

**Railway Theme**

"NIP and National Rail Plan infrastructure is expected to grow 35% YoY from INR 10 lakh to INR 142 lakh cr over the period of FY23-FY30".

*from Rites FY22 Annual report.*

"Railways will develop new products and efficient logistics services for movement of parcels. 'One Station-One Product' concept will be popularized to help local businesses & supply chains".

*from Ircan FY22 Annual report.*

**Big opportunity in Vandhe Bharat**

**Trains:** "400 Vandhe Bharat Trains are coming up and 75 Vandhe Bharat Trains are expected to complete by Aug-2023".

**ATP opportunity under Kavach:**

"Under Kavach, Automatic Train Protection (ATP) system, will be deployed across the entire rail network beginning with 2,000 km in FY23 and will be rolled out in 4,000 to 5,000 km every subsequent year".

**Opportunity in Cargo Terminals:**

"100 PM-Gatishakti Cargo Terminals in coming three years".

**Opportunities in redevelopment and new stations:**

"The redevelopment of 123 railway stations along with real estate development is estimated INR 50,000cr and around new 350 stations are coming up".

**Opportunities in Metro rail projects:**

"Metro rail projects are expected to generate INR 1.7 lakh cr (25% of urban infra) of opportunities for construction companies over the period of FY23-FY27P".

**Opportunities in High & Semi high speed rail projects:**

"Mumbai-Ahmedabad high-speed rail project sanctioned at a total cost of \$14.52 bn".

"Pune-Nashik semi high-speed rail project sanctioned at a total cost of INR 16,039 cr".

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Indian railway system is 4<sup>th</sup> largest in the world, behind only US, Russia, and China. India is the 4<sup>th</sup> largest rail freight carrier in the world. Indian railways are the single largest employer in India and the 8<sup>th</sup> largest in the world. The Railway Capex is witnessing an uptick and remain robust for the next decade. In the FY22 budget, the government has allotted INR 1.1 lakh cr to the Ministry of Railways (MoA). The railway investments moving towards dedicated freight corridors, network decongestion, bullet train, high-speed, and semi-high-speed train projects. The "Atmanirbhar Bharat" initiative for the development of alternative high-tech machines, that are needed to build high-speed rails. The national rail plan for 2030, Indian railways is expected to reach a future-ready railway system by 2030 to bring down logistics cost and ensure 100% electrification in rail routes by FY23E. The railway infrastructure investment is expected around INR 50 lakh cr between 2018 to 2030.

The increasing income in urban and rural areas has made rail travel affordable to a large number of Indians. The improvement in rural connectivity will be the major driver for the growth. In railways, around 350 new stations are coming up will be a big booster for passenger and freight growth and opportunities for railway companies. The urban population is expected to reach 543 mn by FY25 will further accelerate rail travel in India.

National Infrastructure investments are nearly INR 75 lakh cr of projects under execution and the National Infrastructure Plan outlined by the Government investment of INR 111 lakh cr over the period of FY20-FY25E. Transport, Energy, and water projects account for ~80% of NIP spending of planned of INR 111 lakh cr. More than 50% of NIP projects are under construction and EPC has the opportunity at INR 42 lakh cr highest in the transport section. The redevelopment opportunity in railways has INR 1 lakh cr with commercial development accounting for ~70% of development. Around 400 stations have been identified by the railways and 1<sup>st</sup> station Habibganj has completed construction. The station redevelopment scheme is expected to be implemented under the PPP program.

The railway Infra players have the potential opportunity due to 400 Vandhe Bharat Trains; 75 Vandhe Bharat trains are expected to be complete by Aug-2023, 100 PM Gatishakti Cargo Terminals, 2,000 km coverage under Kavach, Solar power feed in 7,000 stations, 123 stations redevelopment and connectivity to the major ports. The planned capex outlay is expected to finance through budgetary support and remaining from internal sources and market borrowings & Institutional finance.

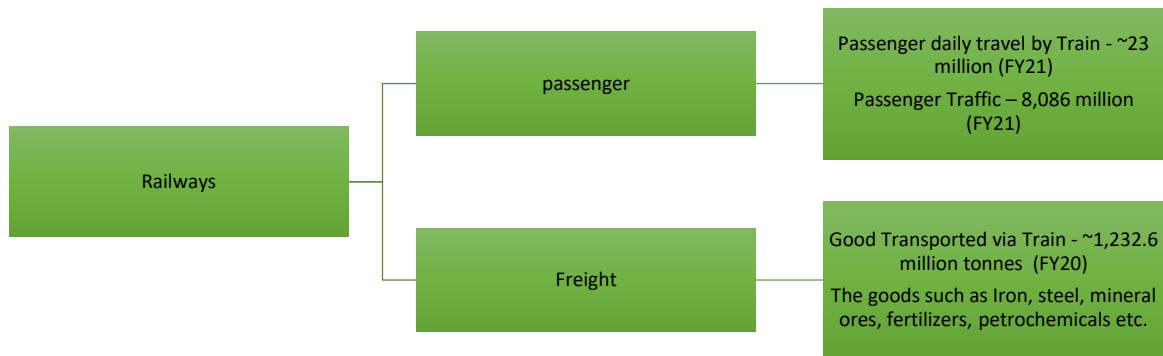
Doubling of Lines and New lines capex is expected around 46% of total railways capex and Rail Vikas Nigam's 50% of business comes from these areas which show the company has a potential business opportunity going forward. Locomotives and Wagons capex is expected around 20% of the total railway capex and Titagarh Wagons, Texmaco Rail & Engineering and Jupiter Wagons are expected to benefit going forward. Multi-tracking capex is expected around 19% of total railways capex and Rites is handling 70% of the traction requirements by Indian railways, The company has potential business opportunities going forward. Transmission lines capex is expected around 1% of total railways capex, KEC International and Kalpataru Power Transmission are expected to benefit from transmission railways capex. The automatic signalling capex is expected around 2% of railways capex and Railtel is well positioned on signalling and modernization of projects. Overall, The railway infra companies are Ircan International, KEC International, Rail Vikas Nigam, Titagarh Wagons, Texmaco Rail & Engineering, Rites, Railtel, Kalpataru Power Transmission, Jupiter Wagons, Kernex Micro Systems are expected to be beneficial on Railway capex theme going forward. All the Railways Infra companies are maintaining at least 2X of the order book to the revenue which shows potential business visibility going forward.

Railways Snapshot

**Indian Railways Market:** Indian railways is the 4<sup>th</sup> largest railway network across the world. Indian railways has more than 1,26,611 kms of total tracks over 68,103 km route and approx. 7,337 stations. In FY21, Indian railways operated 13,452 passenger and 9,141 goods trains. In FY21, Indian railways has recorded highest loading in freight transportation.

In FY22 budget, The government has allotted INR 1,10,054.64cr to the ministry of railways. The “Atmanirbhar Bharat” initiative for development of an alternative high tech machines, that are needed to build high speed rails. The national rail plan for 2030, Indian railways is expected to reach future ready railway system by 2030 to bring down logistics cost and ensure 100% electrification in rail routes by FY23E. The railway infrastructure investment is expected around INR 50 lakh cr between 2018 to 2030.

Exhibit 1: Railways Snapshot

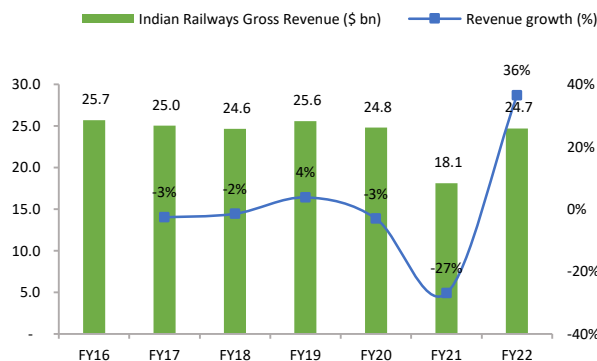


Source: Industry, Ibef, Aриhant Capital Research

The increase in population and lower logistics cost for transmitting the goods leads better demand for laminations and value assembled products for railways and locomotives market.

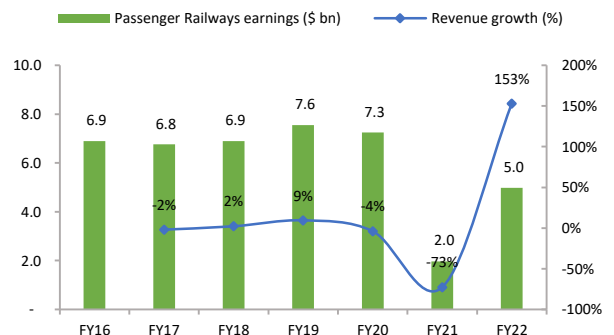
**Strong recovery in Indian railways:** The Indian railways revenue recovered strongly and stood at INR \$24.7 bn in FY22. The railway earning streams are passenger earnings, freight earnings, parcel earning and other earnings. The railways also focusing on change in composition of coaches like AC coaches more profitable, Additional revenue streams by monetizing traffic on digital bookings.

Exhibit 2: Railways revenue witnessed strong growth (36% YoY) to US\$ 24.7 bn in FY22.



Source: Ibef, Aриhant Capital Research

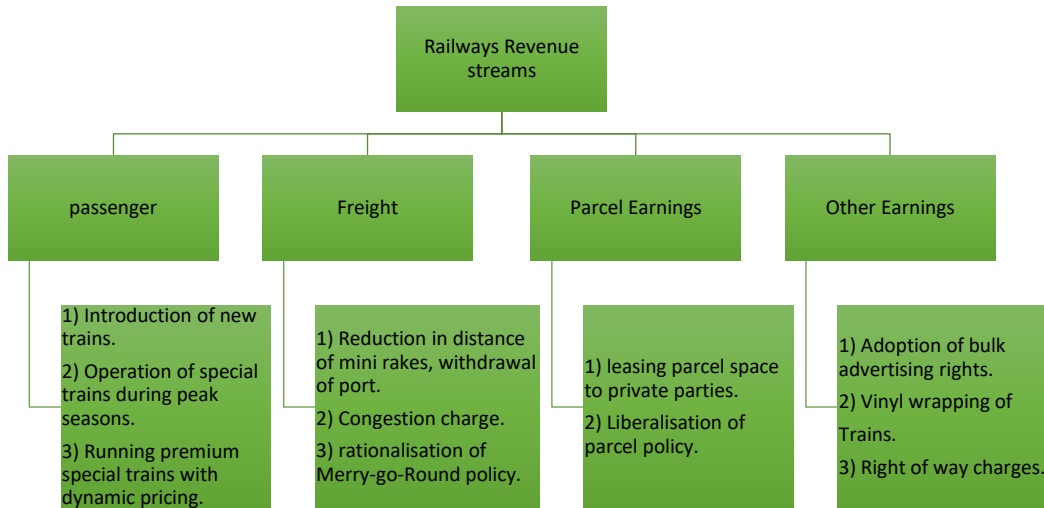
Exhibit 3: Post covid, Passenger railways earnings witnessed strong recovery; however still below pre-covid levels.



