



ब्रेथवेट एंड कंपनी लिमिटेड BRAITHWAITE & CO. LTD.

(भारत सरकार का उपक्रम) / (A Govt. of India Undertaking)
(मिनीरत्न श्रेणी-1 कंपनी) / (A MINIRATNA Category-1 Company)
रेल मंत्रालय / Ministry Of Railways



भारत 2023 INDIA

वसुधैव कुटुम्बकम्

ONE EARTH • ONE FAMILY • ONE FUTURE

Engineering Excellence on the Move...



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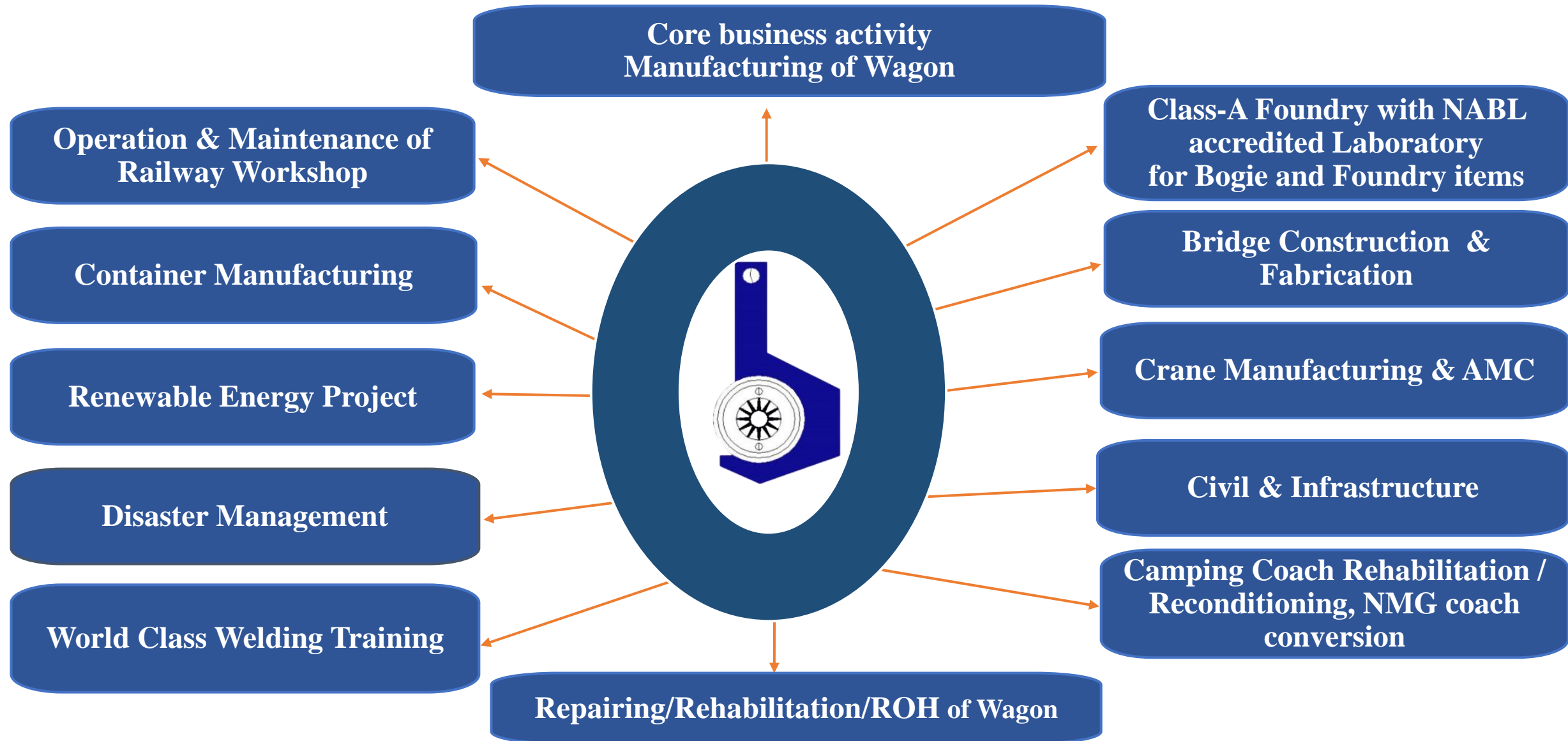


