagons; covered & closed, not self-propelled	0.0
Total		114.9



# Transnet Freight Rail

Number of Locomotives	1656 (down from 2,215)	Track in KMs'	31,000 – 5,500km of core track	Country	South Africa			
Engine Type	D E O	Gauge	B M S	Established	1910			
Engine supplier	General Electric	Capacity tonnes	200Mtpa, operating at ~50% or less at present	Est. Personnel	38,000			
CAPEX (2022/23)	US\$441 million	Number of Wagons	7,900	Website	https://www.transnetfreightra il-tfr.net/Pages/default.aspx			
		Project	pipeline	Ownership	PP P C O			
	US\$ (Million) Infrastructure 172.5	1 Boogoobaai Bort Bo	ail and Infractructure	Client Base	AG A CT M O			
Top five	Locomotives103.5Wagons165.6Table1. Boegoebaai Port, Rail and Infrastructure2. Eswatini Railway Line (SRL) Project3. Concessioning of Durban-Gauteng							
	Total 441.1	Container Line       1. North-South Corridor (Regional)         4. Mmamabula-Lephalale Line       2. NorthCor						
				<ol> <li>OreCor</li> <li>CapeCor</li> </ol>				
OPEX (2022/3)	US\$1,559.6bn	Top five c	hallenges	5. CentralCor 6. ContainerCor				
Top five	US\$ (Millions)Energy345.6Maintenance158.4Materials13.4Personnel803.0Other239.2		ructure risk navailability and motives (including the omotive renegotiations)	CE: Mala Malas Considerante Mil Than Day Japan Mil Than Day Japan Apricolumo & Balks Louisi Mil Than Day Japan Apricolumo & Balks Louisi Mil Than Day Japan Apricolumo & Balks Louisi Mil Than Day Japan Mil Than Day Ja	to the second se			

Passenger Rail Agency of South Africa

Number of Locomotives	30, plus lease from TFR; 154 to be delivered from 2022-2025	Track in KMs'	2,228	Country	South Africa			
Engine Type	E O	Gauge	B M S	Established	1990			
Engine supplier	General Electric	Capacity tonnes	Passenger only	Est. Personnel	14696			
CAPEX and Opex (2022/23 to 20224/25)	US\$2.8bn	Number of Wagons	4,554Coaches: 1,311 motor & 3,424 trailer; 1,350 to be refurbished 2022-2025	Website	https://www.prasa.com/			
PRASA has		Project	pipeline	Ownership	S PP P C O			
suffered a virtual collapse in the last	Capital Budget for MTEF Period (US\$ MIllion) Total Total 2,803	1. Gauteng-KwaZulu N	Natal High-speed	Client Base	AG A CT M O			
decade and will undergo a major	Rolling Stock Fleet Renewal 1,231       Railway         2.       Cape and Gauteng Line Recovery    Corridors							
recapitalisation programme	Signalling and Telecoms 308 Depot Modernisation 288 Overhaul of Metrorail coaches 282 Rolling Stock, Locos and shunting vehicle maintenance 73	Programmes 3. Moloto Rail Program 4. Rolling Stock Renew		1. None, all internal networks				
	Station Revitalisation 71	Top five o	challenges					
	Other Property Management       52         Other       44         Asset Protection       28         Overhaul of Smeyl coaches       28	<ol> <li>Lack of locomotives</li> <li>Contractual dispute</li> <li>Financial instability</li> <li>Network and statio</li> <li>Retention of skills</li> </ol>	es (locomotives)	Railway	r line Voltage			



# Gautrain Management Agency

Number of Locomotives	24	Track in KMs'	80	Country	South Africa					
Engine Type	D B H O	Gauge	B N M S	Established	2012					
Engine supplier	24 Bombardier Electrostars	Capacity tonnes	N/A – Passenger only	Est. Personnel	225					
CAPEX (2022)	US\$158m	Number of Wagons	96 Passenger carriages	Website	https://gma.gautrain.co.za/pa ges/Home.html					
		Project	pipeline	Ownership	PP P C O					
				Client Base	AG A CT M O					
Top five	1. Not stated	1. Gautrain Expansior	n Project	Corridors						
OPEX (2021/22)	Roughly US\$80 million per annum.	5\$80 million per Top five challenges			1. None – standalone passenger high-speed rail line					
Top five	Not stated	<ol> <li>End of concession i</li> <li>Slow growth in pas</li> <li>Cyber security</li> <li>Inability to meet fu</li> <li>Political and social</li> </ol>	senger numbers nding plans	Mariboro Sandton Rosebank Park Johannesburg Ektirhulen Bokaburg	Areridgoular Areri					