Source: Ibef, Aриhant Capital Research

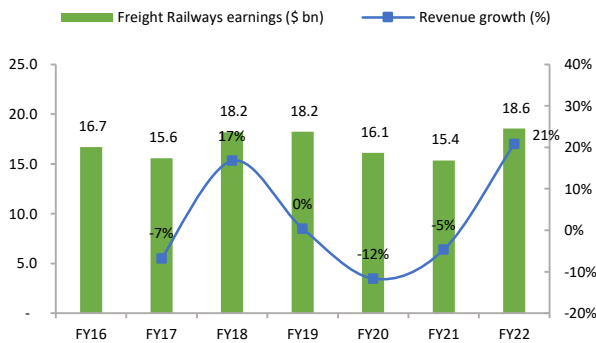
Railways Passenger and Freight revenues

Exhibit 4: Railways revenue streams



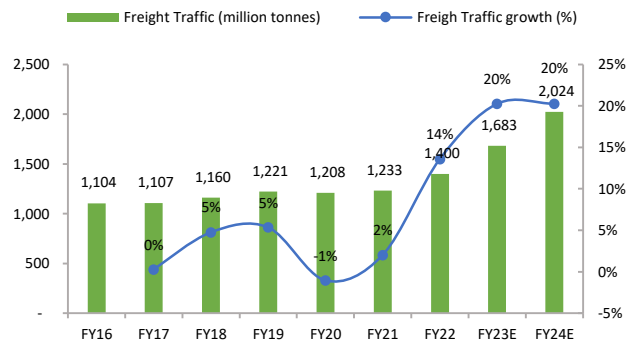
Source: Industry, Ibef, Arianth Capital Research

Exhibit 5: Freight revenue growth remains healthy and contributing major portion of railways.



Source: Ibef, Arianth Capital Research

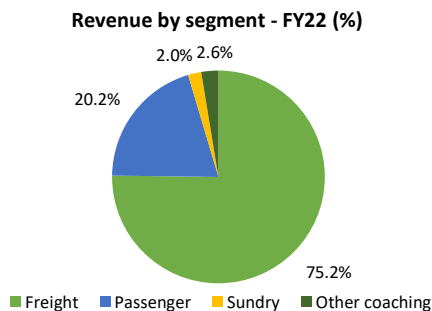
Exhibit 6: Post covid, Passenger railways earnings witnessed strong recovery; however still below pre-covid levels.



Source: Ibef, Arianth Capital Research

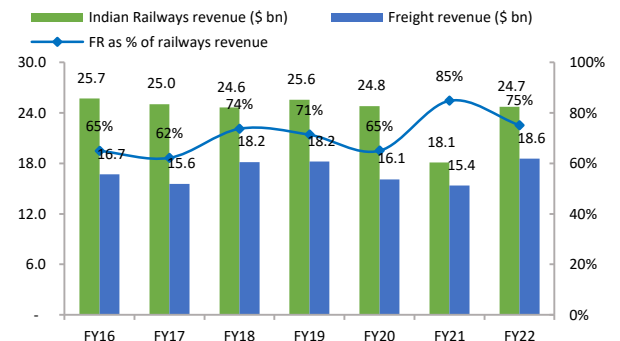
**Freight accounts for more than 75% of railway business:** Freight revenue accounts for 75.2% of railways revenue in FY22. The freight business is supported by 9 commodities such as Coal, Iron, Steel, Iron ore, Food grains, Fertilizers and Petroleum products etc. The dedicated freight corridor corp is building two new freight corridors; 1) Eastern freight corridor – Ludhiana to Dankuni (1,856 km), 2) Western freight corridor – Dadri to Jawaharlal Nehru portal (1,504 km). The cost of two corridors around 11.6 bn dollars. Post commencement of above 2 corridors, Indian railways to achieve 2,024 MT by 2024 from current levels of 1,200-1,300 MT.

Exhibit 7: Freight revenue accounts for more than 75% of railways revenue in FY22.



Source: Ibef, Arianth Capital Research

Exhibit 8: Freight revenue share increased 65% to 75% over past 7 years.

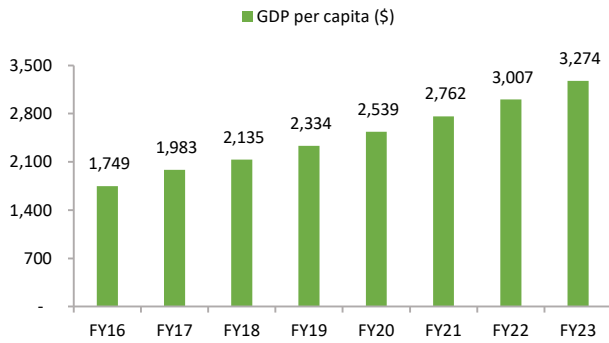


Source: Ibef, Arianth Capital Research

Passenger railways growth drivers and Railways Infra Investments

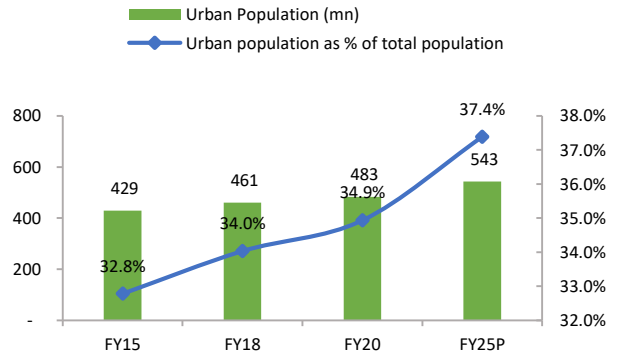
**Rising income and urbanization driving passenger traffic growth:** The increasing income in urban and rural areas have made rail travel affordable to large number of Indians. The improvement in rural connectivity will be the major driver for the growth. In railways, around 350 new stations are coming up will be big booster for passenger and freight growth and having opportunities for railway companies. The urban population is expected to reach 543 mn by FY25 will further accelerating rail travel in India.

**Exhibit 9: Continuous improvement on GDP per capital shows increase in income levels.**



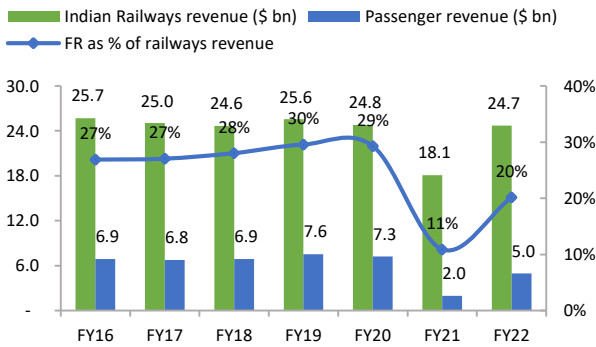
Source: Ibef, Aриhant Capital Research

**Exhibit 10: The increase in urbanisation leads to increase in train travelling.**



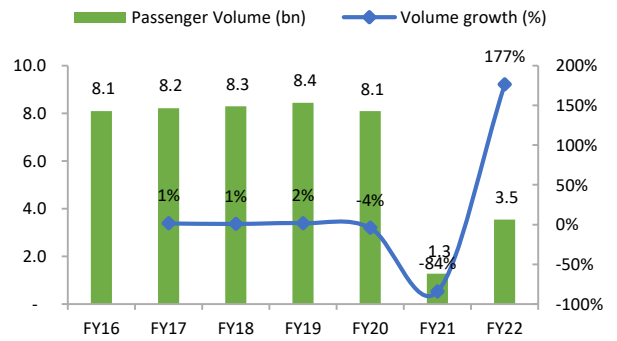
Source: Ibef, Aриhant Capital Research

**Exhibit 11: passenger revenue was less than 30% of railway revenue and expected to grow going forward.**



Source: Ibef, Aриhant Capital Research

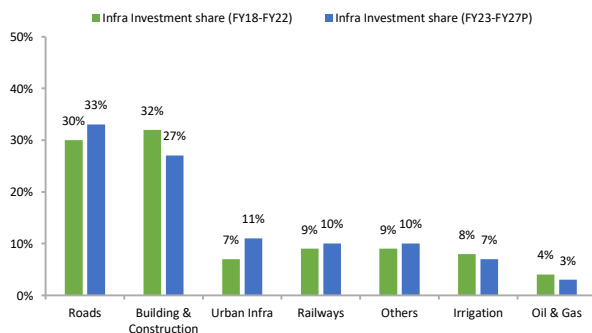
**Exhibit 12: In FY20 & FY21, Passenger volume decreased due to covid spread and recovered in FY22. The volume is expected to grow going forward.**



Source: Ibef, Aриhant Capital Research

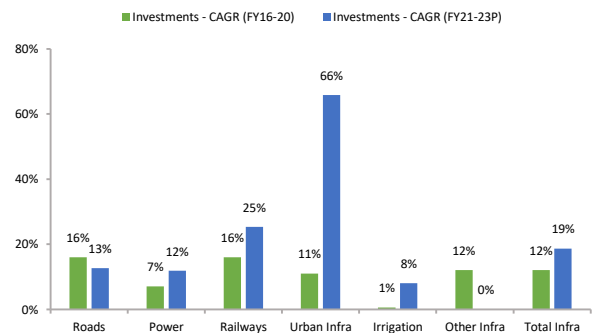
**Railways is expected to grab significant share of Infra Investments:** In the infrastructure space, Road projects is expected to attract more investments over the period of FY23-FY27P. However, Metro rail, water supply and sanitation and railway projects is expected to grab significant share in Infra investments.

**Exhibit 13: Railways investment share is expected around 10% in Infra space over the period of FY23-FY27P.**



Source: Crisil, Aриhant Capital Research

**Exhibit 14: Railways investments are expected to grow at a CAGR of 25% over the period of FY21-FY23P.**

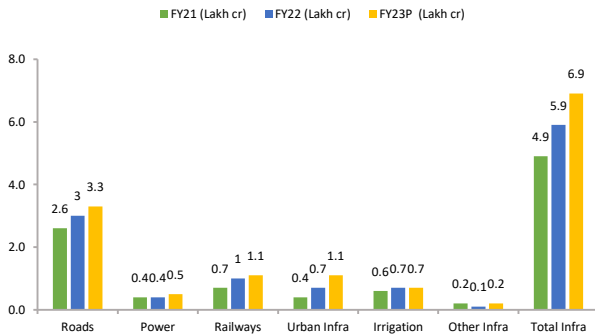


Source: Crisil, Aриhant Capital Research

Railways Capex

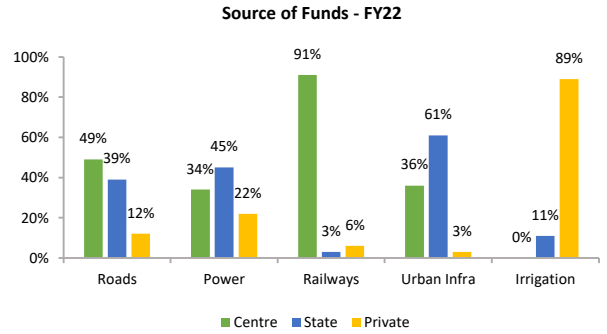
**Railways sector capex is around INR 1 lakh cr by FY23:** Railways Spends are witnessing 8% to 12% to INR 1.1 lakh cr in FY23 and Investments led by a dedicated freight corridor, network decongestion and the bullet train projects. The central budgetary allocation to railways grew by 14% YoY to FY23 and 50% of the planned outlay is expected to finance through budgetary support and remaining from internal sources and market borrowings & Institutional finance. A construction capex is expected around INR 5.8-6.2 lakh cr over next 5 years led by investments in roads, network decongestion and high-speed rail etc.

