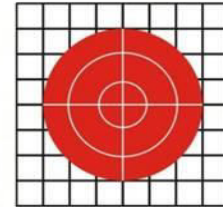


OFB-Industry Partnership For Indigenisation, Innovation & Import Substitution



OFB

Securing Peace



Contents of Presentation



- Overview of Indigenisation / Indigenous Development in OFB
- Indigenous Co-Development for Future Products
- Opportunities in Import Substitution

<https://ofbeproc.gov.in>

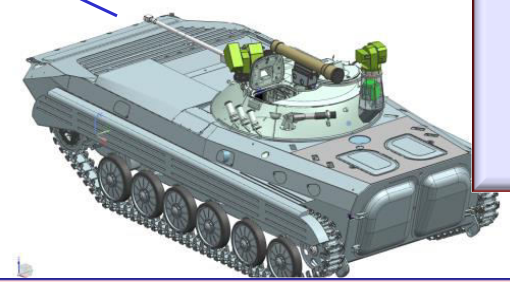
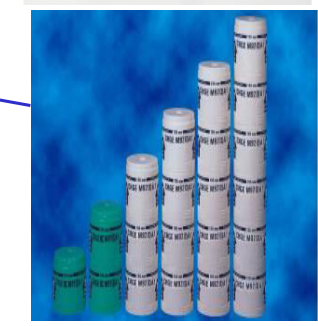
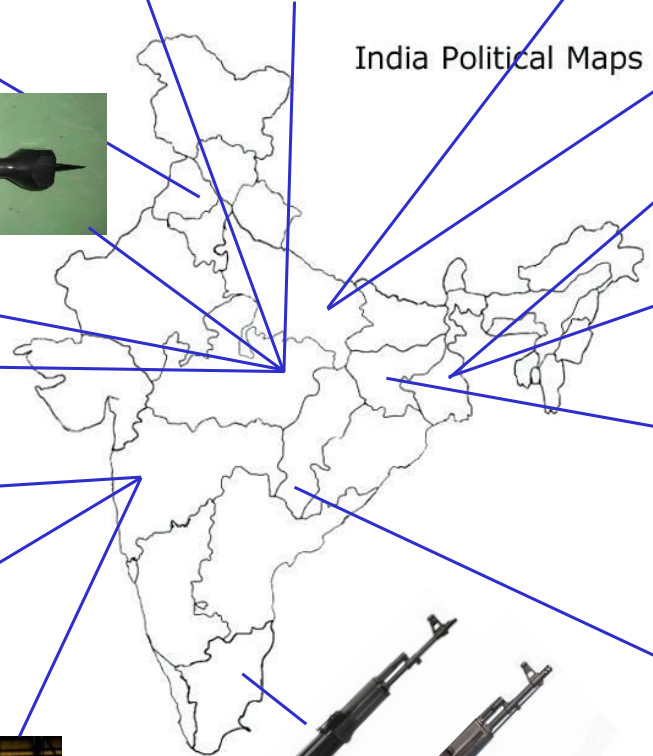
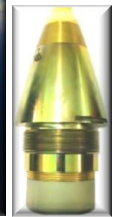
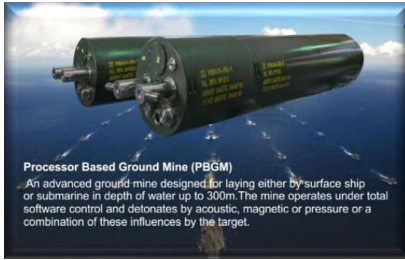
Overview



- **Drivers**
 - 13 ODCs and Design Centres in Ord Fys.
 - Indian Industry
 - Collaborative Research
 - With IITs, NITs, Other Premier Govt Labs and RRCAT
 - For Indigenuous Design
- **Focus areas**
 - New Product Development
 - Import Substitution & Indigenization
 - Product Up-grade/Improvement



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OFB: NATIONAL R&D MAP

Collaborative Research



- **23 Collaborative Projects**
 - 11 completed
 - 12 Ongoing
 - **IIT, Kanpur**
 - **IIT, Madras**
 - **IIT, Kharagpur**
 - **IIT, Bombay**
 - **RRCAT, Indore**
 - **MANIT, Jaipur**
 - **ARAI, Pune**
 - **IIITDM, Jabalpur**
- **For**
 - ❖ **Futuristic Infantry Combat Vehicle (FICV)**
 - IIT, Madras
 - IIT, Kharagpur
 - ❖ **Electronic Fuze**
 - IIT, Bombay
 - ❖ **Air Defence Gun**
 - IIITDM, Jabalpur
 - ❖ **Extreme Cold Weather Clothing System**
 - IIT, Delhi