Braithwaite at a glance

- Incorporated in UK in 1884, established in India in 1913 & nationalised in 1976.
- A 'Schedule – B', 'Miniratna-I' & 100% GoI owned PSU under Ministry of Railways (MoR).
- Having two manufacturing units in/around Kolkata and offices across India.
- Profit making Company having achieved highest ever Revenue in 2023-24.
- 'Prototype Hub' for development of new design wagons for Indian Railways.
- Actively executing O & M activities including POH / ROH at Rly Workshops.
- Core competency is **Wagon, Crane, Bridges and Container Manufacturing**.
- Diversifying into new businesses verticals including Civil, Infrastructure & Solar Projects.
- BCL's CoE for Welding is accredited by Capital Goods Skill Council (CGSC) & supported by National Skill Development Corporation (NSDC).
- Glorious past includes Fabrication of Howrah Bridge & Process Plants, Cranes for major Ports etc.
- **Presently implementing projects in 15 states across India.**

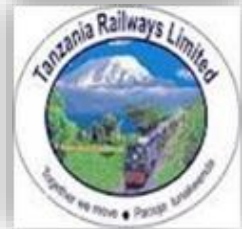


Business Activities





Key Customers





Braithwaite & Co. Limited

UNIT NAME	ACQUIRED AREA		LINE OF BUSINESS
	TOTAL AREA	BUILT UP AREA	
KOLKATA WORKS	23 ACRES	17 ACRES	<ul style="list-style-type: none">• MANUFACTURING OF VARIOUS TYPES OF WAGONS• ANNUAL RATED CAPACITY : 2400 WAGONS• REPAIRING OF OLD WAGONS• STRUCTURAL FABRICATION JOB
ANGUS WORKS	70 ACRES	10 ACRES	<ul style="list-style-type: none">• MANUFACTURING OF CAST STEEL BOGIES• ANNUAL RATED CAPACITY : 2400 BOGIES• CONTAINER MANUFACTURING & TESTING• CRANE MANUFACTURING & MAINTENANCE• STRUCTURAL FABRICATION JOB



Major Achievements

- Developed and Manufactured different variants of wagons for Indian Railways and Private entities.
- Recognized as the only prototype hub for Indian Railways in partnership with RDSO.
- Legacy in manufacturing/upgradation/revamping of various types of cranes for major ports & steel/power plants.
- Extending support to Indian Railways for repair & revamping of old & unusable wagons.
- O&M of Railway Workshops including ROH/POH attention of wagons and manufacturing of new wagons.
- Development, manufacturing and testing of various types of containers.
- Upgradation of Cast steel foundry for CASNUB/LWLH bogies.
- Undertaking infrastructure projects of Govt of Uttarakhand & MES
- Executing ROB and rehabilitation of Girder bridge of Indian Railways.
- Executed 10 MW Solar project for DVC.
- Executing Disaster Management work of Govt of Maharashtra for providing Saline Embankment, Multi-Purpose Cyclone Shelter and Anti Sea Erosion Bunds.

Engineering Excellence on the Move

BCL'S Businesses





Wagon Experience

- BCL has core competency to manufacture all variant of wagons.
- Manufacturing special types of wagons for different gauges, carrying Petroleum, Metal, Chemicals, Milk, Cement, Stones, Coal, Crops, Cattle etc.
- The first wagon manufacturing company in India; also exported Railway Wagons to Asian, African & European Countries.
- Recognized as the only Prototype Hub by Indian Railways for Railway Wagons. Developed various new generation wagons.
- State-of-the-art facilities including dedicated Design & Drawing office for development of new wagons.
- BCL's annual rated capacity for Wagon Production is 2400 Nos.



Braithwaite - Wagon Product Line

TANK WAGONS :

Used for transportation of liquid products like Petrol, Naphtha, Superior Kerosene, ATF, HSD, LDO, Furnace Oil, Sulfuric Acid, Liquid Petroleum Gas, Caustic Soda, Aluminum Ore (Alumina) etc.



FREIGHT WAGONS

- **Open Type Wagons** are suitable for transportations of coal, various ores, minerals and other bulk transportation of materials not susceptible to natural hazards
- **Flat Type Wagons** are used for moving containers, finished steel products and large transformers for Thermal Power Stations amongst other applications.
- **Closed Type Wagons** are suitable for transportations of all classes of goods, food grains, bagged cement etc requiring protection from weather and natural hazards.



Milk Van Developed For National Dairy Development Board

The 'MILK TANK VAN' has been designed to be a cut above the rest with an all new stainless steel tanker, insulation system & advanced brake system.