**Exhibit 15: Railways investment is expected around INR 1.1 lakh cr by FY23.**



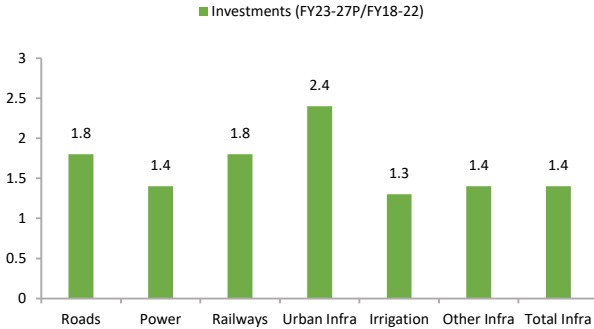
Source: Crisil, Arianth Capital Research

**Exhibit 16: Railway investment majorly funded by Central government.**



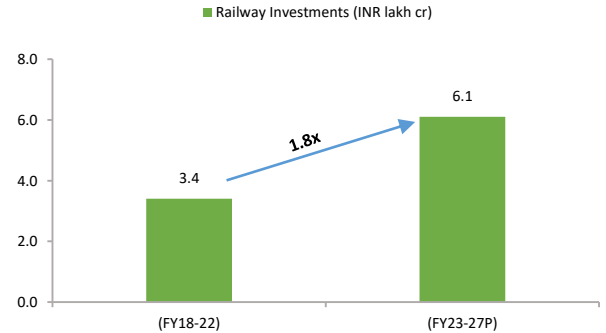
Source: Crisil, Arianth Capital Research

**Exhibit 17: Railways investment is expected to increase 1.8 times over the period of FY23-FY27P compared to FY18-22.**



Source: Crisil, Arianth Capital Research

**Exhibit 18: Railway Investments led by high speed rail, Completion of EDFC, WDFC, additional freight corridors, station redevelopment and network decongestion over the medium term.**

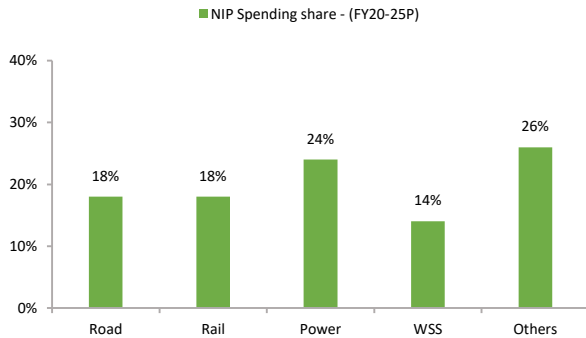


Source: Crisil, Arianth Capital Research

**NIP investment outlay is expected INR 111 lakh cr over the period of FY20-FY25E:** National Infrastructure investments nearly INR 75 lakh cr of projects under execution and National Infrastructure Plan outlined by the Government investment of INR 111 lakh cr over the period of FY20-FY25E. Transport, Energy and water projects accounts for ~80% of NIP spending of planned of INR 111 lakh cr. More than 50% of NIP projects are under construction and EPC has the opportunity at INR 42 lakh cr highest in the transport section.

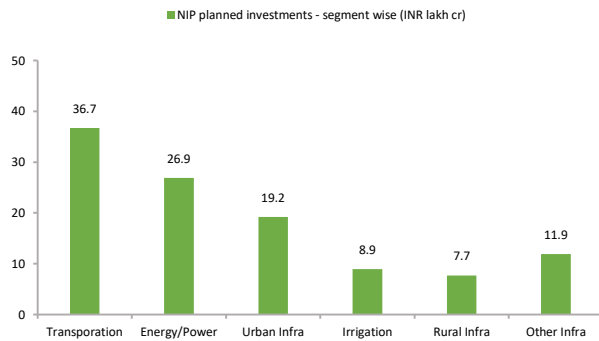
**National Infrastructure Pipeline (NIP) Capex**

**Exhibit 19: NIP spending of INR 111 lakh cr, around 18% investment is expected in Railways over the period of FY20-FY25E.**



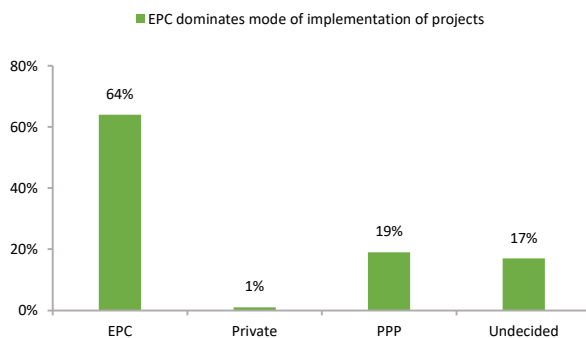
Source: Crisil, Arianth Capital Research

**Exhibit 21: Transportation investments remain high in NIP planned Investments.**



Source: Crisil, Arianth Capital Research

**Exhibit 23: High pressure on public funds as EPC dominates mode of implementation of projects.**

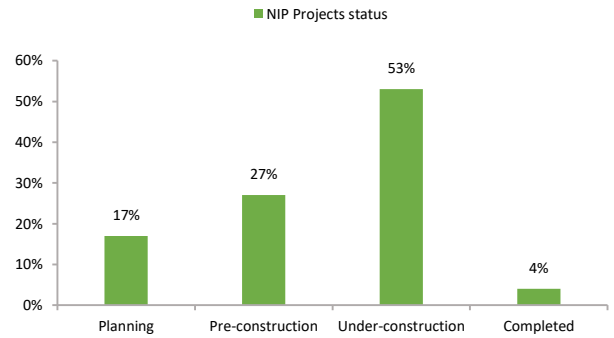


Source: Crisil, Arianth Capital Research

**Redevelopment opportunity in Railways:** The redevelopment opportunity in railways having INR 1 lakh cr with commercial development accounting ~70% of development. Around 400 stations have been identified by the railways and 1<sup>st</sup> station Habibganj, has completed construction. The station redevelopment scheme was expected to be implemented under the PPP program.

Under the HAM (Hybrid annuity model), Railways contribute around 40% and remaining by private players. The station redevelopment program with around 36 new projects worth INR 13,000cr being awarded and 14 under stage.

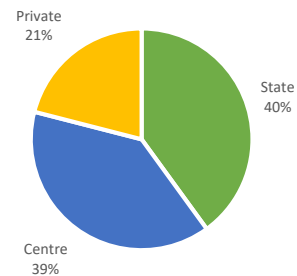
**Exhibit 20: In NIP projects, around 53% of projects are completed.**



Source: Crisil, Arianth Capital Research

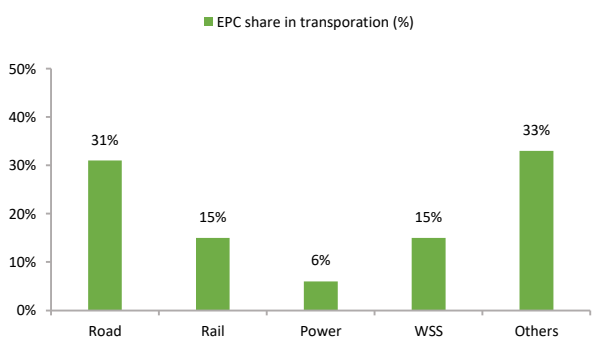
**Exhibit 22: NIP projects distributed by implementing agency. Centre and State are almost equally distributed.**

Distribution of projects (%)



Source: Crisil, Arianth Capital Research

**Exhibit 24: EPC opportunity of INR 42 lakh cr highest in the transport section.**



Source: Crisil, Arianth Capital Research

Metro Capex

**Exhibit 25: Railways has redevelopment opportunity of INR 1 lakh cr**

Railways has redevelopment opportunity of INR 1 lakh cr.

- Commercial development – INR 68,000cr.
- Station development – INR 28,000cr

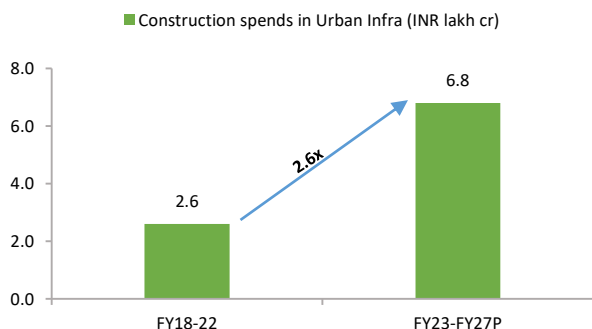
**Awarded Projects**

- 36 stations worth INR 13,000cr are currently being redeveloped and 14 under tendering stage.
- Out of proposed 54 projects spanning across 14 zones, 36 has been awarded.

Source: Crisil, Arihant Capital Research

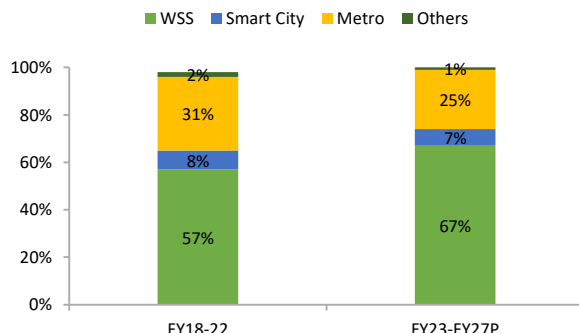
**Metro investments is expected around 25% share in Urban Infra investments:** Investments in urban infrastructure are expected to grow a 18%-22% rise in FY24 led by investments in Water supply and sanitation under schemes such as Swachh Bharat Mission, Jal Jeevan mission, AMRUT and deferred investments in Metro projects. The urban Infra capex is expected around INR 6.8 lakh cr over next 5 years. The urban infrastructure includes construction-intensive mass rapid transit system (MRTS), bus rapid transit system (BRTS), water supply and sanitation (WSS) projects, smart cities, and related infrastructure development.

**Exhibit 26: Urban infra spend is expected around INR 6.8 lakh cr over next 5 years.**



Source: Crisil, Arihant Capital Research

**Exhibit 27: In urban infra, Metro investment is expected around 25% share over the period of FY23-FY27P.**



Source: Crisil, Arihant Capital Research

**Metro construction is the 2<sup>nd</sup> largest contributor in urban Infra space:** Metro construction investment is expected around INR 1.7 lakh cr over the period of FY23-FY27P. The investments led by the development of number of projects announced and under implementation by various state governments. In 2018, the new metro rail policy was announced in Budget union, which targeted developing private interest in the segment.

The government has announced Metro-Neo and Metro-Lite projects which are cheaper to construct and operate and are suited for cities with lower population densities. The majority of the total investment goes for 1) Delhi Metro Rail Project phases III and -IV; 2) Mumbai Metro projects lines 2A, 2B, 3; 3) Chennai Metro phase-II; 4) Nagpur Metro; and 5) Pune Metro projects.