Indigenisation at OFB

- Present indigenous content – 90.60%
- Items indigenised

| | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|-------------|---------|---------|---------|---------|
| Indigenised | 582 | 567 | 378 | 211 |
| Imported | 24 | 24 | 27 | 41 |

Indigenous Technologies - Successes



- T-90
 - Modified barrel chemistry
 - Ordnance/ Article and Recoil Systems of T-90 Tank
 - Hull, Turret, Transmission & Running Gear, Engine, Track links etc.
- Naval Gun CRN-91 - Indigenous design
- Bi-Modular Charge System M-91 and M-92
- Case bonded rocket motor propellant
- Mine Protected Vehicles
- Indigenisation of design of T-90
 - Turbo Charger & Fuel Injection Pump
 - Power Unit for T-90 tank
- Indigenous Development of two-layer Physical Vapour Deposition on obturation system

Opportunities



- Artillery Gun 155mm x 45 Calibre 'Dhanush'
- Armament upgrade of BMP-II with Missile Firing and Tracking Capability
- Futuristic Infantry Combat Vehicle (FICV)
- Air Defence Gun
- Electronic Fuzes for 155mm Ammunition
- Extreme Cold Weather Clothing System

BMP-II UPGRADE



Up gradation:

- Turret with modern Optronics
 - Video Tracking
 - Fire Control System (FCS)
 - Missile firing through FCS
-
- **Industry support for Phase-II**
 - **Higher power 380hp engine**



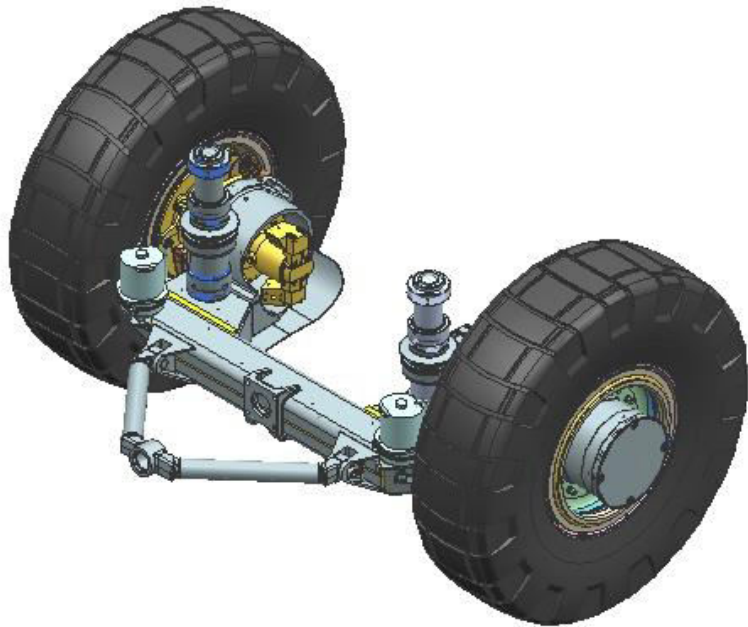
155mm ARTILLERY GUN (DHANUSH)



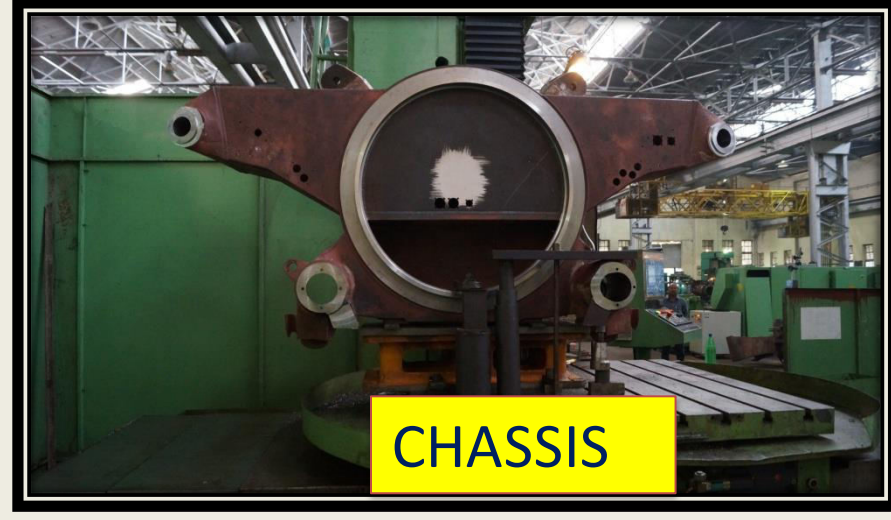
- Indigenously designed and developed
- Support of Industry required for
 - 1087 types of Sub-Assemblies & Components
 - For items of Elevating Mass, Under Carriage, Wheel Carriage etc.



