Rolling Stock

Locomotives:

The size of IR's fleet of motive stock as on 31st March, 2012 consisted of 43 steam, 5,197 diesel and 4,309 electric locomotives. The number of locomotives, traction-wise, along with their average tractive effort are as follows:

Year	Number of locomotives				Tractive effort per loco (in kgs.)	
	Steam	Diesel	Electric	Total	B.G.	M.G.
1950-51	8,120	17	72	8,209	12,801	7,497
1960-61	10,312	181	131	10,624	14,733	8,201
1970-71	9,387	1,169	602	11,158	17,303	9,607
1980-81	7,469	2,403	1,036	10,908	19,848	10,429
1990-91	2,915	3,759	1,743	8,417	24,088	12,438
2000-01	54	4,702	2,810	7,566	29,203	18,537
2008-09	43	4,964	3,586	8,593	33,499	18,452
2009-10	42	5,022	3,825	8,889	33,665	18,378
2010-11	43	5,137	4,033	9,213	34,380	18,304
2011-12	**43**	**5,197**	**4,309**	**9,549**	**35,896**	**18,249**

Coaching Vehicles:

LHB Coaches:

Following the introduction of the first rake of indigenously designed LHB coaches in December, 2003, 14 Rajdhani and 12 Shatabdi Express trains with conventional ICF design coaches have since been converted to LHB design. Conversion of the remaining Rajdhani/Shadabdi rakes to LHB design is in progress.

Setting up of mechanized laundry for washing of Linen:

Indian Railways have identified 54 major coaching depots to set up mechanized departmental laundry to improve the quality of washing of linen being supplied to the passengers in the trains. 16 such laundries have been commissioned so far. Action is underway for commissioning of laundries at other locations as well.

Coach Upkeep:

696 old coaches were given mid-life rehabilitation and 816 coaches were refurbished which brought substantially improvement in the condition of flooring, toilets and other passenger amenities.

Passenger Carrying Vehicles (PCVs) with aggregate seating capacity in different years and availability of Other Coaching Vehicles (OCVs) are shown below:

Year	Passenger Coaches						Other Coaching Vehicles (Number+)
	EMU Coaches		Conventional Coaches		DMU/DHMU		
	Number	Capacity $	Number @	Seating capacity	Number	Seating capacity	
1950-51	460	87,986	13,109	854,678	-	-	6,059
1960-61	846	150,854	20,178	1,280,797	-	-	7,415
1970-71	1,750	340,541	24,676	1,505,047	-	-	8,719
1980-81	2,625	500,607	27,478	1,695,127	-	-	8,230
1990-91	3,142	609,042	28,701	1,864,136	-	-	6,668
2000-01	4,526	859,701	33,258	2,372,729	142	13,884	4,731
2008-09	6,228	1,195,197	42,117	3,114,691	743	69,834	5,985
2009-10	6,765	1,215,764	43,563	3,177,642	722	70,950	6,477
2010-11*	7,292	1,364,948	45,082	3,254,555	761	74,097	6,500
2011-12	**7,793**	**1,429,910**	**46,722**	**3,357,145**	**824**	**78,825**	**6,560**

$ Includes standing accommodation. @ Includes Rail Cars.
* revised + Includes luggage vans, mail vans, parcel vans, etc.

Wagons:

As on 31st March, 2012, the size of IR's wagon fleet consisted of 239,321 units 62,243 covered, 129,737 open high-sided, 7,625 open low-sided, 26,223 other types and 13,493 brake vans/departmental wagons:

Year	Total wagons on line (In units)	Percentage of total number of wagons					
		Covered	Open high sided	Open low sided	Other types	Depart-mental	Total
1950-51	205,596	58.9	25.5	3.4	7.2	5.0	100
1960-61	307,907	57.3	25.5	2.5	10.6	4.1	100
1970-71	383,990	53.4	25.6	1.8	13.0	4.2	100
1980-81	400,946	53.3	28.3	3.2	11.8	3.4	100
1990-91	346,102	49.1	29.6	3.6	14.4	3.3	100
2000-01	222,193	34.1	41.0	3.6	17.5	3.8	100
2008-09	212,835	26.4	49.2	4.0	14.2	6.2	100
2009-10	220,549	26.2	51.2	3.2	14.1	5.3	100
2010-11	229,997*	26.6*	52.7*	3.1	12.0	5.6*	100
2011-12	**239,321**	**26.0**	**54.2**	**3.2**	**11.0**	**5.6**	**100**

*revised

Exterior View of The ETC Coach

Carrying capacity per wagon on broad gauge and metre gauge are indicated below:

Year	All Gauges		Broad Gauge		Metre Gauge	
	Total number of wagons$ (000)	Total capacity (Million tonnes)	Number$ (000)	Average capacity (Tonnes)	Number$ (000)	Average capacity (Tonnes)
1950-51	195	4.14	149	22.6	43	17.1
1960-61	295	6.30	207	23.1	83	18.0
1970-71	368	9.35	271	27.8	91	19.1
1980-81	387	11.14	299	30.6	83	23.0
1990-91	335	11.50	276	36.9	55	22.9
2000-01	214	10.19	199	48.7	14	34.4
2008-09	200	11.17	195	56.5	5	32.2
2009-10	209	11.52	204	55.7	4	33.2
2010-11	217	12.18*	213	56.6	4	33.0*
2011-12	**226**	**12.89**	**222**	**57.5**	**4**	**33.1**

*revised

$ Excludes departmental service wagons and brake vans.