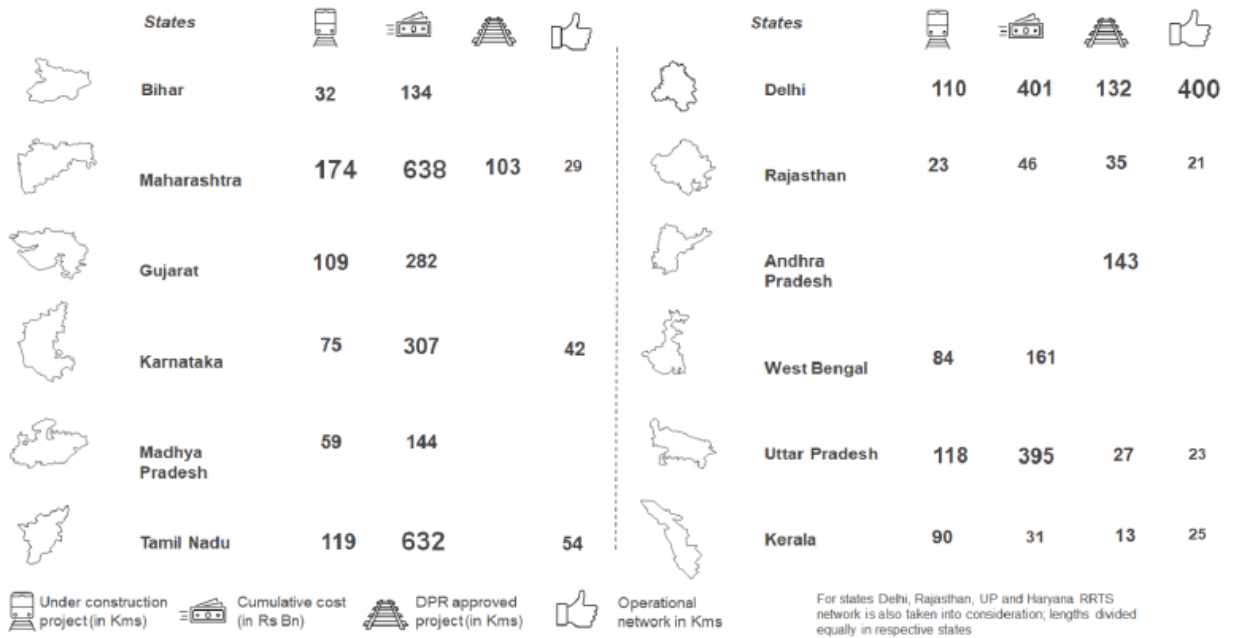
**Exhibit 28: Metro Projects Status**

Metro Projects	Status
Mumbai	Work for 3 lines in advanced stages, 5 more lines under implementation, total 14 lines approved.
Pune	First 2 phases on track, 3rd phase to be awarded on PPP.
Delhi	Phase 3 almost complete, phase 4 - 3 out of 6 corridors approval received.
Chennai	Phase 1 ext. line to begin soon, phase 2 yet under planning.
Hyderabad	Phase 1 completed. Phase 2 in proposal state.
Bangalore	Phase 1 completed. Phase 2 under construction.

Source: Crisil, Arihant Capital Research

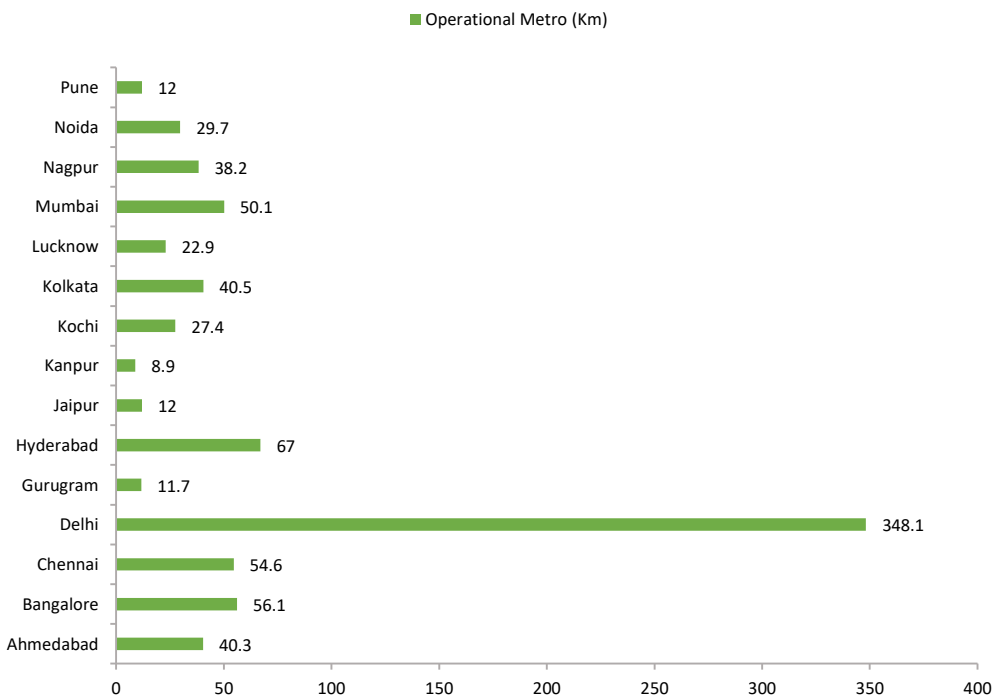
Metro Projects

Exhibit 29: Progress of Metro projects across states.



Source: Crisil, Aриhant Capital Research

Exhibit 30: In India, The operational metro lines around 820 km and Delhi accounts for major share.



Source: Crisil, Aриhant Capital Research



**Cost Overrun Analysis and Railway Network**
**Exhibit 31: Cost Overrun Analysis**

Project	Original Cost (INR cr)	Revised Cost (INR cr)	Cost Overrun (INR cr)	Cost Overrun (%)	Original Deadline	Revised Deadline	Completion Status (%)
Agra Metro	8,379	8,379	0	0%	Mar-24	Dec-25	10.33%
Ahmedabad Metro (Phase 1)	10,773	12,923	2150	20%	Dec-18	Sep-22	100.00%
Ahmedabad Metro (Phase 2)	5,384	5,384	0	0%	Mar-24	No Change	14.78%
Bangalore Metro (Phase 2)	26,405	30,695	4290	16%	Feb-21	Mar-25	64.00%
Bangalore Metro (Phase 2A & 2B)	14,788	14,788	0	0%	Jun-26	No Change	15.00%
Bhopal Metro	6,941	6,941	0	0%	Feb-23	May-25	4.19%
Chennai Metro (Phase 1)	14,600	18,380	3780	26%	Mar-15	No Change	100.00%
Chennai Metro (Phase 1 Ext.)	3,770	3,770	0	0%	Mar-18	Feb-21	100.00%
Delhi Metro (Phase 3)	38,585	40,185	1600	4%	Mar-16	Aug-21	100.00%
Delhi Metro (Phase 3 Ext.)	565	565	0	0%	Dec-20	Sep-21	100.00%
Delhi Metro (Phase 4)	24,948	24,948	0	0%	Mar-25	Sep-25	23.05%
Indore Metro	7,500	7,500	0	0%	Feb-23	Jul-25	4.88%
Kochi Metro (Phase 1)	5,181	6,218	1037	20%	Jul-17	Sep-20	100.00%
Kochi Metro (Phase 1A)	453	700	247	55%	Mar-22	Sep-22	99.00%
Mumbai Metro (Line 3)	23,136	33,406	10270	44%	Mar-20	Dec-23	76.60%
Patna Metro	13,365	13,935	570	4%	Jun-24	Dec-25	1.63%

Source: Metrorailtoday, Arihant Capital Research

**Exhibit 32: High Speed Rail Network**

Project	Network (km)	Executing Agency	Status
Mumbai-Ahmedabad HSR corridor	508	NHSRCL	Under construction
Mumbai-Nagpur HSR corridor	741	NHSRCL	DPR under progress
Mumbai-Hyderabad HSR corridor	711	NHSRCL	DPR under progress
Delhi-Varanasi HSR corridor	865	NHSRCL	DPR under progress
Delhi-Ahmedabad HSR corridor	886	NHSRCL	DPR under progress
Chennai-Mysore HSR corridor	435	NHSRCL	DPR under progress
Delhi-Amristar HSR corridor	459	NHSRCL	DPR under progress
Varanasi-Hawrah HSR corridor	760	NHSRCL	DPR under progress
Delhi-Mumbai HSR corridor	1,384	HSRCIL	Feasibility study completed
Mumbai-Chennai HSR corridor	1,334	HSRCIL	Feasibility study under progress
Chennai-Kolkata HSR corridor	1,670	HSRCIL	Pre-feasibility study under progress
Delhi-Kolkata HSR corridor	1,447	HSRCIL	Feasibility study under progress
Mumbai-Kolkata HSR corridor	1,961	HSRCIL	Pre-feasibility study under progress
Delhi-Chennai HSR corridor	2,184	HSRCIL	Feasibility study under progress
<b>Total Network</b>	<b>15,345</b>		

Source: Metrorailtoday, Arihant Capital Research

Railways Network and Projects

Exhibit 33: Semi High Speed Rail Network

Project	Network (km)	Executing Agency	Status
Ahmedabad-Rajkot Semi HSR corridor	227	G-RIDE	Approved by State Govt
Pune-Nashik Semi HSR corridor	235	MAHARAIL	Approved by State Govt
Thiruvananthapuram-Kasargod Semi HSR corridor	531	K-RAIL	Approved by State Govt
<b>Total Network</b>	<b>993</b>		