What's New

- ✓ Carrying Capacity – **44660 Ltr (Increased by 11.6% than predecessor)**
- ✓ Maximum Permissible Speed **110 KmPH**
- ✓ Stainless Steel to **Gr. AISI304** – conforming International Standard for Milk Product.
- ✓ **IS:6591-1972 & 3A Sanitary Standards** – complying with European & American Standard for Bulk Delivery of Milk.
- ✓ Polyurethane Foam (PUF) for **better Thermal Insulation**. Retain internal temperature of 2⁰ C for 24 hours while outside temperature is 37⁰ C.
- ✓ **Air Brake System with Bogie Mounted Brake Cylinder (BMBC).**

Supplied
26 Nos. to
NDDB



Braithwaite's Contribution to **RECENT PROTOTYPE DEVELOPMENT OF WAGON** in association with RDSO



BCFC M



BLSS



EUR on BRNAHS



BOBSNS (25T)



BCDS Wagon for Defence System



BLCS WAGON

Projects Undertaken For Prototype Wagon Development

Proto Type Wagons developed

1. BOBSNS
2. EUR
3. FMP
4. BLSS
5. BCDS
6. BCFCM



BOBSNS Wagon Proto at our Works



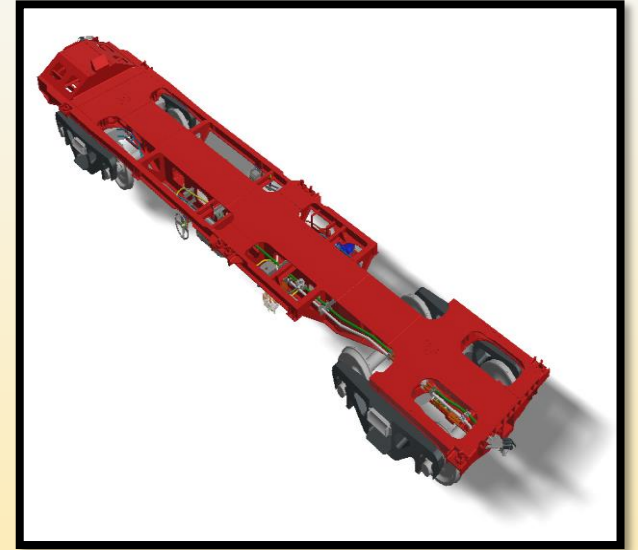
EUR Proto under fabrication at our Works



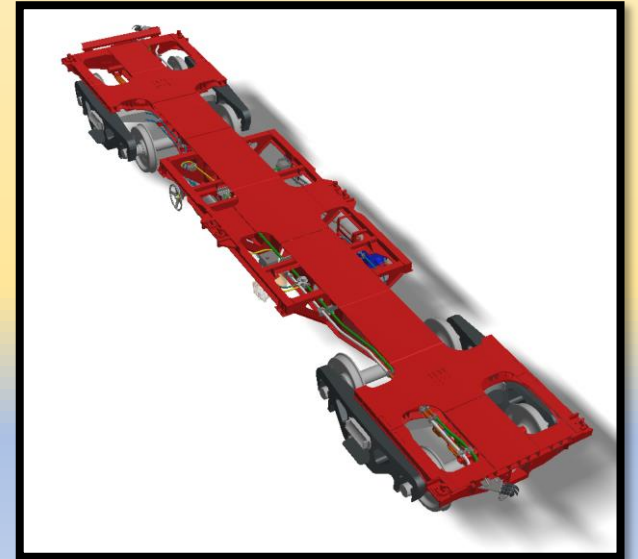
BOBSNS Proto under fabrication at our Works

25T Spine Car (BLSS) Rake Design developed by BCL

- Design consists of a **robust center sill and center girder** with lateral arms to support containers corner castings.
- Design optimized for all kinds of container loading.
- Designed for long life with lower maintenance
- **More wagons** - A total of **forty-eight wagons** per rake in composition of **4 nos. BLSS 'A' car** and **44 nos. BLSS 'B' Car**. Suitable for max of 192 TEUs can be carried in double-stack formation
- **Higher throughput** – Forty-four higher capacity B-Cars to maximize rake throughput implies **3942 tonnes of cargo** that can be transported as compared to **3670 tonnes** Carrying Capacity of **BLCS rake**.
- **7.4% increase in weight throughput over BLCS**
- **Coupler connection between wagons** - No requirement to detach full unit, one effected wagon can be detached.
- **'Best Innovative Product Solution of the Year 2024'** award received by BCL for BLSS (Spine Car) Wagons at the 3rd Edition of the Manufacturing and MSME Conclave organized by ASSOCHAM.



