

भारत डायनामिक्स लिमिटेड
BHARAT DYNAMICS LIMITED

(भारत सरकार का उपक्रम, रक्षा मंत्रालय)
(A Govt. of India Enterprise, Ministry of Defence)



शांति का आधार अस्त्र-बल
THE FORCE BEHIND PEACE

www.bdl-india.in

BHARAT DYNAMICS LIMITED

The Force Behind Peace

VISION

To be a world-class enterprise producing international standard quality products for the Defence industry.

MISSION

To establish itself as a leading manufacturer in the aerospace & underwater weapons industry and emerge as a world class sophisticated, State-of-the-art, global enterprise, providing solutions to the security system needs of the country.

OBJECTIVES

- To become self-reliant and competitive in Guided Missile and Underwater Guided Weapon Technology and Production.
- To maximize utilization of existing production capacities



Bharat Dynamics Limited (BDL) was incorporated on 16 July, 1970 as a Public Sector Undertaking under the Ministry of Defence, Government of India to be the manufacturing base for guided missile systems and allied equipment for the Indian Armed Forces. Over the years, BDL has grown into a multi-product, multi-customer, multi-located enterprise producing defence equipment meeting international quality standards.

BDL deals with the following range of products and services:

- Guided Missiles and associated equipment.
- Underwater Weapon Systems.
- Airborne Weapon Systems.
- Ground Support Equipment.
- Product Life Cycle Support.
- Refurbishment / Life Extension of vintage Missiles.

BDL has three manufacturing units, out of which, two are located at Hyderabad and Bhanur in Telangana and one at Visakhapatnam in Andhra Pradesh. To cater to the growing demands of the Indian Armed Forces, BDL is setting up two additional units, one at Ibrahimpatnam in Telangana and another one at Amravati in Maharashtra.

While fulfilling its basic role as a weapon system manufacturer, BDL has built –up in-house R & D capabilities primarily focussing on Design & Engineering activities. Thrust is being given to explore tie-up with OEMs for new missiles and underwater weapons for potential Transfer of Technology.

Taking cognizance of the rapid strides being made by countries over the globe in utilizing Artificial Intelligence (AI) based technologies for development of Next Generation of weapon systems, BDL has started undertaking development of products for the Armed Forces with AI Technologies with active participation of startup companies.

The Company has forayed into the international market by offering few of its products to friendly countries.

The Company is poised to enter new avenues of manufacturing covering a wide range of weapon systems such as Air-to-Air Missiles, Air-to-Surface Missiles, Air Defence Systems, Underwater Weapons and Mines.

The quest for technological excellence has been the guiding principle of BDL and living up to the sobriquet,

‘THE FORCE BEHIND PEACE’.

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AKASH WEAPON SYSTEM



APPLICATION:

AKASH is a Short Range Surface to Air Missile System to protect vulnerable areas and points from air attacks. Akash Weapon System (AWS) can simultaneously engage Multiple Targets in Group Mode or Autonomous Mode. It has built-in Electronic Counter-Counter Measures (ECCM) features. The entire weapon system has been configured on mobile platforms.



FEATURES:

- Effective range : 3-25 km
- Speed range : 1.8 - 2.5 Mach
- Altitude of operation : 30 m - 20 Km
- Propulsion system : Integral Ramjet Rocket
- Length : 5.87 m
- Diameter : 350 mm
- Weight : 710 kg
- Warhead type : High explosive, pre-fragmented with RF proximity fuse
- Guidance system : Command Guidance Single Shot Kill
- Probability (SSKP) : Better than 88%
- Target types : Helicopters, Fighter AC, UAV etc.
- Each troop is capable of tracking 64 targets in the background and launch 8 missiles against 4 targets simultaneously.
- Fully automatic with quick response time from target detection to kill.
- Open system architecture ensures adaptability to existing and futuristic Air Defence environments.
- High immunity against active and passive jamming.
- Secured mode of communication between combat elements.
- Self-sufficient in electrical power with in-built power sources.
- Road and rail transportable with quick mobilization and deployment capabilities.
- In-built safety features with IFF.