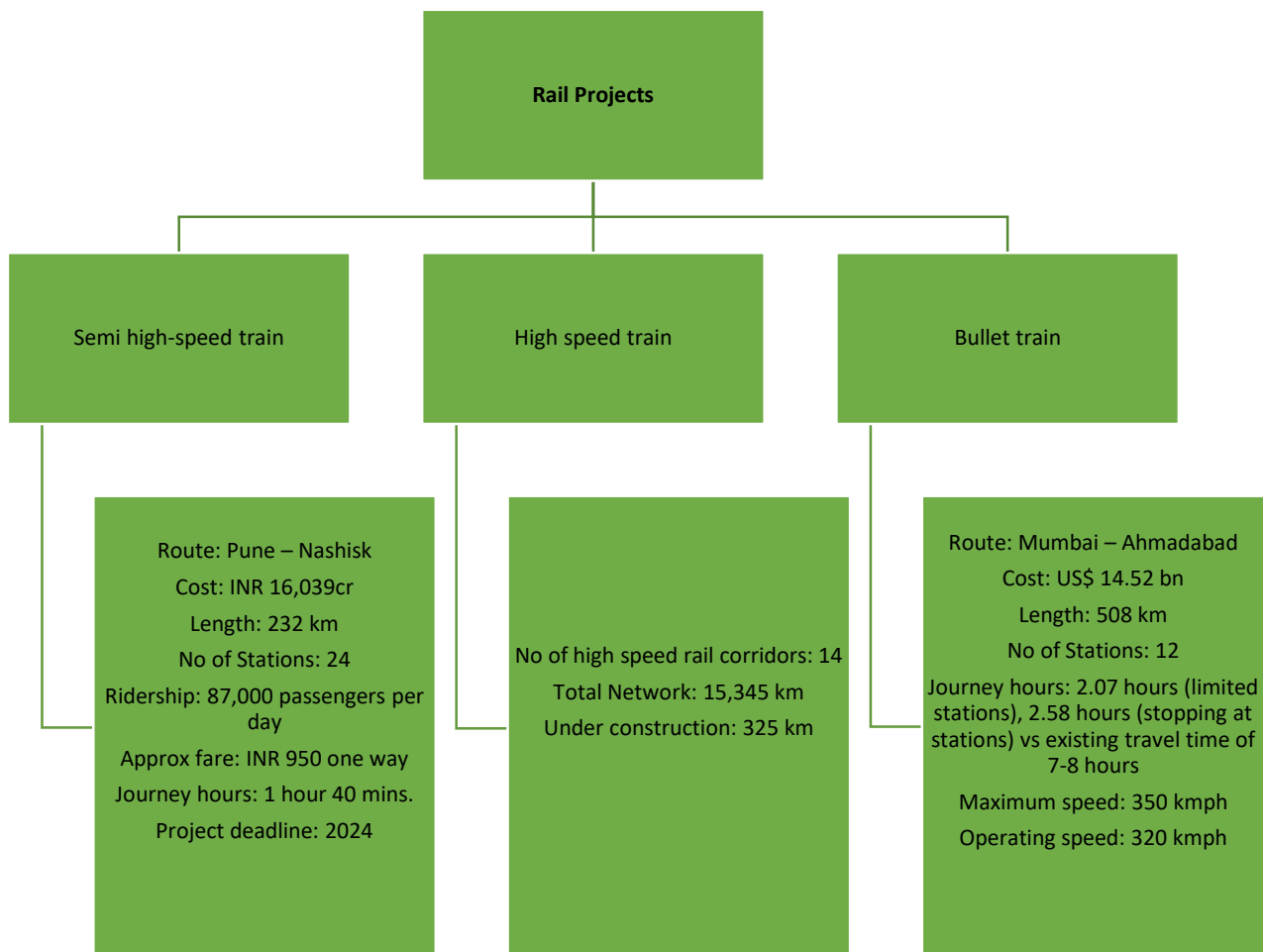
Source: Metrorailtoday, Arihant Capital Research

Exhibit 34: Regional Rail Transit System Network

Project	Network (km)	Executing Agency	Status
Delhi-Meerut RRTS Smart Line	82	NCRTC	Under construction (17 km)
Delhi-Panipat RRTS Smart Line	103	NCRTC	DPR Approved
Delhi-Alwar RRTS Smart Line	106	NCRTC	Approved
Haryana Orbital Rail	122	HRIDC	Approved
<b>Total Network</b>	<b>413</b>		

Source: Metrorailtoday, Arihant Capital Research

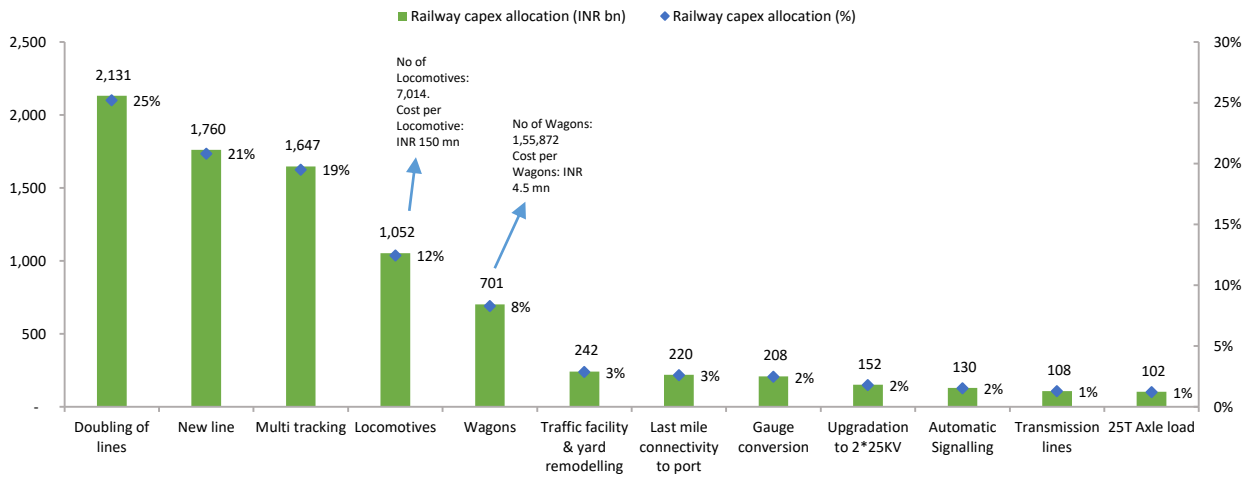
Exhibit 35: Snapshot of rail projects in India



Source: Ibef, Arihant Capital Research

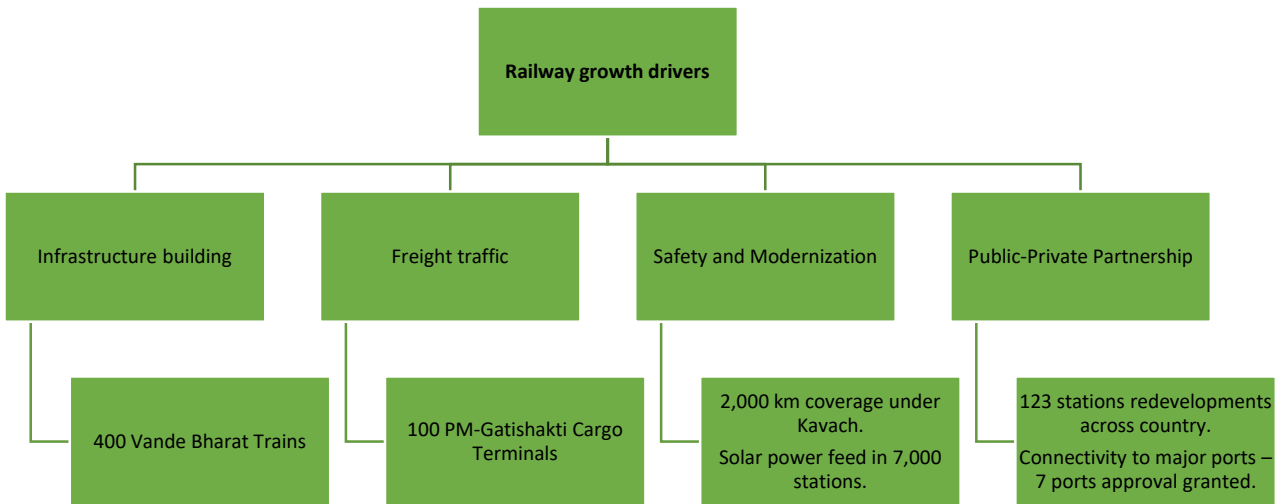
Railways Capex allocation and growth drivers

Exhibit 36: Snapshot of Railway capex allocation



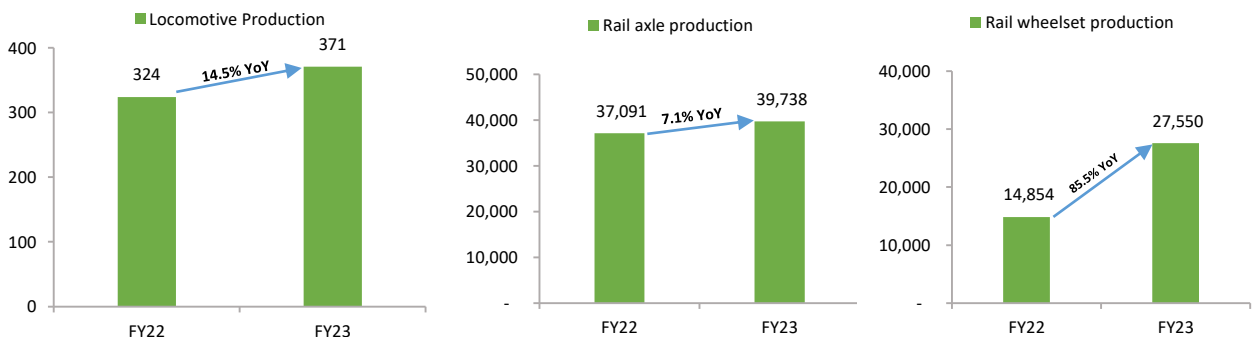
Source: Industry, Arihant Capital Research

Exhibit 37: Railway growth drivers



Source: Industry, Arihant Capital Research

Exhibit 38: Railway growth drivers



Source: Industry, Arihant Capital Research, data is from Apr-Aug (FY22-23)

**Railway Companies**
**Exhibit 39A: Key triggers for Railway companies**

S.No	Company	Products & Services	Order book (INR cr)	Order book by Geography	Order book by segments	Key triggers
1	Ircon International	Railway Electrification, Tracks, Bridges, Highways, Tunnels, Airport Terminals, Runways, Rolling stock production etc.	40,020	Domestic (92.9%), International (7.1%)	Railways (76.8%), Highways (18.3%)	Order book to revenue ratio stood 5.4x, which provides revenue visibility. Around 52% order book through nomination basis from Ministry of Railways (MoA). These orders are cost plus in nature. MoA with IRSDC for station development also expected to bring good orders. The bid pipeline is around INR 3,000cr; INR 2,000cr from Highways and INR 700-800cr from Railways. Ircon is maintaining minimum IRR and RoE is 14% to bid projects.
2	KEC International	Power T&D, Integrated Rail EPC, Metros, Water Treatment and cables for Power, Telecom and railways.	34,000	Domestic (68%), International (32%)	T&D and SAE (44%), Civil (32%), Railways (18%), Cables (2%), Oil & Gas (3%) and Smart Infra (1%)	Order book to revenue ratio stood 2.5x, which provides revenue visibility. Highest order book with L1 around INR 34,000cr. KEC is executing 9 large civil projects, 7 metro and 2 depot projects under kochi metro. The T&D pipeline is around INR 25,000cr over next 3 to 4 years. The company has opportunities in speed upgradation, TCAS Kavach, Railway sliding, Water pipeline and Data centers.
3	Rail Vikas Nigam	Railway Electrification, Metro line setup, Bridges, Offices, Workshop facilities for rolling stock and Rail capacity augmentation projects	55,000	India (100%)	New line (42%), Doubling (28%), Metro Projects (13%), Business development (7%), Railway Electrification (2%), Workshop (2%), others (4%)	Order book to revenue ratio stood 2.8x, which provides revenue visibility. Around INR 52,000cr order book obtained through nomination and cost plus in nature. Strong track record of execution capabilities in railway orders. The company is low dependence on external borrowings due to MoU with IRFC financing for Rail projects. The company share in railway capex is around 35% and company will be one the key beneficiary in the railway Capex. The company has signed MoU with government of Kyrgystan for railway projects. The project is awarded on nomination basis and having worth of INR 20,000cr.
4	Titagarh Wagons	High speed and regional trains, Electric and diesel locomotives and coaches, Metro coaches, Static converters and traction engines, IGBT based propulsion systems for EMU and MEMU.	10,040	India (74%), Italy (24%), others (2%)	Freight Rolling Stocks (86%), Passenger Rolling Stocks (11%), Ship building, bridges and defence (3%)	The company has received order for 24,177 wagons from Indian Railways. The order worth around INR 7,800cr which is executable in 39 months. The railways has placed order around 70,000 wagons for three years. The railways planned to acquire 3 lakh wagons over long term and company has potential opportunity. The company bidding has been completed for Surat Metro and DMRC.
5	Texmaco Rail & Engineering	Rail EPC, Locomotive shells and assemblies, Coach Bogie Frames, Wagons, Bridges and Steel structures, Loco brakes and draft gears.	9,300	-	Heavy Engineering (81%), Rail EPC (14%), Steel foundry (3%), Others (2%)	The company has received order for 20,067 wagons from Indian railways. The order worth around INR 6,450cr which is executable in 39 months. The company is focused to produce 3,300 wagons in FY23 and 6,600 wagons in FY24. S&T contract of WFDC and Track work at EDFC has been achieved and working capital is expected to improve going forward.

