

**WELCOME
TO
VENDORS MEET**

PRESENTATION ON

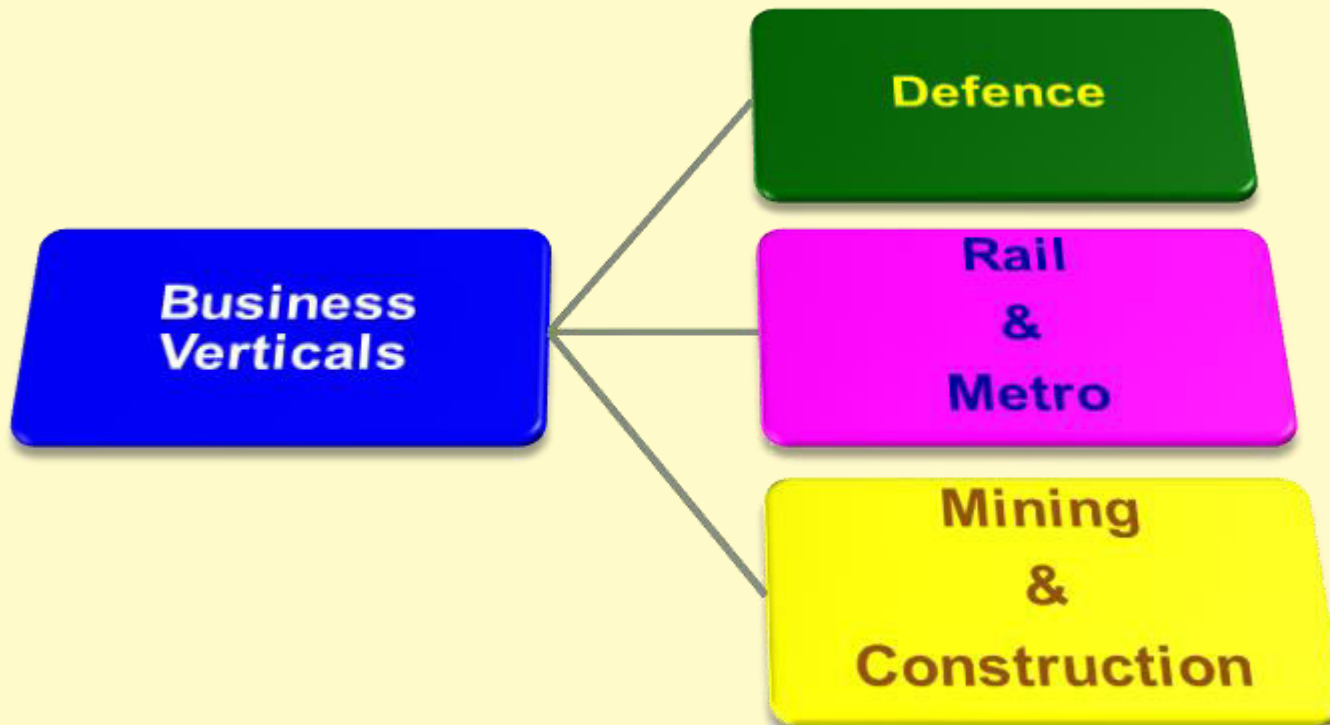
BEML LIMITED

**UP Defence Expo – Kanpur
(14th to 16th Nov'18)**

BACKGROUND

Incorporated: 11th May 1964

Mini Ratna 'Category - I' Company
Ministry of Defence



MINING



CONSTRUCTION



DEFENCE- LAND SYSTEMS



RAIL & METRO



MAJOR LANDMARKS

Supplied:

8000 BEML High Mobility Vehicles

350 Armoured Recovery Vehicles

3000 Trailers / Military Wagons

6 sets (330 Nos.) Pontoon Bridge System

18000 Rail Coaches and 700 EMUs

1200 Metro Cars

30000 Mining & Construction

Rs. 3300 Cr. of Goods and Services to 68 Countries

Defence Services

Indian Railways

Metro Corporations

Mining

Exports

MANUFACTURING COMPLEX – BENGALURU (1964)

ADMINISTRATIVE BUILDING



METRO ROOF WELDING



METRO SIDE WALL WELDING



METRO INFRASTRUCTURE FACILITIES



U/F MAIN ASSY



ROBOT SPOT WELDING M/C



CARBODY JIG



**SERIES SPOT WELDING MACHINE
FOR SIDE STRUCTURE**

METRO INFRASTRUCTURE FACILITIES



CABLE DUCTS



WELD JIGS FOR SIDE FRAME



SHOT BLASTING FACILITY



LASER CUTTING MACHINE

METRO INFRASTRUCTURE FACILITIES



BOGIE LOAD TEST



BOGIE FATIGUE & STATIC TEST



WATER TIGHTNESS TEST



TEST TRACK

MANUFACTURING COMPLEX – KOLAR GOLD FIELDS (1967)