3D Central Acquisition Radar (3D CAR)



Troop Level Radar (TLR)



Combat Command and Control Centre (CCC)



Troop Control Centre (TCC)

ASTRA WEAPON SYSTEM



APPLICATION:

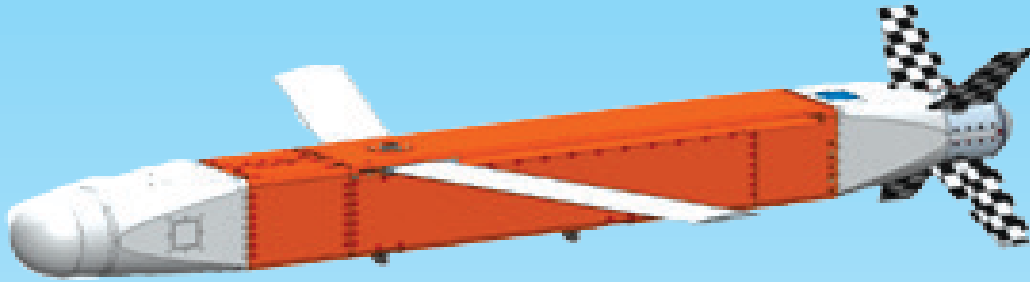
ASTRA is an indigenously developed Air - to - Air Beyond Visual Range missile comprising of Astra Missile and Launcher.

FEATURES:

- Range : 80 -110 km
- Altitude : up to 20 km
- Length : 3840 mm
- Diameter : 178 mm
- Flight Duration : 100 – 120 Sec
- Warhead : HE Pre Fragmented
- Max Speed : Mach 4.5
- Propulsion : Solid Rocket Motor
- Detonation Mechanism : Radar proximity Fuse.
- Guidance : Inertial, mid-course update and terminal active radar homing (13 km)
- Launch platform : Su-30 MKI



SMART ANTI-AIRFIELD WEAPON (SAAW)



APPLICATION:

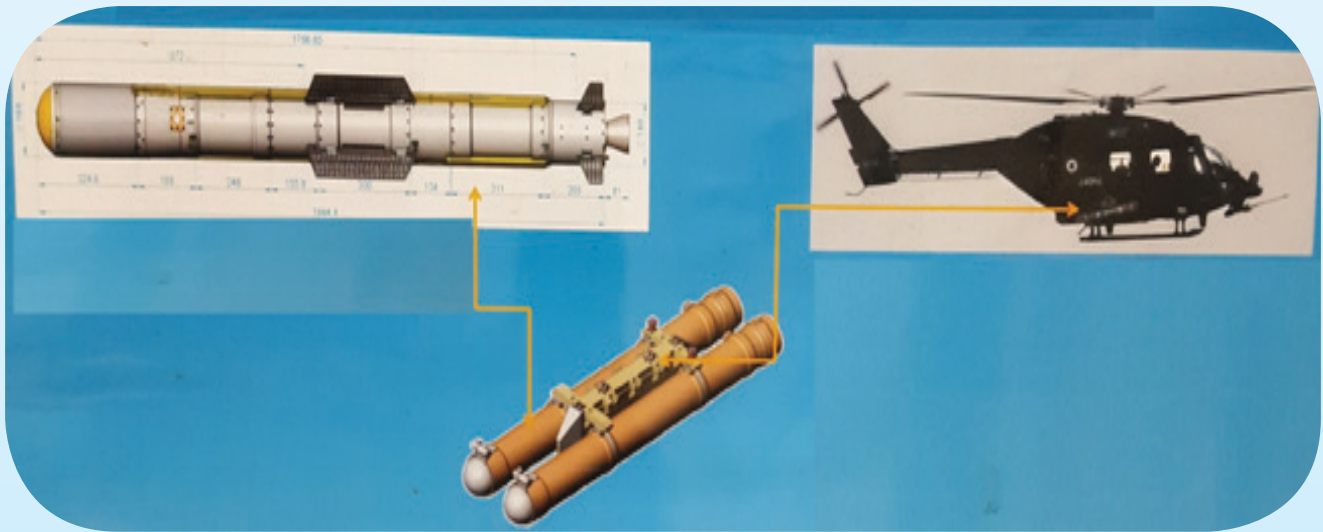
Smart Anti - Air Field Weapon (SAAW) is long range, standoff, precision air-to-surface weapon.