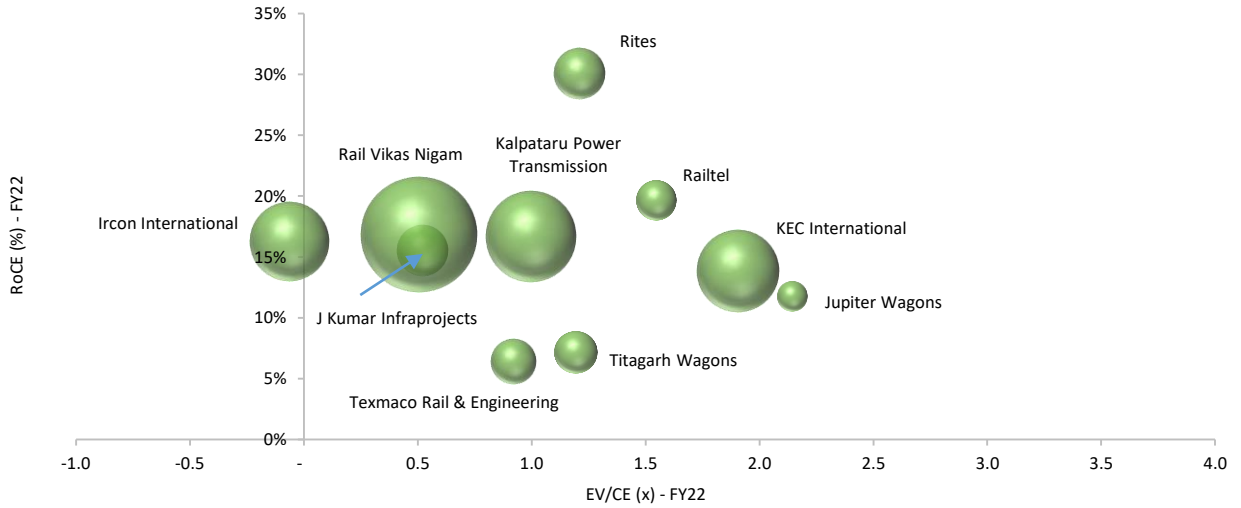
Source: Company reports, Arihant Capital Research

**Railway Companies**
**Exhibit 39B: Key triggers for Railway companies**

S.No	Company	Products & Services	Order book (INR cr)	Order book by Geography	Order book by segments	Key triggers
6	Rites	Railways, Highways, Bridges, Tunnels, Airports, Project management consultancy, Locomotive leasing and quality assurance and Rolling stocks	5,008	India (90%), Asia (7%), Africa (3%)	Consultancy (49%), Turnkey (40%), Leasing (4%), Exports (5%), REMCL (2%)	The healthy order book shows revenue visibility for next 2 years. Good traction in station development orders from Southern railways. DPR and PMC are high margin segments, the company has MoU with several government bodies including Railways. The company has secured CG for Ahmedabad Metro ph-II & EPC work for Kollam Station. REMCL is handling more than 70% of the traction requirements of Indian railways and focused to reach 100% going forward. The company is expected to benefit from Electrification, New line and related doubling and Station development work going forward.
7	Railtel	Telepresence services, Data centre services, Retail broadband, Leased line service, Virtual private network service, Internet leased line service, Rack and Space collocation services, Tower Co-location service.	4,500	-	-	Kavach addressable market around INR 30,000cr to 40,000cr and Railtel having opportunity of 25% share of Kavach. The company is plans to setup 100 plus edge data centers close to users. Data center business is expected to begin with INR 50cr revenue by FY24. The signalling projects and signalling and modernization projects including Kavach revenue visibility of INR 5,000cr over next 5 years.
8	Kalpataru Power Transmission	Power transmission & distribution, Oil & Gas pipeline, Railways and Biomass based power generation.	38,550	Domestic (57%), International (43%)	T&D (33%), B&F (23%), Water (22%), Oil & Gas (6%), Urban Infra & Railways (17%)	The company won large-size orders in Water, Urban Infra, Railways and T&D. T&D business order win worth of INR 4,360cr. The bidding pipeline over INR 1,000 bn over next few quarters. T&D, Renewables and upgradation of T&D infrastructure in India and International markets remain robust.
9	Jupiter Wagons	Shipping containers, Skip-loaders, Garbage-Bin collectors, Troop carrier vehicle bodies, Prison van bodies, Water bowser bodies	4,000		Public (50%), Private (50%)	Order book to revenue ratio stood 3.4x, which provides revenue visibility. The order book stood around INR 4,000cr which comprises of 12,000 wagons. The company has placed order close to 20,000 wheel sets on foreign buyers. The company is commenced disc brake production with initial order of INR 80cr. The company has participated 40,000 brake discs and expects substantial order from Indian Railways.
10	Kernex Microsystems	Anti-collision systems, level crossing protection systems, Yard protection systems, Passenger information systems, Turnkey product development, Electronic product design, ESS testing, Offshore development and Quality control & Training.	-	-	-	The company has expertise in designing, development and deployment of Train Collision Avoidance Systems in Indian Railways. The company has opportunities for installation of automatic and semi-automatic railway gates in Egypt and Rail Safety projects in South Africa. The company has opportunities diversifying into defence related work and manufacture of electronic components and can undertake outsourced assembly work.

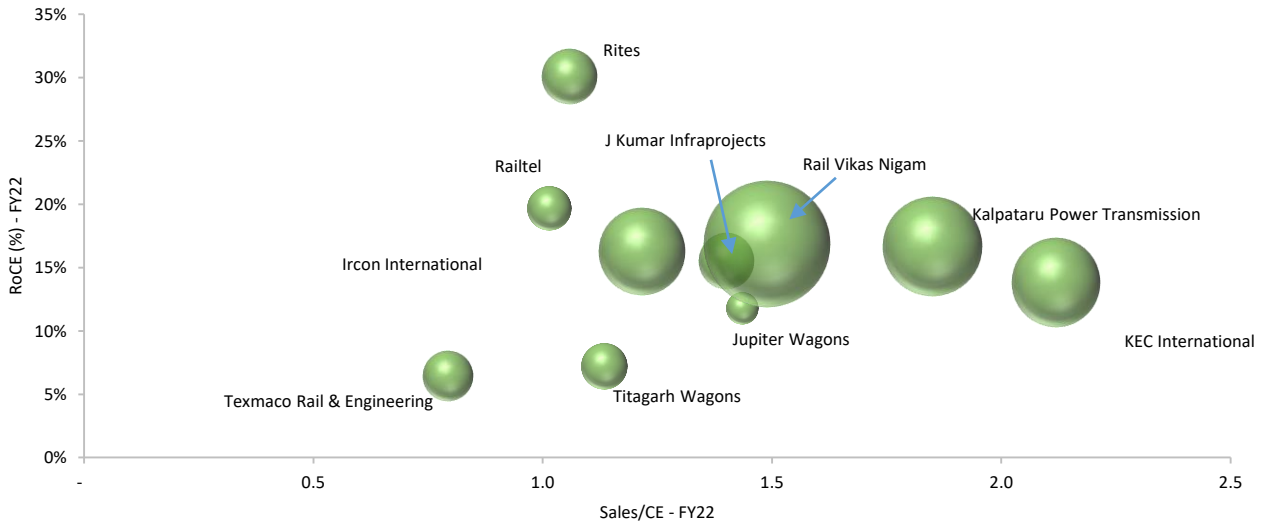
Source: Company reports, Arihant Capital Research

Exhibit 40: Railway Infra companies generated 15.4% RoCE with average of 1.1 EV/CE. Rites has generated highest RoCE of 30% in FY22.



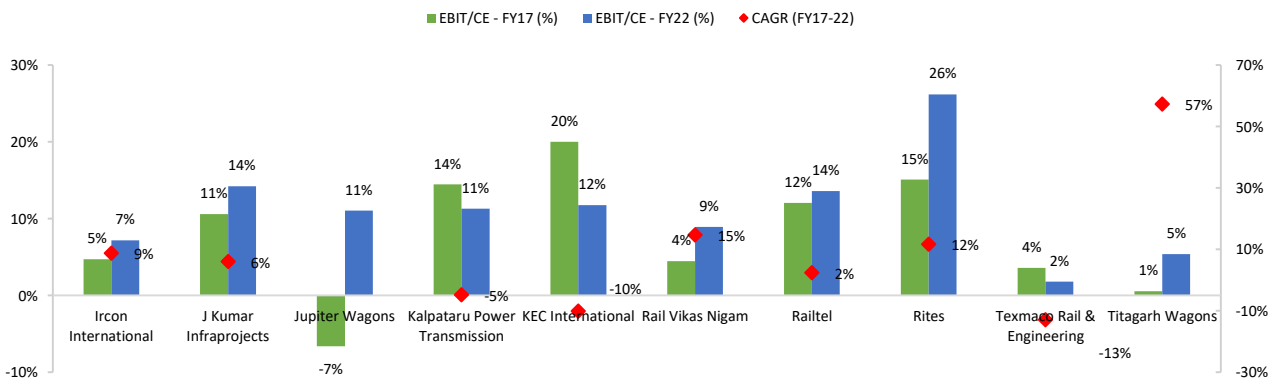
Source: Ace Equity, Arianth Capital Research; Bubble size represents Capital Employed (CE)

Exhibit 41: Railway Infra companies earned averagely INR 1.4 per Capital Employed of INR 1. KEC International earned INR 2.1 per Capital employed of INR 1 in FY22.



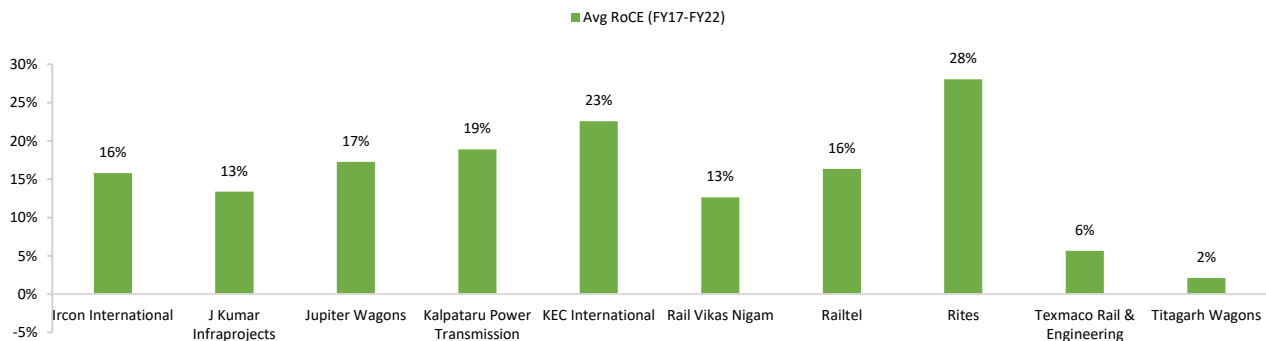
Source: Ace Equity, Arianth Capital Research; Bubble size represents RoCE

Exhibit 42: Rites, Ircon International and Titagarh Wagons witnessed strong growth in EBIT/CE compared to peers over the period of FY17-FY22.