### South Africa Rail Imports



- Spain 2% Germany 2% Australia 3% Haly Haly 4% Brazil 10% Austria 12% United Kingdom 2% 0 ther 7% China 38% USA 18%
- Largest rail network in Africa, top 10 in world;
- Traditionally a strong domestic supply side but weakened in recent years by imports of rolling stock;
- Imports of roughly US\$260m a year, but dramatic drop in 2<sup>nd</sup> half of decade;
- Exports of US\$57m a year SA is key regional rail supply hub;
- Many global rail suppliers based in SA, some import, some manufacture locally;
- Urgent need for recap of some track, rolling stock;
- Theft, vandalism a recent major problem, lack of money for Capex, Opex also an issue

Tariff	Product	US\$ <i>,</i> Million
860110	Locomotives; powered from an external source of electricity	537.6
860719	Locomotives or rolling stock; parts, axles & wheels, & parts	529.1
730210	Iron/steel: rails	290.9
860791	Locomotives; parts n.e.c. in HS8607	284.1
860210	Locomotives; diesel-electric powered	235.4
860799	Rolling stock; parts n.e.c. in HS8607	134.9
860310	Coaches, vans, trucks; self-prop, external elec (excl. HS8604)	132.4
860730	Locos/rolling stock; parts, hooks/other coupling, buffers, parts	94.3
860500	Passenger coaches, luggage vans, post office coaches etc	70.1
853010	Signalling, safety or traffic control equipment; (excl HS8608)	53.9
860721	Locomotives or rolling stock; parts, air brakes & parts	51.4
860800	Track fixtures & fittings: signalling, safety or traffic equip	43.5
730230	Iron/steel, switch blades, crossing frogs, point rods etc	43.4
860729	Locomotives/rolling stock; parts, brakes (not air brakes) & parts	28.7
860400	Railway maintenance vehicles; whether/not self-propelled	27.6
860290	Locomotives & tenders; other than diesel-electric powered	27.3
860711	Railway locomotives, rolling stock; parts, driving & bissel-bogies	10.3
730290	Iron/steel, railway track material; n.e.c. in HS7302	9.0
860712	Locomotives or rolling stock; parts, bogies & bissel-bogies etc	6.6
860699	Goods vans & wagons; n.e.c. in HS8606, not self-propelled	4.7
730240	Iron or steel; fish-plates & sole plates	0.9
860120	Locomotives; powered by electric accumulators	0.4
860630	Goods vans/wagons; self-discharge, etc. Excl. HS8606.10	0.2
860692	Goods vans/wagons; open, non-removable sides >60cm, etc	0.2
860390	Coaches, vans & trucks; self-propelled, etc	0.2
860610	Tank wagons etc, not self-propelled	0.1
Total		2,617.2



# Zambia Railways Ltd Zambia Railways Ltd Zambia Railways Limited

Number of Locomotives	25 owned; 10 lease operational)	d (14	Track in KMs'	1,248				Country	Zam	Zambia			
Engine Type	D E H	0	Gauge	В	N	м	S	Established	1982	2			
Engine supplier	General Electric and General Motors	k	Capacity tonnes		pa: ave 1Mtpa		ess	Est. Personnel	841				
CAPEX (2021/22)	None – negotiating w Zambia and Team Sw		Number of Wagons		5 (942 ational	)		Website	<u>http</u>	s://zrl.c	om.zm	L	
	1. New Wagons – U		Project					Ownership	S	PP	Р	С	0
	300 new wagons by 2024;1. Rehab of main line between Livingstone and Copperbelt, approximately 945 km.2. Purchase 4 & hire 6 locomotives by 20242. New locomotives and wagons; signalling upgrades	s	Client Base	AG	A M	СТ	м	0					
Top five	(US\$16m); 3. Revamp of "who and of signalling telecoms – US\$2	and train 5 million;	<ul> <li>and training / capacity building.</li> <li>Rehab works (±4 years) to minimise track disruption: track &amp; sleeper replacement, ballast laying, improvement of bridges, culverts, crossings etc</li> <li>Construction of sleeper factory, worker camps and material stocking yards</li> <li>State of art ERTMS Level 2 system</li> </ul>					Corrid					
OPEX (2021/22)	4. Reduce derailme 107 in 2020 to 50 US\$30 million	I					<ol> <li>Victoria Falls Bridge to Kitwe (848 km</li> <li>The Mulobezi Line (162 km)</li> <li>The Chipata- Mchinji Line (24 km)</li> </ol>						
01 LX (2021/22)			Top five c	Indiren	ges								
	Opex, 2021 (U		1. Lack of CAPEX to ro plans	ll out p	orogram	is and			5	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	N.		
	Total Manpower Costs	30,121,941 10,921,412	2. Loss of cargoes to road competition			To a source of the source of t							
	Other	7,718,647	3. Diversion of freight			es and		Crittatorbar					
Top five	Fuel & Lubricants	5,018,706		regional challenges) ructure degradation – freight trains			trains			A			
	Administration	4,215,882	moving at only 25ki				13	Kapel Month					
	Repairs & Maintenance	2,247,294	80km/h capacity		-p 0			Madada balan baska YY Otgara-Machang Madada Orana Sala Madada Orana 2000 Balan				luchinji ine	