FEATURES

- Capable of engaging ground targets when launched from fighter Aircrafts
- Mass: 125 kg and Length: 1.85 m
- Accuracy < 7m with (IN-GPS) & < 3m with Seeker
- Range : upto 90 - 100 km based on release conditions.



HELINA (DHRUVA STRA)

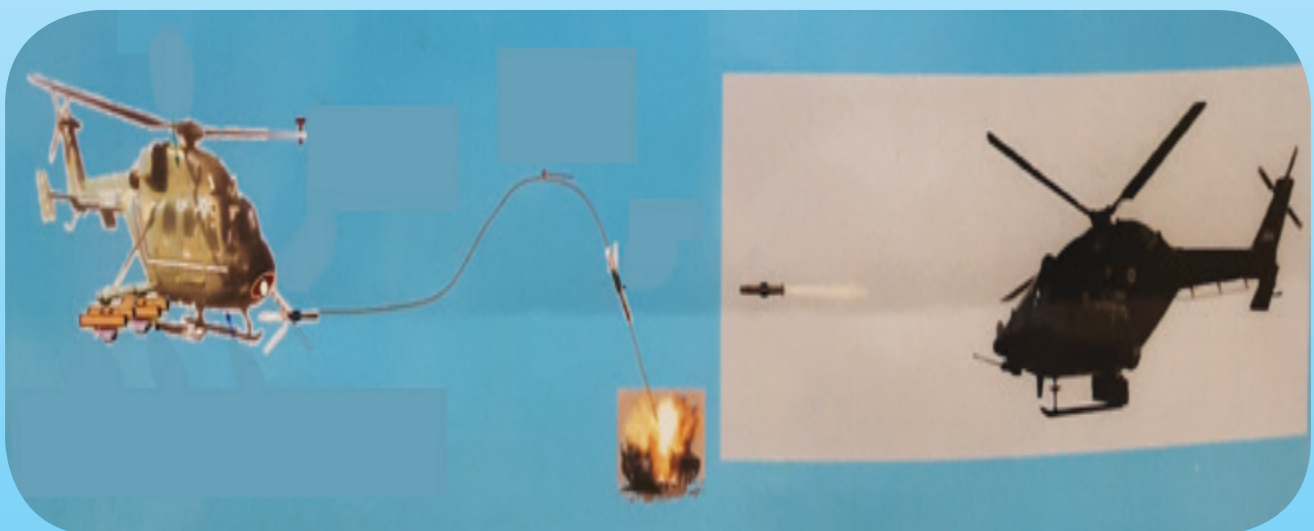


APPLICATION:

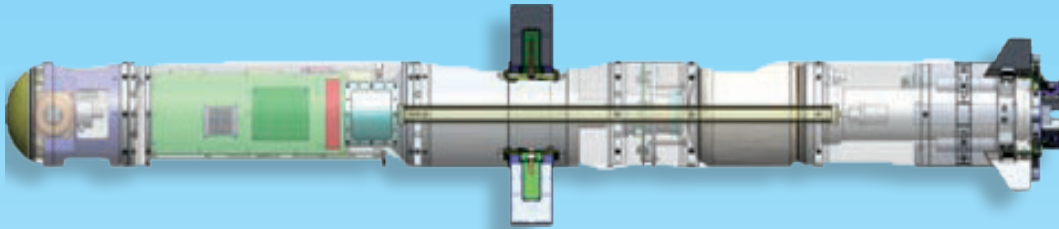
HELINA is an abbreviation for Helicopter launched NAG and is an Air to Surface Missile system. **HELINA** is launched from Advanced Light Helicopter (ALH). The ALH is equipped with 2 Twin launchers, one on either side, carrying a total of 8 missiles. **HELINA** is equipped with High Resolution Imaging Infrared Seeker (IIR) capable of automatic target detection and tracking in adverse weather conditions.