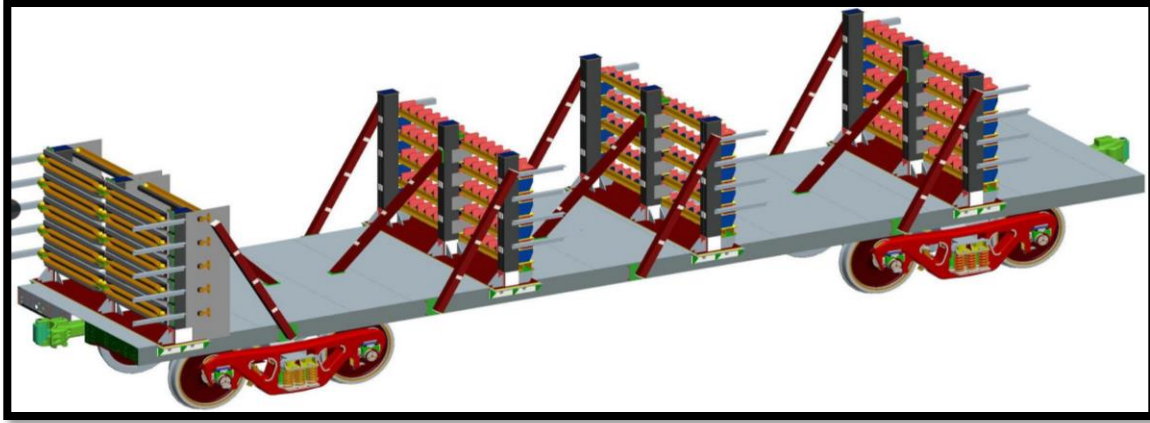
BLSS 'A' Car



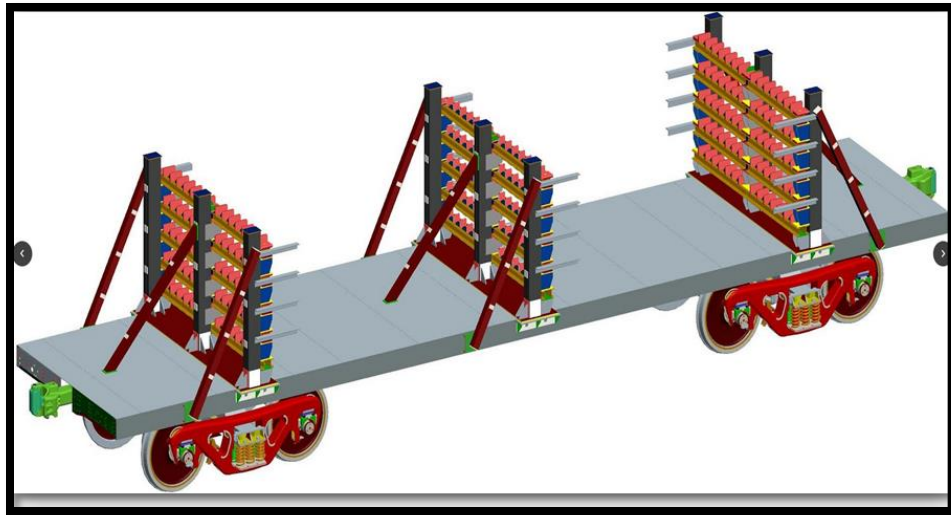
BLSS 'B' Car



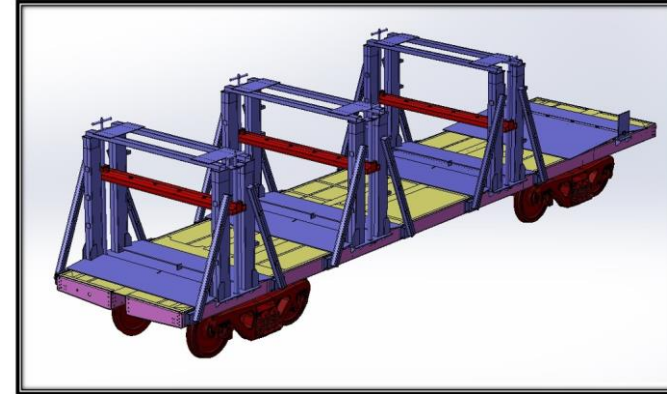
EUR Wagon Rake



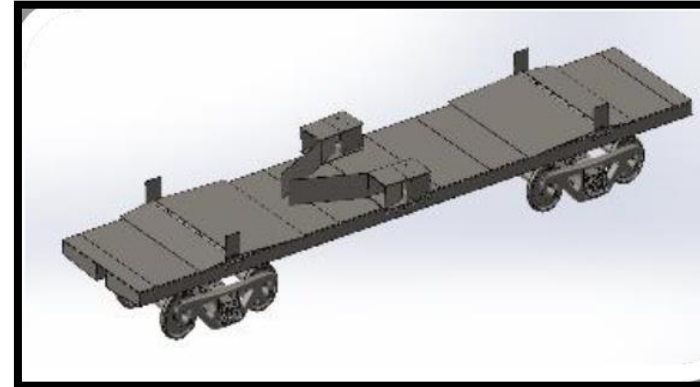
Bulk head wagons – at both end of rake – 2 nos.



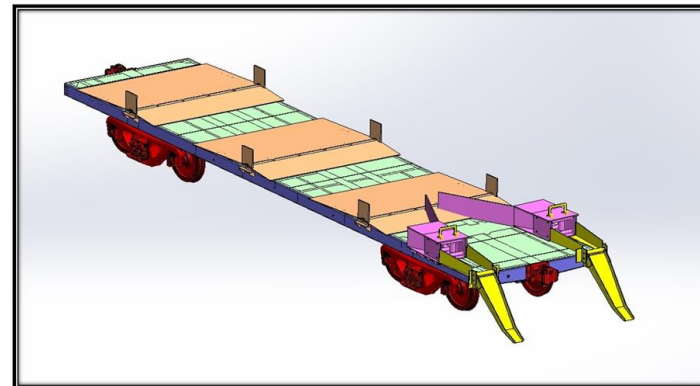
Middle wagon – 16 nos.



Threader – 1 no.



Ramp– 1 no.



Chute with modified unloading system – 1 no.

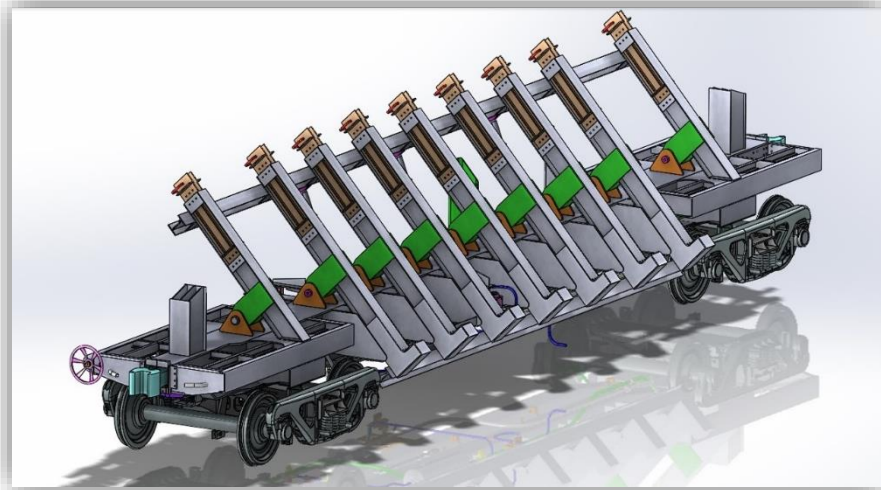
Bogie Covered Fly Ash / Cement Wagon Type (BCFCM)



➤ One rake manufactured and supplied to GATX – presently working in UltraTech Cement Ltd

Track Gauge	1676.00 mm
Total Weight (Gross Load)	91.60 M.T.
Tare Weight	23.10 M.T.
Pay Load	68.50 M.T.
Volume Capacity	72.11 m ³
Length Over Headstocks	9784 mm
Length Over Coupling Faces	10713 mm
Overall Width (Over loaded)	3245 mm
Overall, Height from Rail Level	4265 mm
Coupler Type	CBC (N.T) WD-70-BD-10
Bogie Type	CASNUB-22 HS Bogie
Side Bearer	Constant Contact Side Bearer (Spring loaded)
CP Top	Flat Type
Draft Gear	WD-66-BD-06 / WD-71-BD-15
Brake System	BMBS Brake System
Discharge System	Air Slide System to Drg No: WD-15014-S-15, 16, 17 & 18
No. Of Wagons in Rake To Transport	59 Fly Ash / Cement