### Zambia Rail Imports



- Finance and location have long been constraints to rail
- Imports of only US\$6.8m a year huge need for recapitalisation
- Linkages with neighbours urgently required key to success of North-South Corridor, but funding for many rail companies is inadequate
- 'Land linked' to DRC, Tanzania, Malawi, Mozambique, Zimbabwe, Botswana, Namibia and Angola – thus key to regional rail linkages
- South Africa dominant supplier rolling stock, rail and parts

Tariff	Product	US\$, Million
860699	Goods vans & wagons; n.e.c. in HS8606, not self-propelled	8.7
860719	Locomotives or rolling stock; parts, axles & wheels, & parts	7.8
730210	Iron/steel: rails	7.7
860791	Locomotives; parts n.e.c. in HS8607	4.8
860400	Railway maintenance vehicles; whether/not self-propelled	4.5
860500	Passenger coaches, luggage vans, post office coaches etc	4.4
860800	Track fixtures & fittings: signalling, safety or traffic equip	4.0
730290	Iron/steel, railway track material; n.e.c. in HS7302	3.8
860799	Rolling stock; parts n.e.c. in HS8607	3.8
860210	Locomotives; diesel-electric powered	3.7
860712	Locomotives or rolling stock; parts, bogies & bissel-bogies etc	3.5
860290	Locomotives & tenders; other than diesel-electric powered	3.0
860730	Locos/rolling stock; parts, hooks/other coupling, buffers, parts	2.0
860729	Locomotives/rolling stock; parts, brakes (not air brakes) & parts	1.3
860110	Locomotives; powered from an external source of electricity	1.2
730240	Iron or steel; fish-plates & sole plates	0.7
860711	Railway locomotives, rolling stock; parts, driving & bissel-bogies	0.7
860630	Goods vans/wagons; self-discharge, etc. Excl. HS8606.10	0.5
860721	Locomotives or rolling stock; parts, air brakes & parts	0.4
860390	Coaches, vans & trucks; self-propelled, etc	0.3
860120	Locomotives; powered by electric accumulators	0.3
730230	Iron/steel, switch blades, crossing frogs, point rods etc	0.3
860310	Coaches, vans, trucks; self-prop, external elec (excl. HS8604)	0.2
860610	Tank wagons etc, not self-propelled	0.1
853010	Signalling, safety or traffic control equipment; (excl HS8608)	0.0
860691	Goods vans & wagons; covered & closed, not self-propelled	0.0
Total		67.8