ADMINISTRATIVE BUILDING – EM DIVISION



R&D DIVISION



DOZER ASSEMBLY SHOP – EM DIVISION



TRANSMISSION SHOP – H&P DIVISION



TEST FACILITIES FOR ARMOURED VEHICLES



MANUFACTURING COMPLEX – MYSURU (1985)

ADMINISTRATIVE BUILDING – TRUCK DIVISION



ADMINISTRATIVE BUILDING – ENGINE DIVISION



HEAVY ASSEMBLY SHOP – TRUCK DIVISION



ENGINE ASSEMBLY SHOP – ENGINE DIVISION



FLEXIBLE MANUFACTURING SYSTEM



HEAVY DUTY BORING M/C

TOOLINGS JIGS & FIXTURES



WELDING ROBOT



MANUFACTURING COMPLEX – PALAKKAD (2010)

ADMINISTRATIVE BUILDING



HANGAR I & II



HMV 8X8 ASSEMBLY SHOP



UNDER CARRIAGE ASSEMBLY SHOP



MARKETING NETWORK



-  **Corporate & Marketing HQ**
-  **Manufacturing Complexes - 4**
-  **Regional Offices - 12**
-  **District Offices - 15**



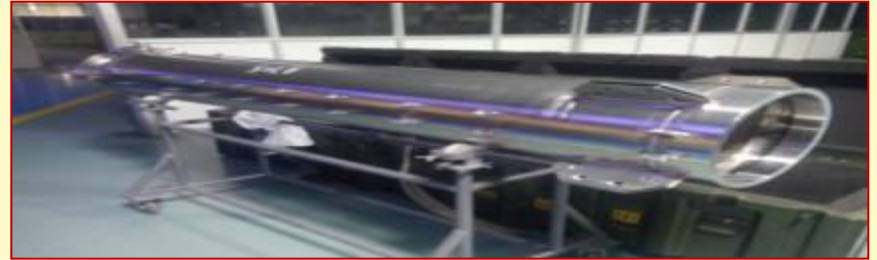
BEML'S GLOBAL REACH – 68 COUNTRIES

PRODUCTS DEVELOPED IN LAST 3 YEARS - DEFENCE

SARVATRA 15 M BRIDGE SYSTEM



AKASH MISSILE - SECTION IV & V



ARJUN ARR



COMMAND POST VEHICLE



PRODUCTS DEVELOPED IN LAST 3 YEARS - DEFENCE

SMERCH- 8X8



SMERCH- 10X10



6x16 TRUCK MOUNTED CRANE



SURFACE MINE CLEARING SYSTEM



PRODUCTS DEVELOPED IN LAST 3 YEARS – M&C

BD65-1 PAT DOZER



BD50 HST DOZER



BD475-1 DOZER



BE300 LC EXCAVATOR FOR DREDGING



PRODUCTS DEVELOPED IN LAST 3 YEARS – M&C

BE 1800E EXCAVATOR



BH 100A DUMPER



BH 150E DUMPER



BH 205E DUMPER



PRODUCTS DEVELOPED IN LAST 3 YEARS – R&M

DMRC RS9



Kolkata Metro



Bangalore Metro



DMRC RS13



MATERIAL PROCUREMENT- CATEGORIES

- **Castings (SG Iron, FG , Steel, Non – Ferrous)**
- **Forgings (Closed /Open die, Ring Rolling Forgings)**
- **Fabricated Structures (Medium & Heavy)**
- **Gears, Gear assemblies (Forging + Machining)**
- **Hydraulic aggregates. (Cylinders , Pumps , Valves)**
- **Engine components**
- **Components for Transmissions / Axles**
- **Pipes and Hoses**
- **Seals, O rings, Mounting Cushions**
- **Electrical wire harness, Instrumentation**
- **ABS/ FRP panels, Dash Boards**

VENDOR REGISTRATION PROCESS

➤ IDENTIFICATION OF NEW VENDORS

- ❖ Open ended EoI is published on BEML Website.
- ❖ Participate in various exhibitions/seminars organized by MSME / NSIC/PIA/ CODISIA/KASSIA etc.
- ❖ Identifying vendors based on need for equipment through website or by referring to other DPSU.
- ❖ Vendor meet is organized as per the business needs of the Company.

