



DMRC

Standardisation & Indigenisation

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Standardisation:

1. MoUD had set up separate Committees in May'12 for achieving Standardisation:
 - a) Fare Collection System
 - b) Metro Railway Operations & Maintenance
 - c) Rolling Stock
 - d) Signaling systems
 - e) Traction and Power Supply System
 - f) Track Structures



Strategy for increased Indigenisation:

1. DMRC as a policy encourages **Quality Indigenisation** in procurement of all major value systems.
2. Suitable mandatory clauses are incorporated in the tender specifications for achieving progressively increased manufacturing of cars and sub-systems in India



Strategy for increased Indigenisation:

1. In the Phase-III Rolling Stock tender (tender 'RS10'), the tender conditions mandates that the Contractor must manufacture more than 75% cars within India by:
 - a) Either setting up their own plant
 - b) Associate with suitable Indian companies
2. Indigenisation of specified items (18), required for maintenance is mandated either by the OEMs directly or through their local partner for minimum 25% of the ordered quantity



Indigenisation - Manufacturing of RS:

1. Notable achievements in manufacturing of modern state of the art Metro RS:
 - a) Phase-I : 220 cars out of 280 cars ('RS1' type-BG) manufactured in BEML, Bangalore
 - b) Phase-II : M/s Bombardier set up a green field plant at Savli, near Vadodara in Gujarat. 570 cars out of 614 cars ('RS2' type-BG) have been manufactured indigenously
 - c) Phase-II : 192 cars out of 196 cars ('RS3' type-SG) have been manufactured in BEML
 - d) Phase-II : 08 cars ('RS1' type-BG) manufactured in BEML
 - e) Phase-II : 136 cars ('RS1' type-BG) manufactured in BEML

Phase-I: 220 cars out of 280 cars Manufactured in India

Phase-II: 914 cars out of 954 cars Manufactured in India



Indigenisation - Manufacturing of RS:

Procurement of Phase-III RS:

- a) 162 cars ('RS2' type-BG) manufactured by BT at Savli
- b) 162 cars ('RS3' type-SG) manufactured at BEML
- c) 366 cars out of 486 cars ('RS10' type-SG) contracted for manufacture in BEML
- d) 96 cars ('RS1' type-BG) contracted for manufacture in BEML

Phase-III: 786 cars out of 906 cars Manufactured in India

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Indigenisation - Manufacturing of RS:

1920 Cars out of 2140 Cars

For DMRC Phase-I, II & III projects

Manufactured in India

in the facilities created at:

BEML (brown field) – 1180 Cars

BT (green field at Savli) – 740 Cars

BT exporting 450 Cars for Queensland from Savli

Alstom exporting 132 Cars for Sydney from Sricity



Indigenisation - Content in value terms:

In the recently placed orders on BEML and BT the indigenisation content in value terms is estimated as:

1. Contract 'RS11' (BT - 162 Cars) : >80%
2. Contract 'RS13' (BEML - 96 Cars) : >80%

**TARGET with progressively increased
indigenisation : 90%**

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Indigenisation – 100% for repeat order of RS:

Type of Stock	Contract	Year of Award	No. of Cars	% Indigenization
RS1	RS1	2001	280	79
RS1	RS4	2008	8	100
RS1	RS6	2011	136	100
RS1	RS13	2015	96	100
RS2	RS2	2007	424	92
RS2	RS5	2010	114	100
RS2	RS7	2011	76	100
RS2	RS11	2015	162	100
RS3	RS3	2007	196	98
RS3	RS9	2013	162	100
RS3	RS8	2011	40	100
RS10	RS10	2013	486	75
KRS1	KRS1	2014	75	100



Indigenisation - Manufacturing of RS:

1. 40 Cars for Jaipur Metro procured directly from BEML
2. 75 Cars for Kochi Metro being procured from Alstom shall be manufactured in their green field facility set up at Sricity near Chennai.
3. 80 Cars for Lucknow Metro being procured from Alstom shall be manufactured in Sricity.

**For Jaipur, Kochi & Lucknow, 100% RS
Manufactured within India**



Indigenisation - Manufacturing of specified items:

1. Melco/Japan has set up green field plant in Bidadi for Propulsion Equipment (Traction Transformer, Converter Inverter, Traction Motors & SIV)
2. Bombardier at Maneja/Vadodara - CI and SIV
3. Faiveley at Hosur - Pantograph, HVAC, Brake parts & Saloon doors
4. Knorr Bremse @ Palwal – Brake parts
(Setting up Door Manufacturing Facility with IFE/Austria)
5. Autometers – Electrical panels & Cab Panels



Indigenisation - Manufacturing of specified items:

6. VOITH & IGW – Gear Drive
7. VOITH – Semi Permanent Coupler
8. DELLNER – Gangway
9. BT, Premier & Metlonics - Bogie Frames
10. AMCO SAFT – NiCd Batteries
11. RANE – Brake blocks
12. SIDWAL & LLOYD – HVAC
13. FAG, SKF & TIMKEN – Axle Bearings



Indigenisation - Manufacturing of specified items:

14.Axle Box

15.Battery Box

16.All types of Glassess

17.VCB by Schneider

18.Large number of fabricated items

19.PA/PIS of RS1 type

20.Luminaires and Lamps



Indigenisation – S&T items:

1. AFC Gates by Thales
2. Smart Cards and Tokens
3. Track Circuits (Alstom – Mainline; Siemens – DepoT)
4. TVM and AVM for Phase-III
5. LED based PIDS Boards (100% in Jaipur & Phase-III)
6. Digital Clocks
7. UPS and Batteries
8. FOTS – almost 80%
9. Point Machine for Depots
10. Junction boxes
11. Cables



Indigenisation – Track Components:

1. Fastening System 336:

- a) 8 out of 11 items of the Track fastening seat are manufactured locally
- b) Only Tension clamps, Elastomeric pad & helical spring imported
- c) Localisation in value terms – 70%

2. Turnouts and Scissor crossover:

- a) Raw switch stock, check rails & specialised fastenings imported
- b) Machining/assembly done in local facilities
- c) Localisation in value terms – 51%



THANK YOU