## DRC to South Africa: North-South Corridor



		Basic information	Durban in South Africa through Botswana, Zimbabw key international rail gateway for transporting inbou network in the region, and includes ancillary lines lir	
			Angola, Namibia, Mozambique and Tanzania. A men	
Project Name		North-South Corridor	the rail operators on the North-South Rail Corridor v Grindrod/Beitbridge-Bulawayo Railways (BBR); Socie (SNCC); National Railways of Zimbabwe (NRZ); Eswat	
Project value	[0]	None – it is a conceptual project aimed at creating a seamless rail corridor from Kolwezi in DR-Congo to Durban, South Africa	Railways (BR) in 2017 to develop a common rail plat <b>Project objective:</b> The NSC project is focused on the NSC railway network. The objectives are to provide s	
Project Owner	Ť	Regional Rail Companies	<ul><li>participation options to introduce a block train servi milestones include:</li><li>Successfully managed execution of NSC pre-feasi</li></ul>	
Country/Region	Ŧ	SADC – South Africa, Eswatini, Botswana, Zambia, Zimbabwe, DR-Congo (with interest from others)	<ul> <li>Completed the NSC Feasibility study in Q4 2021.</li> <li>Commenced process of implementing transactio</li> <li>Successfully collected and disseminated transit ti</li> </ul>	
Buyer Type	☎圓	None	Completed stakeholder workshops around operation	
Level of engagement	<b>"</b>	Stalled.	Composition Composition	
Competition		None	Virtual Land Land Land Land Land Land Land Land	
Partner	<b>S</b>	NBF, DBSA	Botwards American Strategy Control of Contro	
Linked to		Tazara, CFM, CFB, Transnamib	The second secon	
Date of next milestone		Undetermined		
Company Name		Afri-ID, NBF	Reasonably Firm Tripartile RWBLP	

Background: The North-South Rail Corridor (NSC) includes a rail network of over 4,000km, from owe and Zambia, to the DR-Congo. It is the region's oound and outbound cargo. It is the spine of the rail linking both the Indian and Atlantic Oceans through emorandum of understating was signed between which includes Zambia Railways Limited (ZRL); ciété Nationale des Chemins de fer du Congo atini Railway (SR); Transnet SOC and Botswana atform.

he optimisation, rehabilitation and upgrade of the le support for the assessment of private sector vice on the North-South Corridor. Significant

asibility study funded by the World Bank.

- ions recommended by the NSC feasibility study.
- time operational performance reports for the NSC.
- rational, pricing, & governance issues



Documents available						
	Expression of Interest	Request for proposals		Request for Tender		Event details/Links
	Request for Information	Request for Quote		Company profile/presentation		Project Description
	Stage of Development					
X	Concept	Feasibility		Procurement		Start-up and implementation
<b>X</b>	Pre-feasibility	Engineering & Design		Construction		Operation and maintenance
	Project timeline in months: Not Applicable – see comments below					
Next decision						
Start	Start Undetermined Comple				Completion	
Top five procurement items based on project phase						$\checkmark$
<ol> <li>The North-South Corridor project appears to have stalled, with little evidence of a co-ordinated approach to the regional rail project. It is a highly ambitious project, aiming to provide seamless links from the Congolese Copperbelt to ports in the southern and eastern regions of Southern Africa, including Durban, Richards Bay, Beira, Dar es Salaam and Walvis Bay. The impetus for much of the original rationale has been overtaken by events, including the recently signed agreement for the Lobito Corridor Concession, the awarding of the container terminal concession to DP World in Dar es Salaam and improvements to handling capacity at Beira, as well as the diversion of trade away from South Africa's networks due to rail, port and vandalism issues.</li> <li>Conceptual, no procurement at this stage</li> </ol>						

## Machipanda Railway Corridor







## Komatipoort - Richards Bay



		Basic information					
			Background: The North-East Rail Corridor is a completed railway line that spans from the				
Project Name	E	North-East Rail Corridor	Limpopo river at Beitbridge, in the Limpopo, through Komatipoort to Richards Bay on the East Coast and from Pyramid/Witbank (Reyton) to Komatipoort. The North-East Corridor links South Africa's rail freight business with the Southern African Development Community				
Project value	[0]	Not Stated	countries mainly through eSwatini, Zimbabwe, Mozambique, Zambia and the Democratic Republic of Congo. Commodities are transported through various border posts, or gates of entry, such as Komatipoort, Golela, Beitbridge, Livingstone and Sakania. The corridor has				
Project Owner	¥	Transnet Freight Rail	three main commodity transport links which include: Phalaborwa to Maputo and Richards Bay, predominantly transporting magnetite and rock phosphate; Witbank to Maputo, mainly transporting chrome and coal; and Intermodal (reefer containers) originating from Tzaneen, Musina and Bela-Bela destined for Durban. The total track is estimated to span over 1500km. It is also prone to flooding and was recently closed due to safety concerns.				
Country/Region	Ŧ	South Africa					
Buyer Type	血目	State Utility					
Level of engagement	<b>"</b>	Operational	Lephalale Groenbult Lephalale Groenbult				
Competition			Mahikeng Ryrapild Komatipoort				
Partner	<b>I</b> SI	Transnet Freight Rail	Hotazel Sishen 3 Gunhill Harrismutrigencoe Ladysmith Richards Bay				
Linked to		Regional Rail networks in Mozambique, Eswatini, Zimbabwe	De Aar Springfontein Eburban				
Date of next milestone		Unclear, project is being considered in smaller component parts.	Saldanha Beaufort-West Saldanha Beaufort-West Saldanha Beaufort-West Beaufort-Beauf				
Company Name			Cape Town				
	Documents available						
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	Expression of Interest	equest for proposals		Request for Tender		Event details/Links	
	Request for Information	Request for Quote	X	Company profile/presentation	X	Project Description	
		Stage o	f Developm	ent			
	Concept F	easibility		Procurement		Start-up and implementation	
	Pre-feasibility E	ngineering & Design		Construction	X	Operation and maintenance	
	Project timeline in months						
		Next decision					
Start		Com	plete			Completion	
	Top five procurement items based on project phase						
	rational: there are smaller extensions and upgra project as a corridor is operational.						