VENDOR REGISTRATION PROCESS

➤ SELECTION OF POTENTIAL VENDORS

- ❖ Vendors profiles are received and studied.
- ❖ Based on the profile details vendors are assessed by visiting their manufacturing facilities for quality systems, financial capabilities etc.
- ❖ ISO 9001-2015 certification is mandatory.
- ❖ Upon successful evaluation, vendor is included in the provisional vendor list and business opportunities are explored.
- ❖ If the vendor performance is satisfactory then vendor will be enrolled on Approved vendor list.
- ❖ The selection of potential vendors to rail coach components is based on approval by ICF / RDSO.

VENDOR REGISTRATION PROCESS

➤ PROCESS OF DEVELOPMENT

- ❖ Enquiry will be sent for development of item for all potential vendors through e-mode.
- ❖ Development PO is placed for small quantity
- ❖ During sample development stage, necessary technical assistance is provided to the vendors.
- ❖ After successful development and approval of samples, vendor will be enrolled as a regular supplier for that item.
- ❖ A list of approved sources of supply will be compiled and maintained category-wise called Approved vendor List (AVL) by Corporate Quality.

BEST PRACTICES of PROCUREMENT in BEML LIMITED

➤ E-PROCUREMENT PROCESS:

- ❖ e-procurement (electronic procurement) is a process for sending & receiving tenders by web based technology.
- ❖ E-procurement is followed for tender value more than Rs One Lakh.
- ❖ Registered vendors can view the tender document and submit the bids online.
- ❖ For new users, valid user id and password could be obtained by mailing to System Administrator.

BEST PRACTICES of PROCUREMENT in BEML LIMITED

➤ E-PROCUREMENT PROCESS

- ❖ **BEML has its own SRM platform.**
- ❖ **e-Bidding ensures that bids are obtained online from the bidders before the specified due-date & time.**
- ❖ **Class 3 Digital Signature is pre-requisite to participate in e-tender which ensure end to end encryption**
- ❖ **On line tutorial is available in BEML Website to help firms to participate.**
- ❖ **BEML has achieved more than 85% of e - procurement**

BEST PRACTICES of PROCUREMENT in BEML LIMITED

➤ EXPECTATIONS FROM VENDORS.

❖ Quality

- ✓ Company with ISO Certification.
- ✓ High quality consciousness / quality checks at intermediate stages.
- ✓ Self certification.
- ✓ Feedback, Corrective & Preventive action.

❖ Cost

- ✓ Competitive Pricing
- ✓ Transparency
- ✓ Cost reduction

❖ Deliveries

- ✓ On time deliveries.
- ✓ Optimization on freight cost.

❖ Others

- ✓ Value Engineering.

SELF-CERTIFICATION / WAIVER OF INSPECTION

➤ BEML wants to promote self-certification

❖ Requirements:





- ✓ Should have ISO 9001 Certification
- ✓ Rejection in past 2 years to be less than 1%
- ✓ Should meet minimum requirements w.r.t systems for:
 - Drawing and technical documentation
 - Incoming material control
 - Manufacturing process control
 - Inspection and test plan
 - Improvement initiatives

Will be accorded after verification and assessment for above parameters.

Items for Indegenisation

S.no	Description	Specifications of local content	Photograph
1	INJECTION VALVE	8/Engine for Euro II 8x8 engine	
2	CABLE-CABLE CRAFT 183-V-TT-50-2700	Accelarator cable	
3	SHUT OFF CABLE TIE ROD	Engine Stop Cable	
4	PRESSURE SWITCH TRW 151.010	Regular 8X8 item, Electrical item, Rated: 12/24 VDC Testing Voltage:13.5 V Max Voltage SAG:150mV @1000mA	

Items for Indegenisation

S.no	Description	Specifications of local content	Photograph
5	PRESSURE SWITCH TRW 151.012	Regular 8X8 item, Electrical item, Rated: 12/24 VDC Testing Voltage:13.5 V Max Voltage SAG:150mV @1000mA	
6	Sealing section	As per drawing	
7	Clutch plate of fan drive	To be developed through reverse engineering	
8	OIL PRESSURE GAUGE SENSOR	Switch vale: 40 to 600 kPa, Pressing tight:3000kPa max. 2 sec., Permissible max.load: 5W, non-indusive, Voltage: 6-24V	