Wagon Design Under Development - BFWP Wagon

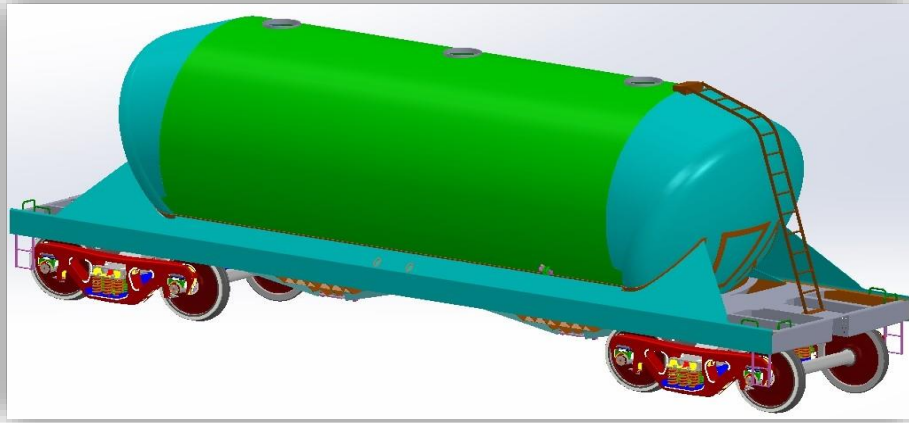


➤ **Prototype:** Under development in association with RDSO

BOGIE FLAT WIDE PLATE WAGON

Track Gauge	1676.00 mm
Total Weight (Gross Load)	91.6 M.T.
Tare Weight	25.0 M.T.
Load Capacity	66.6 M.T.
Length Over Head Stock	13861 mm
Length Over Coupling Faces	14790 mm
Overall Width (Over loaded)	3135 mm
Overall Height from Rail Level	4305 mm
Coupler Type	C.B.C Coupler (N.T)
Bogie Type	LWLH (840mm Wheel Dia)
Brake System	Conventional Brake System
To Transport	FLAT WIDE PLATES

Wagon Design Under Development- BTFC Wagon



BOGIE FLY ASH / CEMENT/ ALUMINA WAGON

Track Gauge	1676.00 mm
Total Weight (Gross Load)	91.60 M.T.
Tare Weight	27.50 M.T.
Load Capacity	64.10 M.T.
Volume Capacity	68.65 m ³
Length Over Head Stock	11791 mm
Length Over Coupling Faces	12720 mm
Overall Width (Over loaded)	2800 mm
Overall Height from Rail Level	4296 mm
Coupler Type	C.B.C Coupler
Bogie Type	CASNUB 22HS
Brake System	Bogie Mounted Brake System
To Transport	FLY ASH / CEMENT / ALUMINA

➤ **Prototype:** Under development
in association with RDSO

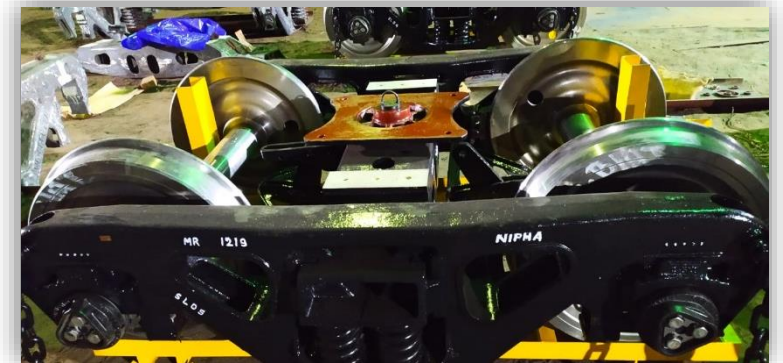


Foundry Products

ARC FURNACE



CAST STEEL BOGIE – 22.9T AXLE LOAD



CAST STEEL BOGIE – FOR MYANMAR RAILWAYS

BCL has capacity of 230 Bogie production per month which will be further augmented to 300 bogies production per month including production of 25T LWLH bogie.



Repair / Rehabilitation of Wagons

BEFORE REPAIRING



AFTER REPAIRING



After rehabilitation, life of wagons enhanced by 12 years

Operations and Maintenance (O&M) of Railway Workshop

BCL has undertaken a major project of operation and Maintenance of a workshop of Indian Railways at VADLAPUDI, Visakhapatnam. This is the first of its kind workshop maintained by PSU in Indian Railways. Under this project BCL is maintaining the Wagon Repair Workshop with a project cost of 546.79 crores for 5 years for POH, POH+ Corrosion and NPOH of 12000 wagons.