FEATURES

- Range : 500m – Min. and 7000m (Max.)
- Guidance : IIR LOBL
- Attack modes : Top and Direct
- Length : 1946 mm
- Dia : 150 mm
- Weight : 44 Kg.



MAN PORTABLE ATGM



APPLICATION:

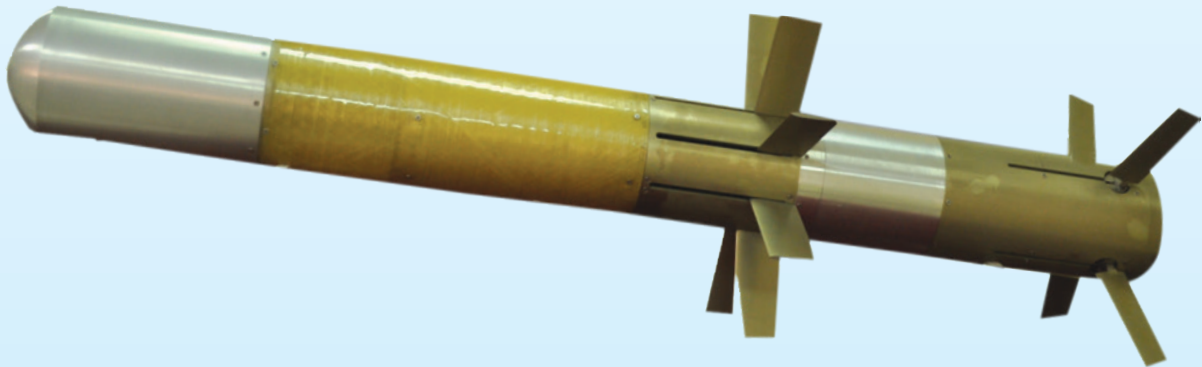
Man Portable Anti - Tank Guided Missile or M PATGM is for infantry and Parachute (Special Forces) of the Indian Army. It is 'Soft' launched from a canister using an Ejection Motor. It uses a state-of-the-art IIR seeker for homing on to the target.

FEATURES:

- Weight of Missile : 14.5 Kgs
- Length : 1340 mm
- Diameter : 120 mm
- Max range : 2500 Mtrs
- Max Flight Time : 17 Secs
- Propulsion : (a) Dual Thrust with Blast tube
(b) Main Motor Ignition >9 Mtrs from gunner
- Guidance : IIR Seeker



AMOGHA – III ATGM



APPLICATION:

Amogha-III is a third generation fire-and-forget Anti-Tank Guided Missile designed and developed by the in-house R&D Division of BDL.

FEATURES

- Range: 200 – 2500 m.
- Attack mode: Top / direct attack.
- Man-portable.
- Tandem warhead with penetration in excess of 650 mm beyond Explosive Reactive Armor (ERA).
- Dual Mode Imaging Infra-Red (IIR) Seeker.
- Aerodynamic and Thrust Vector Control.
- Smokeless, Signature-free Propulsion System.
- Soft launch.
- Command Launch Unit (CLU) with remote operation capability.



NAG ATGM



APPLICATION:

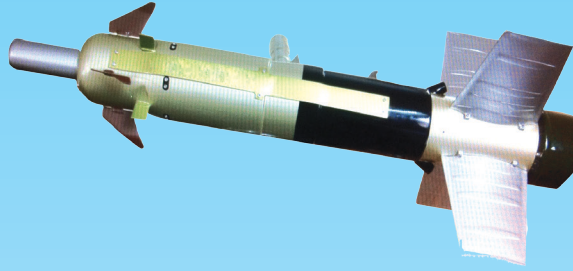
NAG is a third generation Anti-Tank Guided Missile with Fire and Forget top attack capability..