ITEMS OF WHEEL CARRIAGE ASSY - Dhanush



Components - Dhanush



Rammer of Dhanush



RAMMER

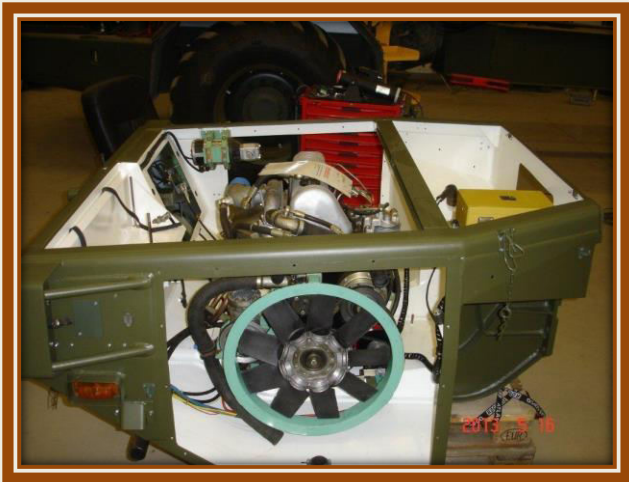
Other items - Dhanush



ELECTRONICS SUITE/
ELECTRICAL SYSTEMS



HYDRAULIC SYSTEM



POWER PLANT



BRAKE SYSTEM

COMMANDER' s THERMAL IMAGERS

- Supply commenced in 2016-17
- Industry support for
 - Power Supply Cards
 - Control PCBs
 - Precision Components
 - High life seals with EMI/ EMC block capability
 - TV Monitor



7.62 x 51mm ASSAULT RIFLE

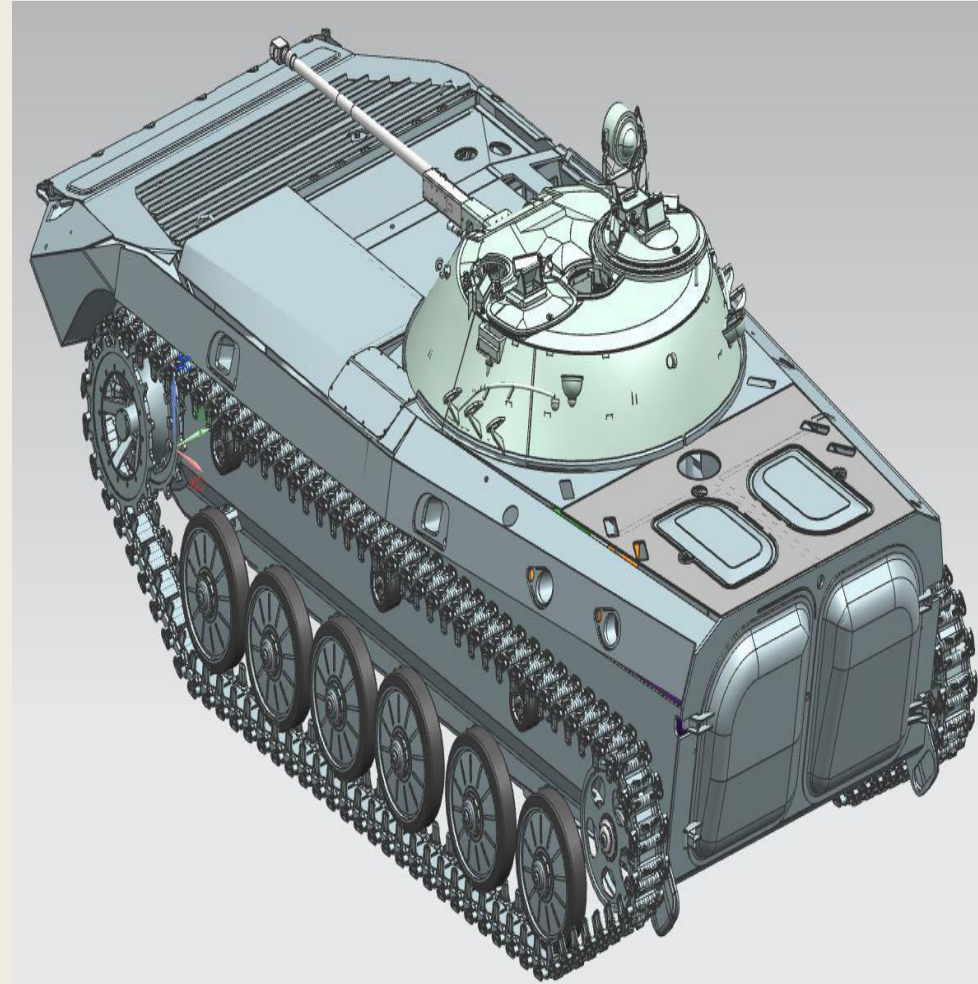


- ◆ Prototype developed
- ◆ Opportunities in
 - Metal Injection Moulding Components – 10 types
 - Composite Engineering Plastic Components
 - Sights – Aiming Aid, Reflex Sight