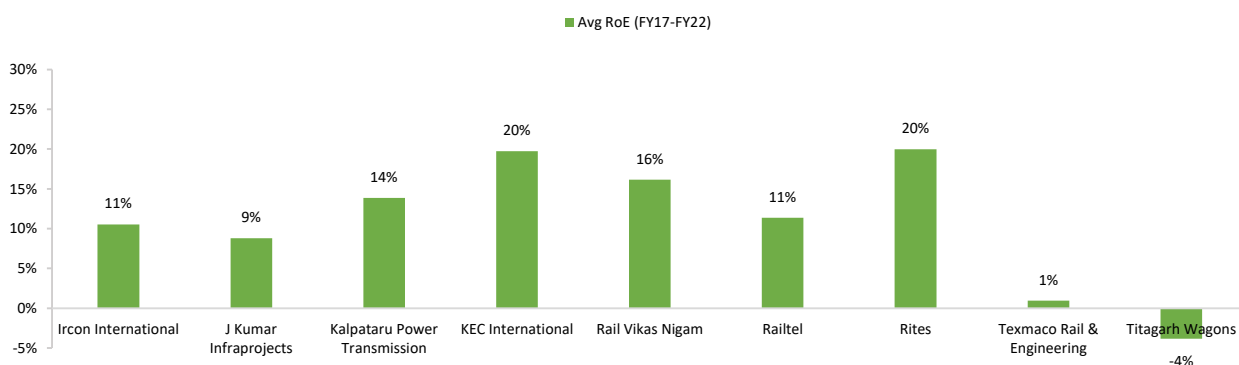
Source: Ace Equity, Arianth Capital Research

**Exhibit 43: Rites, KEC International and Kalpataru Power transmission witnessed higher RoCE compared to peers over the period of FY17-FY22.**



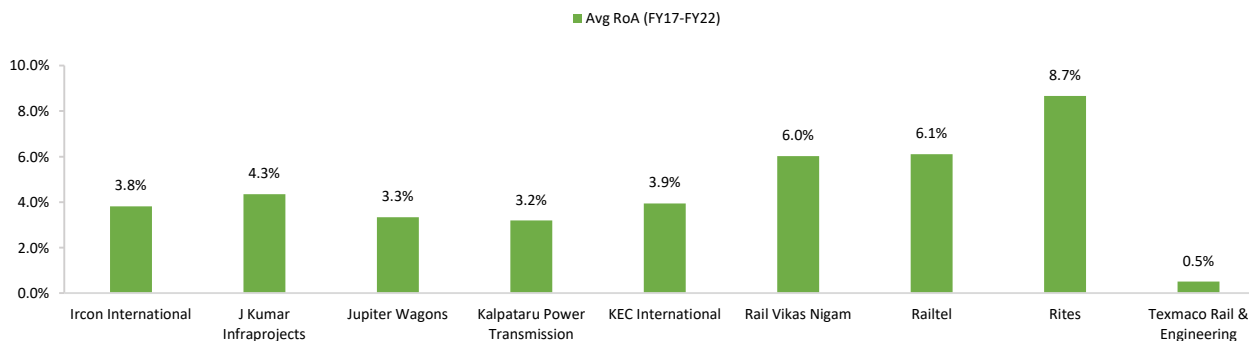
Source: Ace Equity, Arihant Capital Research

**Exhibit 44: Rites, KEC International witnessed higher RoE compared to peers over the period of FY17-FY22.**



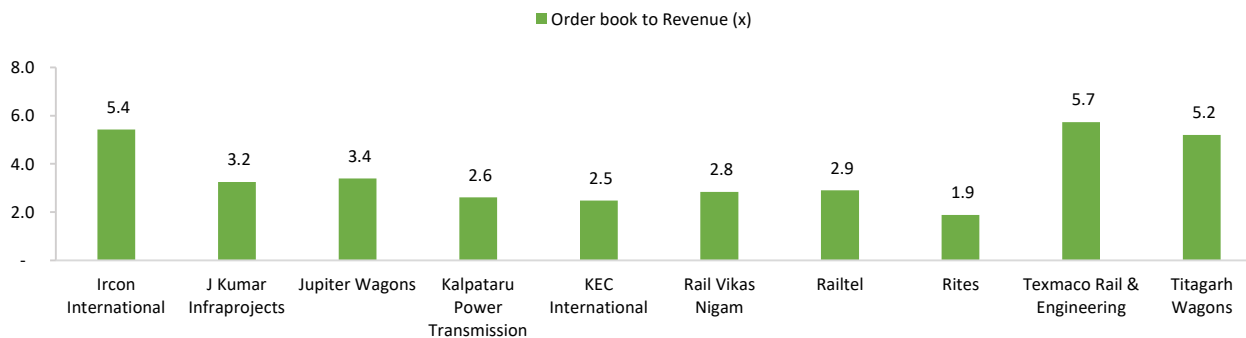
Source: Ace Equity, Arihant Capital Research

**Exhibit 45: Rites and Rail Vikas Nigam witnessed higher RoA compared to peers over the period of FY17-FY22.**



Source: Ace Equity, Arihant Capital Research

**Exhibit 46: Railway Infra companies holding order book averagely 3.6 times of FY22 revenue, which shows revenue visibility going forward.**



Source: Ace Equity, Arihant Capital Research, Order book as of Q2FY23 and Revenue as of FY22.

**Financial Statements**
**Ircon International**

Particular (INR cr)	FY17	FY18	FY19	FY20	FY21	FY22
Revenue	3,067	4,024	4,798	5,391	5,350	7,380
EBITDA	207	355	428	388	479	531
EBITDA Margin (%)	6.8%	8.8%	8.9%	7.2%	9.0%	7.2%
PAT	378	404	429	455	359	532
PAT Margin (%)	12.3%	10.0%	8.9%	8.4%	6.7%	7.2%

**J Kumar Infraprojects**

Particular (INR cr)	FY17	FY18	FY19	FY20	FY21	FY22
Revenue	1,573	2,051	2,787	2,971	2,571	3,527
EBITDA	249	321	436	429	311	505
EBITDA Margin (%)	15.9%	15.7%	15.7%	14.4%	12.1%	14.3%
PAT	106	137	177	184	64	206
PAT Margin (%)	6.7%	6.7%	6.4%	6.2%	2.5%	5.8%

**Jupiter Wagons**

Particular (INR cr)	FY17	FY18	FY19	FY20	FY21	FY22
Revenue	105	97	216	126	996	1,178
EBITDA	2	0	12	2	106	114
EBITDA Margin (%)	1.5%	0.1%	5.5%	1.7%	10.7%	9.7%
PAT	-36	-37	89	-0	53	50
PAT Margin (%)	-33.8%	-38.0%	41.1%	-0.1%	5.4%	4.2%

**Kalpataru Power Transmission**

Particular (INR cr)	FY17	FY18	FY19	FY20	FY21	FY22
Revenue	7,512	8,704	10,840	12,676	12,949	14,777
EBITDA	942	1,109	1,429	1,509	1,594	1,252
EBITDA Margin (%)	12.5%	12.7%	13.2%	11.9%	12.3%	8.5%
PAT	189	295	505	413	694	555
PAT Margin (%)	2.5%	3.4%	4.7%	3.3%	5.4%	3.8%

**KEC International**

Particular (INR cr)	FY17	FY18	FY19	FY20	FY21	FY22
Revenue	8,584	10,106	11,022	11,965	13,114	13,742
EBITDA	869	1,077	1,042	1,209	1,219	921
EBITDA Margin (%)	10.1%	10.7%	9.5%	10.1%	9.3%	6.7%
PAT	305	460	496	566	553	332
PAT Margin (%)	3.6%	4.6%	4.5%	4.7%	4.2%	2.4%

**Kernex Microsystems**

Particular (INR cr)	FY17	FY18	FY19	FY20	FY21	FY22
Revenue	12	13	8	15	18	7
EBITDA	-21	-12	-13	-7	4	-9
EBITDA Margin (%)	-170.8%	-87.2%	-158.1%	-49.3%	20.9%	-141.8%
PAT	-4	-15	-21	3	2	-17
PAT Margin (%)	-32.9%	-110.6%	-262.2%	23.0%	11.0%	-258.8%

**Rail Vikas Nigam**

Particular (INR cr)	FY17	FY18	FY19	FY20	FY21	FY22
Revenue	5,920	7,597	10,069	14,531	15,404	19,382
EBITDA	274	382	531	786	880	1,183
EBITDA Margin (%)	4.6%	5.0%	5.3%	5.4%	5.7%	6.1%
PAT	382	570	688	757	992	1,183
PAT Margin (%)	6.4%	7.5%	6.8%	5.2%	6.4%	6.1%

**Railtel**

Particular (INR cr)	FY17	FY18	FY19	FY20	FY21	FY22
Revenue	851	987	1,003	1,128	1,378	1,548
EBITDA	256	274	302	334	327	368
EBITDA Margin (%)	30.1%	27.8%	30.1%	29.6%	23.8%	23.7%
PAT	128	158	112	141	142	209
PAT Margin (%)	15.0%	16.0%	11.1%	12.5%	10.3%	13.5%

**Rites**

Particular (INR cr)	FY17	FY18	FY19	FY20	FY21	FY22
Revenue	1,485	1,497	2,047	2,474	1,905	2,662
EBITDA	358	417	576	661	550	724
EBITDA Margin (%)	24.1%	27.8%	28.1%	26.7%	28.8%	27.2%
PAT	348	359	482	626	443	538
PAT Margin (%)	23.5%	24.0%	23.5%	25.3%	23.3%	20.2%

**Texmaco Rail & Engineering**

Particular (INR cr)	FY17	FY18	FY19	FY20	FY21	FY22
Revenue	1,324	1,135	1,858	1,832	1,689	1,622
EBITDA	74	64	154	129	27	73
EBITDA Margin (%)	5.6%	5.6%	8.3%	7.1%	1.6%	4.5%
PAT	27	13	73	-69	4	12
PAT Margin (%)	2.0%	1.2%	3.9%	-3.8%	0.2%	0.8%

**Titagarh Wagons**

Particular (INR cr)	FY17	FY18	FY19	FY20	FY21	FY22
Revenue	1,714	1,268	1,711	1,766	1,521	1,931
EBITDA	59	-111	21	7	62	125
EBITDA Margin (%)	3.4%	-8.8%	1.2%	0.4%	4.1%	6.5%
PAT	27	-147	-22	-36	-19	-1
PAT Margin (%)	1.6%	-11.6%	-1.3%	-2.0%	-1.2%	0.0%

Source: Ace Equity, Arihant Capital Research



**Peer Comparison**

S.No	Particular	CMP (INR)	M.cap (INR cr)	P/E (x)	EV/EBITDA (x)	P/B (x)	RoCE (%)	RoE (%)
1	Ircon International	58	5,441	8.7	0.1	1.1	16.3%	11.7%
2	J Kumar Infraprojects	265	2,002	7.6	3.4	0.9	15.5%	10.4%
3	Jupiter Wagons	117	4,549	90.9	39.3	6.3	11.8%	7.5%
4	Kalpataru Power Transmission	499	6,689	11.6	10.5	1.5	16.6%	13.8%
5	KEC International	459	11,794	35.2	12.9	3.0	13.8%	9.5%
6	Kernex Microsystems	283	420		-	4.7	-18.2%	-32.7%
7	Rail Vikas Nigam	73	15,116	12.2	7.2	2.5	16.8%	19.7%
8	Railtel	120	3,866	19.2	8.4	2.5	19.7%	14.2%
9	Rites	347	8,337	15.9	6.5	3.4	30.0%	22.0%
10	Texmaco Rail & Engineering	54	1,738		16.9	1.3	6.4%	1.0%
11	Titagarh Wagons	220	2,634	52.0	12.6	3.0	7.2%	-0.1%

Source: Ace Equity, Arihant Capital Research; All the data as of 30th Jan, 2023, RoCE & RoE as of FY22.