Some of the major types of wagons held by IR as on 31.3.2012 are shown below:

Types of wagon fleet (B.G.)

Type of wagon	Units available	Brief description
BOX`N'	57,209	High-sided bogie open wagons with improved components like cast steel bogie, high tensile couplers, cartridge tapered roller bearings, air brake, etc. for enabling greater trailing loads for movement of bulk commodities like coal, iron ore etc.
BCN/A	42,385	Water-tight covered bogie wagons with cast steel bogie, cartridge tapered roller bearings and air-brake.
BCX	1,895	Water-tight covered wagons for food-grains, cement, etc.
BOX	1,879	High-sided open bogie wagons with side discharge arrangement for transport of coal and other bulk traffic.
BTPN	10,814	Tank wagons for liquid consignments like petrol, naptha, ATF and other petroleum products.
BOBS/BOBX	1,074	Open hopper wagons with bottom discharge arrangement to carry ballast, ores etc.

Types of wagon fleet (B.G.)

Type of wagon	Units available	Brief description
BLCA/BLCB	14,725	Low platform container flat wagons. Light weight all-welded skeletal design under-frame for an optimum 'tare to payload' ratio. 840 mm wheel diameter, AAR 'E' type central buffer coupler and slack less draw bar system.
BLLA/BLLB	450	Container flat wagons same as BLCA/BLCB, but with a longer platform of 45 ft.
BFKN/BFKI	1,357	BFKNs are CASNUB bogie container flat wagons with air Brake, converted from BFKI.
BOY	1,268	Low-sided open bogie wagons to carry iron ore.
BOXNCR	266	In order to reduce substantially the problem of corrosion, 3 CR12 stainless steel has been used in the manufacture of BOXNCR wagons.
BOXNHA	730	Higher axle load wagon (having tare weight 23.17 t and payload 65.13t) suitable for 22.1 t axle load and 8.25t/m Track Load Density for coal loading. Payload per rake shall increase to 3,783 t as against 3,411 t in the existing BOXN wagon, resulting in 11% increase in throughput per rake. Fit for 100 kmph.
BCCNR	35	Covered bogie wagon for transportation of automobile cars. Low platform with wheel diameter 840 mm and fitted with air brake. Fit for 100 kmph.
BCNHS	7,940	Bogie covered Air Brake all Welded high speed.
BOXNHS	20,740	Bogie opened air brake high speed.
BOXNLW	2,327	Bogie open air brake light weight.
BOST/HS	8,367	Longer BOXNHS wagon strengthened wagon for finished steel product.
BFNS	707	Bogie Flat air Brake high speed wagon H.R. coil coal.
BOBR/N	12,561	Bogie open rapid discharge air brake wagon for coal.
BOBYN/HS	5,643	Bogie Hopper air brake bottom discharge high speed.
BOXNHL	17,976	Bogie open air brake stainless steel wagon.
BRHNES	1,127	Bogie Rail Truck air brake enhanced capacities.
BOBSN	890	Bogie open air brake sick discharge wagon for iron ore.

Repair and Maintenance:

100 loco sheds and 246 carriage and wagons sick lines and central rapair depots provide repair and maintenance facilities for the entire fleet of rolling stock. 45 workshops undertake periodic overhaul.

Central Organisation for Modernisation of Workshops (COFMOW):

Central Organisation for Modernisation of Workshops (COFMOW) was set up in 1979. The organisation plays a major role in providing consultancy and engineering inputs for technology upgradation and improving productivity of manufacturing units, repair workshops and maintenance depots of IR.

COFMOW has kept itself abreast of global technological developments and acquired considerable expertise over the years in the fields of machinery selection and procurement. It has been instrumental in the dissemination of technical knowledge to railway units and organizing training of personnel in operation and maintenance of manufacturing infrastructure at periodic intervals. It has assisted suppliers in manufacturing special purpose machines for exclusive application by the Railways.

COFMOW has also been assisting IR in preparation of technical specification, procurement, delivery and commissioning of machinery and plant. It has been actively engaged in organizing seminars on new technologies for the benefit of its customers. It has always been the endeavour of COFMOW to work towards development of indigenous suppliers for manufacture of special purpose machines.

COFMOW has recently been entrusted with the responsibility of procurement of Machinery & Plant items for a locomotive components factory proposed to be set up at Dankuni. This entails preparation of technical specification, procurement and commissioning of the equipment on turnkey basis. COFMOW has placed purchase orders for 60 machines in record time.