# Ressano Garcia Railway (RGR)

#### MIDLANDS UK

		Basic information	Background: The Ressano Garcia Railway (RGR) runs for 89 km between Maputo and
Project Name		Ressano Garcia	the South African border, where it interconnects to the South African system linking to Gauteng and beyond. The network is interconnected with that of South Africa, Zimbabwe and Eswatini, and represents a key component of the Maputo corridor
Project value	(0)	Not Stated	transport system. In 2006, an agreement led to the rehabilitation of the 89km railway line in 2008 at a cost of \$20 million in infrastructure and \$50 million in rolling
Project Owner	Ŷ	CFM	stock. In July 2022, CFM and TFR signed and agreement to eliminate the rail border. This sees exports of chrome and ferrochrome from South Africa direct to Maputo Port.
Country/Region	Ŧ	Mozambique/South Africa	The agreement sees consignments of 50 chrome and ferrochrome wagon loads hauled by two 43D diesel locomotives straight through to the Port of Maputo. The agreement allows CMF and TFR trains to travel across the border unhindered.
Buyer Type		State Utility	
Level of engagement	æ	Operational	
Competition		XX	Pretoria Baía da Lagoa
Partner	<b>I</b>	CFM Portos e Caminhos de Ferro de Moçambique, E.P / Transnet Freight Rail	and the second and
Linked to	$\checkmark$	N/A	Port Natal
Date of next milestone		N/A	Cape Town
Company Name		XX	

	Documents available						
	Expression of Interest	equest for proposals		Request for Tender		Event details/Links	
	Request for Information	equest for Quote	X	Company profile/presentation		Project Description	
		Stage o	f Developm	ent			
	Concept F	easibility		Procurement		Start-up and implementation	
	Pre-feasibility	ngineering & Design		Construction	X	Operation and maintenance	
	Project timeline in months: Operational, upgrades only						
		Next decision					
Start		Com	plete			Completion	
	Top five procurement items based on p	roject phase				V	
1. Operations and Maintenance items only							

## Nacala Rail Corridor



		Basic information	<b>Background</b> : The construction of the Nacala Railway started in 1915, and the first 90 km to Monapo was opened for operation in 1924, but the project declined for lack
Project Name		Nacala Rail Corridor	of resources. In 2010, Brazilian mining company Vale managed established a new joint venture "Integrated Northern Logistical Corridor Society", for the administration of the railway, extending the Nacala Railway to its coal concessions at
Project value	[0]	US\$4,4 billion	Benga-Moatize. The extension departed from the Nkaya interconnection station and continued to Moatize, being completed in 2017. The project includes an export terminal and a coal storage yard at the port of Nacala-a-Velha. The railway corridor
Project Owner	Ť	CFM / Africa Development Bank (AfDB)	spans a total of 912 kms. In April 2022 Vale concluded the sale of its coal assets in Tete and the rail concession
Country/Region	Ŧ	Mozambique	to Indian company, Vulcan for US\$270 million as it exited the Mozambican coal sector.
Buyer Type	血間	State Utility	
Level of engagement	<b>"</b>	Operational	MOZAMBIQUE
Competition		XX	Аниниса
Partner	<b>S</b>	CFM / Africa Development Bank (AfDB)	
Linked to		N/A	NKAY JUNCTION
Date of next milestone			ZOBUE BLANTYRE BLANTY
Company Name	E	XX	