Revenue growth (%)	FY18	FY19	FY20	FY21	FY22	EBITDA growth (%)	FY18	FY19	FY20	FY21	FY22
Ircon International	31%	19%	12%	-1%	38%	Ircon International	72%	20%	-9%	24%	11%
J Kumar Infraprojects	30%	36%	7%	-13%	37%	J Kumar Infraprojects	29%	36%	-2%	-27%	62%
Jupiter Wagons	-8%	122%	-42%	692%	18%	Jupiter Wagons	-97%	21582%	-82%	4995%	7%
Kalpataru Power Transmission	16%	25%	17%	2%	14%	Kalpataru Power Transmission	18%	29%	6%	6%	-21%
KEC International	18%	9%	9%	10%	5%	KEC International	24%	-3%	16%	1%	-24%
Kernex Microsystems	8%	-39%	83%	23%	-64%	Kernex Microsystems	-45%	11%	-43%	-152%	-347%
Rail Vikas Nigam	28%	33%	44%	6%	26%	Rail Vikas Nigam	39%	39%	48%	12%	34%
Railtel	16%	2%	12%	22%	12%	Railtel	7%	10%	10%	-2%	12%
Rites	1%	37%	21%	-23%	40%	Rites	16%	38%	15%	-17%	32%
Texmaco Rail & Engineering	-14%	64%	-1%	-8%	-4%	Texmaco Rail & Engineering	-14%	142%	-16%	-79%	168%
Titagarh Wagons	-26%	35%	3%	-14%	27%	Titagarh Wagons	-289%	-119%	-69%	844%	102%

PAT growth (%)	FY18	FY19	FY20	FY21	FY22	EBITDA Margin (%)	FY17	FY18	FY19	FY20	FY21	FY22
Ircon International	7%	6%	6%	-21%	48%	Ircon International	7%	9%	9%	7%	9%	7%
J Kumar Infraprojects	29%	30%	4%	-65%	222%	J Kumar Infraprojects	16%	16%	16%	14%	12%	14%
Jupiter Wagons	4%	-340%	-100%	-38322%	-7%	Jupiter Wagons	2%	0%	6%	2%	11%	10%
Kalpataru Power Transmission	56%	71%	-18%	68%	-20%	Kalpataru Power Transmission	13%	13%	13%	12%	12%	8%
KEC International	51%	8%	14%	-2%	-40%	KEC International	10%	11%	9%	10%	9%	7%
Kernex Microsystems	263%	45%	-116%	-41%	-952%	Kernex Microsystems	-171%	-87%	-158%	-49%	21%	-142%
Rail Vikas Nigam	49%	21%	10%	31%	19%	Rail Vikas Nigam	5%	5%	5%	5%	6%	6%
Railtel	23%	-29%	26%	1%	47%	Railtel	30%	28%	30%	30%	24%	24%
Rites	3%	34%	30%	-29%	21%	Rites	24%	28%	28%	27%	29%	27%
Texmaco Rail & Engineering	-50%	443%	-195%	-105%	239%	Texmaco Rail & Engineering	6%	6%	8%	7%	2%	4%
Titagarh Wagons	-634%	-85%	60%	-48%	-96%	Titagarh Wagons	3%	-9%	1%	0%	4%	6%

Source: Ace Equity, Arihant Capital Research

**Peer Comparison**

<b>PAT Margin (%)</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>FY21</b>	<b>FY22</b>	<b>RoCE (%)</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>FY21</b>	<b>FY22</b>
Ircon International	12%	10%	9%	8%	7%	7%	Ircon International	16%	11%	15%	18%	18%	16%
J Kumar Infraprojects	7%	7%	6%	6%	2%	6%	J Kumar Infraprojects	13%	14%	16%	14%	8%	16%
Jupiter Wagons	-34%	-38%	41%	0%	5%	4%	Jupiter Wagons	-6%	-8%	91%	3%	11%	12%
Kalpataru Power Transmission	3%	3%	5%	3%	5%	4%	Kalpataru Power Transmission	15%	17%	22%	21%	22%	17%
KEC International	4%	5%	4%	5%	4%	2%	KEC International	19%	27%	29%	25%	21%	14%
Kernex Microsystems	-33%	-111%	-262%	23%	11%	-259%	Kernex Microsystems	1%	-12%	-22%	13%	5%	-18%
Rail Vikas Nigam	6%	7%	7%	5%	6%	6%	Rail Vikas Nigam	4%	13%	14%	12%	16%	17%
Railtel	15%	16%	11%	13%	10%	13%	Railtel	18%	17%	15%	15%	15%	20%
Rites	23%	24%	24%	25%	23%	20%	Rites	26%	24%	31%	34%	23%	30%
Texmaco Rail & Engineering	2%	1%	4%	-4%	0%	1%	Texmaco Rail & Engineering	7%	6%	9%	0%	6%	6%
Titagarh Wagons	2%	-12%	-1%	-2%	-1%	0%	Titagarh Wagons	6%	-9%	1%	2%	5%	7%

<b>RoE (%)</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>FY21</b>	<b>FY22</b>	<b>RoA (%)</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>FY21</b>	<b>FY22</b>
Ircon International	10%	11%	11%	11%	8%	12%	Ircon International	4%	4%	3%	4%	3%	4%
J Kumar Infraprojects	8%	9%	11%	10%	3%	10%	J Kumar Infraprojects	4%	4%	5%	5%	2%	5%
Jupiter Wagons	0%	0%	618%	0%	8%	8%	Jupiter Wagons	-15%	-17%	41%	0%	6%	5%
Kalpataru Power Transmission	8%	12%	17%	13%	20%	14%	Kalpataru Power Transmission	2%	3%	4%	3%	4%	3%
KEC International	21%	26%	22%	22%	18%	10%	KEC International	3%	5%	4%	5%	4%	2%
Kernex Microsystems	-4%	-18%	-32%	6%	3%	-33%	Kernex Microsystems	-3%	-12%	-21%	4%	2%	-20%
Rail Vikas Nigam	11%	15%	17%	16%	18%	20%	Rail Vikas Nigam	2%	7%	7%	6%	7%	7%
Railtel	11%	13%	9%	11%	10%	14%	Railtel	6%	7%	5%	6%	6%	8%
Rites	18%	17%	21%	25%	18%	22%	Rites	8%	7%	9%	11%	8%	9%
Texmaco Rail & Engineering	3%	1%	7%	-6%	0%	1%	Texmaco Rail & Engineering	1%	1%	3%	-3%	0%	0%
Titagarh Wagons	3%	-16%	-3%	-5%	-2%	0%	Titagarh Wagons	1%	-5%	-1%	-1%	-1%	0%

<b>EV/EBITDA (x)</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>FY21</b>	<b>FY22</b>	<b>Debtor days</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>FY21</b>	<b>FY22</b>
Ircon International	-8.3	-2.2	3.5	0.8	1.2	-0.4	Ircon International	69	52	51	41	40	33
J Kumar Infraprojects	6.8	6.0	3.1	1.6	4.4	2.5	J Kumar Infraprojects	84	90	67	70	90	78
Jupiter Wagons	113.1	204.1	15.8	21.5	6.1	15.0	Jupiter Wagons	34	41	21	42	26	22
Kalpataru Power Transmission	7.7	9.1	6.5	3.5	4.9	5.7	Kalpataru Power Transmission	151	153	138	127	136	118
KEC International	7.8	10.4	7.3	5.2	9.6	12.2	KEC International	185	166	164	157	150	139
Kernex Microsystems	-3.7	-6.1	5.3	1.1	16.8	-24.1	Kernex Microsystems	1,386	1,068	1,152	342	248	626
Rail Vikas Nigam	3.5	4.2	5.1	5.7	6.1	3.3	Rail Vikas Nigam	22	24	24	18	21	18
Railtel	-0.9	-0.6	-0.3	0.1	9.6	5.2	Railtel	137	156	168	156	169	172
Rites	-4.6	-5.9	2.2	2.8	3.8	3.8	Rites	122	113	96	107	137	91
Texmaco Rail & Engineering	20.2	20.8	11.0	6.2	9.3	11.6	Texmaco Rail & Engineering	128	188	136	132	125	119
Titagarh Wagons	12.2	-27.2	18.1	15.8	11.9	12.0	Titagarh Wagons	49	73	66	62	98	116

<b>Inventory days</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>FY21</b>	<b>FY22</b>	<b>Payable days</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>FY21</b>	<b>FY22</b>
Ircon International	17	13	18	22	15	10	Ircon International	428	469	887	43	424	939
J Kumar Infraprojects	141	130	113	76	42	34	J Kumar Infraprojects	44	53	49	46	104	83
Jupiter Wagons	20	30	20	90	90	87	Jupiter Wagons	117	110	44	86	70	58
Kalpataru Power Transmission	43	40	35	33	32	27	Kalpataru Power Transmission	124	244	115	219	260	216
KEC International	16	18	21	22	23	25	KEC International	109	102	117	132	231	240
Kernex Microsystems	520	258	248	46	96	425	Kernex Microsystems	204	315	94	8	75	146
Rail Vikas Nigam	481	18	-	-	-	-	Rail Vikas Nigam	-	-	-	-	-	-
Railtel	0.4	-	-	-	-	-	Railtel	-	-	-	-	-	-
Rites	8	7	10	9	28	28	Rites	117	179	397	178	1,472	139
Texmaco Rail & Engineering	73	80	67	89	84	67	Texmaco Rail & Engineering	96	101	89	338	244	228
Titagarh Wagons	132	140	103	93	91	84	Titagarh Wagons	91	104	96	97	138	126

Source: Ace Equity, Arianth Capital Research

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Stock Rating Scale	Absolute Return
BUY	>20%
ACCUMULATE	12% to 20%
HOLD	5% to 12%
NEUTRAL	-5% to 5%
REDUCE	-5% to -12%
SELL	<-12%

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