Items for Indegenisation

S.no	Description	Specifications of local content	Photograph
9	WATERTIGHT HEADLAMP D 160 MM H4/891 050-1	Water tight Head lamp, Overall size of lamp: Ø177.4xØ222, Dome lens size: Ø160, Width of lamp: 147, Weight:2.5kg	
10	FOG HEADLAMP 891017.2	Lamp : Water tight, Nominal voltage: 24V DC, Bulb:24V, 70W, H3 Category, Bulb Base : PK22S paer IEC 60061, Size of lamp : dia186x238Lx80W,	
11	REAR LAMP, LH	Water tight lamp (with and without bottom cutout), Provided with optical insert. Bulb: 24V/21W With Holder BA15S.	
12	BOARD LAMP	Bulb: single contact type SM30, 28V/0.17A with Base of IS-9-1 or Bulb 24V/4W with base Ba9s. Range of operating temperature: - 60°C to +50°C	

Items for Indegenisation

S.no	Description	Specifications of local content	Photograph
13	Relay Switch-300 Amps	AS PER DRAWING 300 Amps	
14	Temperature sensor	Vibration resistance: 10dB, Freq: 25-1000Hz Temp:-40-70Deg	
15	Air heater 41 C 201	Air heater for preheating intake air in 8x8 & 6x6 engines	
16	SUBPRESSURE INDICATOR 301-9408.61 60 600 1121 03	Operating Temp: -20-60 deg C. Current:0.2 Amps Volt: 24,2VDC	

Items for Indegenisation

S.no	Description	Specifications of local content	Photograph
17	Indicator (rpm sensor)	Temp: -40-130 deg. speed: 400-2100rpm Resistance: 1000ohms	
18	SWITCH TRW 311 166	Contact Pressure: 600 kPa min, Max. Torque: 50Nm, Load: 28W@12V/24V, Operating temperature: -40°C to +120°C,	
19	LED LAMPS	To be developed through reverse engineering	
20	2-WIRE TEMP. SENDER	Type: ES2T (2 Wire Grounded Sende) Connector Type: Screw Terminals Temperature Range - 150 Deg Mounting Thread: M16x1.5	

Items for Indegenisation

S.no	Description	Specifications of local content	Photograph
21	DISPLAYKIT	Drawing Calls for supplier Part No only PV 780 Display Unit with Standard Software & I/O Module	
22	STARTER SWITCH	1. Rated voltage: 24V 2. Contact resistance between power & load terminals: less than or equal to 0.1 V	
23	BATTERYRELAY	1. Rated voltage: 24V 2. Rated current: 120A continuous; 800A (30 sec)	
24	LINER	As per drawing	




Items for Indegenisation

S.no	Description	Specifications of local content	Photograph
25	CIRCUIT BREAKER	1. Rating: 5-30A, 28VDC 2. Interrupt Rating: 2000A @ 28VDC	
26	HEAD LAMP SWITCH	Current rating of Contacts: 15A.	
27	PISTONRING	NPR 232	
28	NYLOC NUT	Nut - SAE1045/C45 Gasket - Nylon 66 or Nylon 6	


Items for Indegenisation

S.no	Description	Specifications of local content	Photograph
29	FLOATINGSEALASSY	Duronit cast iron	
30	BATTERY CUTOFF SWITCH	As per drawing	
31	GEAR BRG.TBL	42CrMo4 /46CR4N	
32	Water pump Seal-170 series	As per drawing	

Items for Indegenisation

S.no	Description	Specifications of local content	Photograph
33	PANELS FOR DT CAR	FRP Interior Panels shall comply to FST (Flammability, Smoke emission and Toxicity) requirements as per BS6853 Cat 1a/EN 45545 HL3.	
34	INTERIOR & EXTERIOR PANELS FOR DT CAR	FRP Interior Panels shall comply to FST (Flammability, Smoke emission and Toxicity) requirements as per BS6853 Cat 1a/EN 45545 HL3.	
35	WIND SCREEN GLASS	Windscreens in the driving cab shall be constructed of toughened, laminated safety glass, and shall comply with the requirements of UIC 651. The windscreen shall be sufficiently strong to comply with UIC 566, in addition to UIC 651	

Items for Indegenisation

S.no	Description	Specifications of local content	Photograph
36	FLOOR BOARD	<p>The Floor Board shall be either Plymetal or Composite Plymetal Floor Board shall comply to FST (Flammability, Smoke emission and Toxicity) requirements as per Category 1a of fire safety standard BS 6853 / EN 45545 - HL3.</p> <p>Thickness : 18 mm Width : 750 to 1500 mm Length : 3 m</p>	



जाय हिंद