	Documents available						
	Expression of Interest	Request for proposals	Request for Tender	Event details/Links			
	Request for Information	Request for Quote	X Company profile/presentation	Project Description			
		Stage of	f Development				
	Concept	Feasibility	Procurement	Start-up and implementation			
	Pre-feasibility	Engineering & Design	Construction	<b>Operation and maintenance</b>			
	Project timeline in months: Operational						
		Next decision					
Start		Com	plete	Completion			
	Top five procurement items b	based on project phase		V			
1. Ope	rational considerations.						

## Trans-Caprivi

#### MIDLANDS UK



**Background**: The Trans Caprivi Corridor, operated by the Walvis Bay Corridor Group (WBCG), provides the shortest route between the Namibian west coast ports of Lüderitz and Walvis Bay and the vital transport hubs of Livingstone, Lusaka and Ndola in Zambia and Lubumbashi (in the southern DRC), as well as Zimbabwe. The Trans Caprivi Corridor is positioned to service the two-way trade between the SADC region and Europe, North and South America and the emerging Far East markets. The infrastructure supporting the Trans Caprivi Corridor has been steadily developed and boasts the most efficient intermodal blueprint for the region, incorporating the ports, air, tarred roads and rail networks, as well as automated border post customs procedures .The TCC allows 5-7 days in transit to and from Lusaka, Harare and Lubumbashi. The railway corridor spans a total of 2,687km.

Transnamib and Tsodilo Resources have completed a final feasibility study for the construction of the Trans-Zambezi Railway extension from Grootfontein to Katima Mulilo via Rundu in Namibia and is part of a multinational railway line between Namibia and Zambia via the Zambezi region. The Study was conducted by M R Technofin Consultants Ltd (Canada) in conjunction with Namibian based Burmeister & Partners, Enviro Dynamics, Koep & Partners, University of Cape Town and 3TI Progetti. The Feasibility Study was co-funded by the Government of the Republic of Namibia and the African Development Bank. The key conclusion of the assignment is that the proposed 772km Greenfield line is viable from a technical, environmental, legal, financial, and economic standpoint and should move forward.



Documents available								
Expression of Interest	Request for proposals	Request for Tender	Event details/Links					
Request for Information	Request for Quote	X Company profile/presentation	Project Description					
	Stage o	Development						
Concept	X Feasibility	Procurement	Start-up and implementation					
Pre-feasibility	Engineering & Design	Construction	X Operation and maintenance					
Р	Project timeline in months: To be determined by Tsodilo Resources Mine Plan development							
	Next decision							
Start <u>3</u> 6	<mark>12</mark> 18 24	36 48 54	60 72 Completion					
Top five procurement item	s based on project phase		V					
in Botswana will depend on the outcom development of that mine and the volu	sodilo Resources iron ore development me of the final feasibility study for the umes anticipated. It has also been ne not meet with approval, a potential							

#### Trans-Cunene



		Basic information	
		basemoniation	<b>Background</b> : In May 1997, the Republic of Namibia and the Republic of Angola
Project Name	Ē	Trans-Cunene	formally agreed to create the Trans-Cunene corridor as a means of opening up northern Namibia and southern Angola to economic development opportunities. The Trans-Cunene Corridor's road infrastructure is complimented by the northern
Project value	(0)	Not Stated	railway line, which comprises a long-established section, a recently completed section and a soon-to-be-completed section. The railway line doesn't deviate from the road route except to bypass Karibib. The Tran-Cunene railway corridor currently
Project Owner	¥	Namrail /Caminho de Ferro de Benguela (CFB)	spans a total of 1551 km. The rail link is complete on the Namibian side of the border, but the Angolan side is
Country/Region	Ŧ	Angola, Namibia	yet to be built. It would require an additional 40km of rail to be built in Angola.
Buyer Type	血間	State utility	Lubango Menongue
Level of engagement	<b>A</b>	Operational	Namibe Angola
Competition		XX	Santa Clarge Ruacana Opuwo
Partner	<b>S</b>	Namrail /Caminho de Ferro de Benguela (CFB) / European Union	LEGEND Country Boundaries Roads Trunk Primary Normibia
Linked to		N/A	Existing Weighbridge     Ressonably Firm     Weighbridge Network     Trans-Cumer Corridor     Alternative Route
Date of next milestone			Henties Bay, Karibilb Okahandja Swakopmund Windhoet Brakwäter Gr 0 100 Aris kilometres
Company Name		XX	Reasonably Firm Tripartite RWBLP         Data Source: Road alignments from Open Street Maps Corridor alignments from Tripartite descriptions         Trans-Cunene Corridor