FUTURISTIC INFANTRY COMBAT VEHICLE



- ◆ Indigenous design completed
- ◆ Industry support required for
 - Driver control dashboard
 - Blast attenuating seats
 - Suspension & running gear items
 - Environment control unit
 - Active Protection system
 - See Through Armour



Import Substitution

Import Substitution



| Sl. | Item | Qty. | Approx Value (Rs. in Cr) | Action |
|-----|--|-------------|-----------------------------|--|
| 1. | Barrel Complete 301139910 in Finish Condition for 84mm RL MK-III | 1777 Nos | 126.69 | Item has been advertised on iDEX Portal as one Challenge for Start-Ups, MSMEs and Indian Developers. |

Import Substitution

| Sl. | Item | Qty. | Approx Value (Rs. in Cr) | Action |
|-----|---|----------------|-----------------------------|---|
| 2. | SCCC (Filled) for 125mm HE & HEAT Ammn. | 42,371 sets | 123.56 | Tender for indigenous development of Imported Pyroxylyene Sheet (PC Sheet) and Chemicals, covering long term requirement for 10 years published. |

Import Substitution

| Sl. | Item | Qty. | Approx Value (Rs. in Cr) | Action |
|-----|--|----------|-----------------------------|--|
| 3. | Unit PKUZ-1A (AED1.570.00 1-01) Specn. No. AED1.570.001 TY1 | 118 Sets | 57.56 | <ul style="list-style-type: none"> • Nuclear and Chemical detector. • Warlier Eol did not succeed. • Defence Lab Jodhpur (DLJ) for indigenous development. • Industry to obtain ToT from DLJ after successful development. |

Import Substitution

| Sl. | Item | Qty. | Approx Value (Rs. in Cr) | Action |
|-----|--|-------------|-----------------------------|---|
| 5 | Fuel Pump HK-12M to Drg No.SB- 327-00-73 | 200 Nos | 45.51 | <ul style="list-style-type: none"> • Item indigenised • New sources are welcome in forthcoming source development tender. |
| 6 | Product Support items Unit BV- 291A43 of T- 90 | 173 Sets | 43.29 | Item is being indigenised with the help of Indian Industry. |

Import Substitution



| Sl. | Item | Qty. | Approx Value (Rs. in Cr) | Action |
|-----|--|----------------|-----------------------------|--|
| 7 | Ballistic Computer BV-1, PBA3.031.033 and BV-2 PBA3.031.034 | 30 Nos Each | 41.58 | <ul style="list-style-type: none">• Previous indigenous development order hasn't been successful so far.• Item is being considered again for inclusion in development tender. |
| 8 | Product Support Items Unit BG-29-4S | 164 Sets | 39.07 | Item is being indigenised with the help of Indian Industry. |

Import Substitution

| Sl. | Item | Qty. | Approx Value (Rs. in Cr) | Action |
|-----|---|-------------|-----------------------------|---|
| 9. | Arming Device Fuse system 551 for 84mm HEAT-551 Ammn. | 21,250 sets | 37.98 | Item is being indigenised with the help of Indian Industry. |
| 10. | Product Support items for Missile Information Block 9S-516, AL5.975.005 | 30 sets | 34.77 | Item is proposed as 2 nd Challenge for development through iDEX Platform (Laser Radiator to be indigenously developed) |

Import Substitution

| Sl. | Item | Qty. | Approx Value (Rs. in Cr) | Action |
|-----|--|---------|--------------------------|--|
| 11. | Product Support items for Stabilising Unit AL-2.564.007 (consisting of 49 items) | 30 sets | 31.52 | <ol style="list-style-type: none"> 1. These three Item are being indigenised with the help of Indian Industry currently. 2. However, these three items will again be offered for indigenous development in next cycle. |
| 12. | Relay Regulator | 108 Nos | 30.97 | |
| 13. | Product Support Items for Block-D | 30 sets | 29.89 | |

Assistance Provided for Indigenisation

- Assistance in
 - PDR, DDR/CDR where design is involved
 - Functional, Environmental and Dynamic trial
 - BPC
 - Samples, drgs and tech assistance given&
 - Process auditing
 - Available test facilities provided
- List of items to be indigenised available on http://www.ofb.gov.in/download/mm/Items_for_indigenization.pdf and http://www.ofb.gov.in/download/mm/RFI_for_Import_subsn.pdf .

जयहिन्द