Contracted Capacity 200 Nos. p.m.
Production 215 Nos. in Dec'24





Braithwaite – An OEM of Cranes





List of EOT Cranes



- ✓ 61 Nos 5T – 150T EOT Cranes To Bokaro Steel Plant.
- ✓ 18 Nos 14T -130T EOT Cranes To Durgapur Steel Plants.
- ✓ 04 Nos EOT Cranes To NTPC Thermal Power Plants- Farraka & Singrauli.



- ✓ 26 Nos 5T – 100T EOT Crane To Visakhapatnam Steel Plant.
- ✓ 6 Nos 7.5T –120T EOT Cranes To BHEL
- ✓ 6 Nos 8T – 16T EOT Cranes to Iisco.
- ✓ 5 Nos 8T – 20T EOT Cranes To Tisco.
- ✓ 11 Nos 5T – 30T EOT Cranes to Salem Steel Plant.



Crane Related Services

- ❑ Design, Engineering, Manufacturing of cranes for Steel Authority of India Ltd., Indian Railways (COFMOW)
- ❑ Crane Overhauling and Refurbishment at NTPC Thermal Power Plants
- ❑ AMC services of cranes for SAIL- Bhilai Steel Plant, NMDC- Nagarnar Steel Plant
- ❑ Crane Repair services for SAIL, Indian Railways , Defence sectors, Indian Navy
- ❑ Crane Reliability Services for GRSE, NTPC, NAVAL DOCKYARD



BRAITHWAITE & CO LTD MAY PROVIDE AMC OF ALL CRANES IN WORKSHOP AND PUs BY ENSURING DOWNTIME WITHIN THE LIMIT



Container

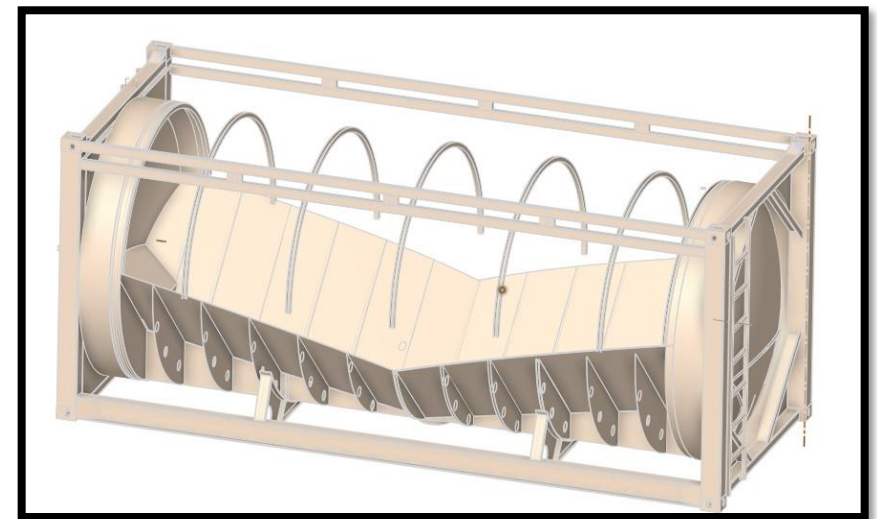
COMPLETE IN-HOUSE FACILITY FOR CONTAINER MANUFACTURING & TESTING



New Design Tank Container For Bulk Cement Transportation

20 ft. Tank Container for handling bulk cement.

- Secured order for development of 20 ft Tank Container for handling bulk cement from CONCOR.
- Order placed by CONCOR for 500 nos. 20 ft X 8 ft X 8.5 ft 28 T Tank Payload Container for transportation of bulk cement.
- Design calculation and final design has been validated through FEA.
- 28 Tons of cement loaded from top manhole can be unloaded through Air Fluidized System within 20 mts.
- Residual amount of cement is within 0.2%.
- It will be multi-modular transportation of bulk cement and may replace costly bulker / special wagons BCFCM for transportation of cement.
- Prototype 'Type approval' and CSC certificate issued by LRQA for Tank Container in accordance with ISO 1496.
- Bulk production started.





Ongoing Project – Bridges, SER (Balasore)



All 12 spans of Balasore Bridge erected and work to be completed by Feb 2025.