	Documents available							
	Expression of Interest	F	Request for proposals		Request for Tender		Event details/Links	
	Request for Information		Request for Quote		Company profile/presentation		Project Description	
			Stage of	Developm	ent			
	Concept	Χ	Feasibility		Procurement	X	Start-up and implementation	
	Pre-feasibility		Engineering & Design		Construction	X	Operation and maintenance	
	Project timeline in months: Undetermined, Angolan government yet to commit to project funding.							
			Next decision					
Start			Undeter	mined			Completion	
	Top five procurement items ba	sed on p	project phase				V	
1. XX								
2. XX 3. XX								
4. XX 5. XX								
5. XX								

### Trans-Kalahari



		Basic information	<b>Background</b> : The Trans-Kalahari railway corridor was first announced in 2010 when the Governments of Namibia and Botswana into a Memorandum of Understanding to facilitate its development. A
	_		project development plan study was undertaken in February 2015 by the consortium of Australian
Project Name		Trans-Kalahari	firms led by Aurecon, which identified all the risks and challenges associated with the project. The railway is expected to run from Mmamabula, Rasesa, towards Phuduhudu, following the Trans-Kalahari Highway through Mamuno border into Namibia, then Gobabis, Windhoek, Okahandja, to
Project value	(0)	US\$9,2 billion	Walvis Bay as the final destination. Once completed railway will havecapcity of 200 train wagons carrying 8 400 tons of cargo. In November 2022 the Task Team, consisting of representatives from Botswana Railways, TransNamib
Project Owner	Ŷ	TransNamib/Botswana Railways	Holdings, and the two member states, were tasked with finding ways to expedite the Trans Kalahari Railway Line. From January 30 to February 3, 2023, the Botswana Railways Task Team visited Windhoek to develop a blueprint document with their Namibian counterparts that will guide the
Country/Region	Ŧ	Namibia, Botswana	states in expediting the delivery of the project. The total cost of the project is estimated at around US\$9bn and is heavily reliant on coal exports from Botswana, which may make securing funding for the project difficult.
Buyer Type	血間	State Utility	Namibia
Level of engagement	<b>.</b>	Operational	Otjiwarongo Otjiwarongo Francistown
Competition		XX	Walvis Bay Windhoeka Aris LEGEND Rehoboth Rehoboth Change Distree
Partner	<b>IS</b> I	TransNamib/Botswana Railways	Country Boundaries Roads Trunk Primary Finiture Weinbridge Mariental Country Boundaries Roads Co
Linked to		N/A	Control registratione     Control registration     Keetmanshoop     Keetmanshoop     Keetmanshoop     Vryburg     Kroonstad
Date of next milestone			Karasburg Vitamovlei Viegtsdat Groblershoop 0 250 Springbok
Company Name		XX	South Africo         Scale: 1:9,200,000           Reasonably Firm Tripartite RWBLP         Data Source: Read alignments from Open Street Maps Corridor alignments from Tripartite descriptions         Trans-Kalahari Corridor

	Documents available						
	Expression of Interest		Request for proposals		Request for Tender		Event details/Links
	Request for Information		Request for Quote		Company profile/presentation		Project Description
			Stage o	Developm	ent		
	Concept	x	Feasibility		Procurement		Start-up and implementation
	Pre-feasibility		Engineering & Design		Construction		Operation and maintenance
	Project timeline in months: Undetermined – project has stalled for the time being						
	Next decision						
Start			Undete	rmined			Completion
	Top five procurement items based on project phase						V
1. Non	e as yet.						

To be added and adjusted by researcher

		Legend	
B Broad gauge	D Diesel	S State Owned	A Agriculture
M Metre Gauge	E Electric	PP Public Private Partnership	Automotive
N Narrow gauge	H Hybrid	P Private	P Container Freight
s Standard gauge	0 Other	C Concession	C Mining
		O Other	0 Other