Ongoing Project – Bridges

**BRIDGES OF NFR1
(GUWAHATI)**



**BRIDGES OF NFR2
(NEW JALPAIGURI)**



**BRIDGES OF ER
(ASANSOL)**





Fabrication Works of Numaligarh Refinery Limited (NRL)



Fabrication of Stainless Steel Foot Over Bridge Components

- Braithwaite's Set a new production line at Victoria unit for fabrication of Stainless-steel Foot over bridge's components.
- Successfully completed fabrication of bridge components used to build 2nd FOB connecting platform no. 1, 2 & 3 at Bhadrak end in SORO Railway station.
- 1st ever significant step in modernizing railway infrastructure with durable, corrosion-resistant Stainless-Steel bridge in South Eastern Railway Region.

More such order of FOB from Railways will be explored.



CROSS GIRDER, SPLICE PLATES



MAIN COLUMN



MAIN GIRDER



OTM Accommodation (Ph – I) MES Panagarh

BCL has been recently allotted a Project on EPC mode under Military Engineering Services (MES) for Provision of Officers Accommodation (OTM PH – I) at Panagarh Military Base, West Bengal.



Building for SLDC at 132 KV Substation

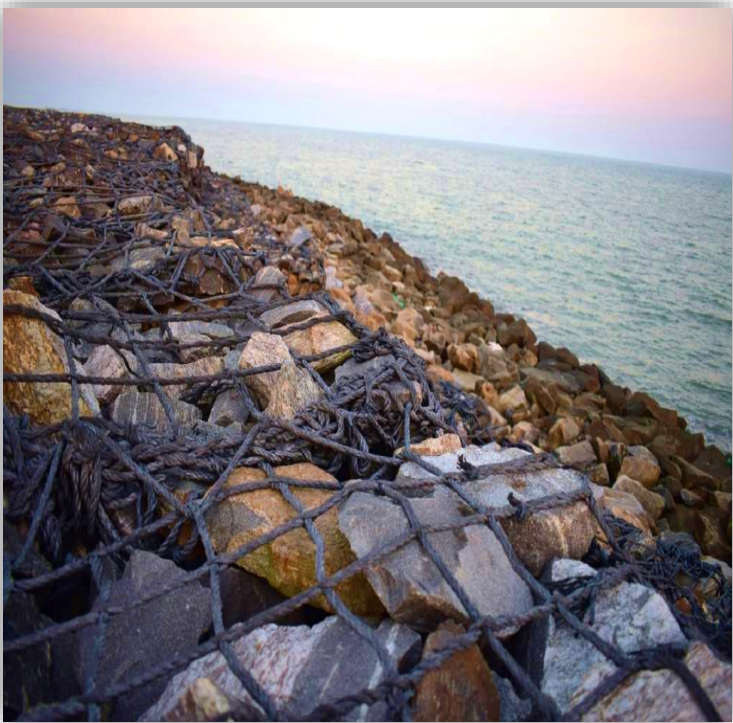
BCL has been allotted an order for Construction of Separate Building for State Load Dispatch Center (SLDC) at 132 KV Substation Majra Campus, Dehradun.





Disaster Management Related Works

BCL is working as an Implementing Agency, executing Projects of Saline Embankment (SE), Sea Anti-Erosion Bund (AEB), Multi-purpose Cyclone Shelter (MPCS) for Disaster Management Authority, Govt. of Maharashtra.



Pictures are for reference only



Solar PV Power Plants at DVC, Koderma

Design, Engineering, Supply, Construction, Erection, Testing, Commissioning and O&M of 10 MW (AC) Grid Connected Ground ground-mounted solar PV Power Plants at KTPS, Koderma, DVC in the state of Jharkhand.

“COMMERCIAL OPERATION DATE: 1ST MARCH 2024”

Trial run was conducted from 1st February 2024 to 28th February 2024, and upon its successful completion, commercial operations began on 1st March 2024.

“PLANT STATUS: OPERATIONAL SINCE 1ST MARCH 2024 (EIGHT MONTHS)”





Welding Training Centre

BCL has a world-class Welding Training Centre which is catering to associated industries including neighboring developing countries. An initiative under Skill Development Program, it is providing training to Welders and Certifications. Seven batches of trainees have come out successfully. Operations are currently being expanded to other cities too.





Thank You

Core business activities of Braithwaite & Co. Limited



Wagon Manufacturing



Container Manufacturing



Operation & Maintenance
of Railway Workshop



Cast Steel Foundry



Civil & Infrastructure



Bridge Construction
& Fabrication



Crane Manufacturing



Renewable Energy Project

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