FEATURES:

- Length : 1832 mm
- Diameter : 150 mm
- Guidance : Passive Homing through IIR Seeker
- Control : Aerodynamic Tail Fin Control
- Warhead : Tandem
- Max Range : 4000 metres
- Min Range : 500 meters
- Missile Speed : 220 - 230 m / sec
- All Up Weight : 42 Kg
- Deployment : Namica & ALH
- Operation : Day & Night



KONKURS – M ATGM



APPLICATION:

- **KONKURS-M** is a Second Generation, mechanized infantry ATGM, to destroy armored vehicle equipped with Explosive Reactive Armour, moving and stationary targets.

FEATURES:

- Can defeat armoured targets fitted with ERA
- Can be launched either from BMP-II or from ground launcher
- Equipped with tandem warhead
- High hit and kill probability.
- Length : 1260mm
- Caliber : 135mm
- Range : 4000m
- Flight time : 19 s
- Armour Penetration : 800 mm behind ERA
- Weight : 16.5 kg

MILAN - 2T ATGM



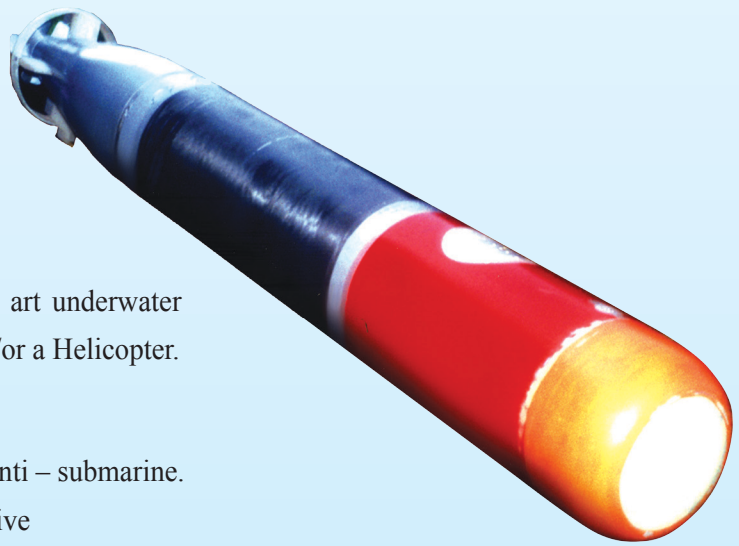
APPLICATION:

MILAN - 2T is a man portable (Infantry) second generation ATGM, to destroy Tanks fitted with Explosive Reactive Armour, moving and stationary targets.

FEATURES:

- Highly Reliable
- Require No maintenance / No Pre-fire checks
- Light weight
- Fiber Glass logistic container for transportation of 4 missiles
- Man portable
- Ground Launcher
- Caliber : 115 mm
- Length : 1123 mm
- Weight : 7.1 kg

LIGHT WEIGHT TORPEDO (TAL-XP)



APPLICATION:

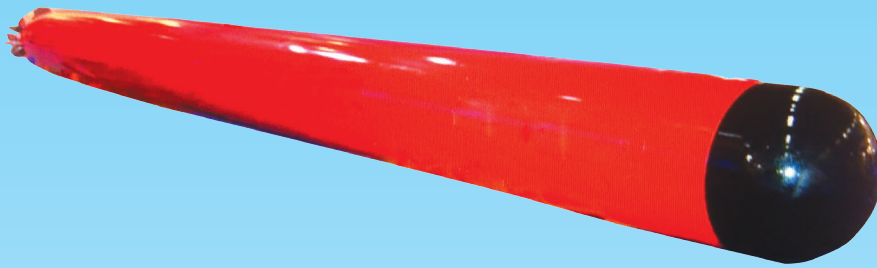
LIGHT WEIGHT TORPEDO is a state-of - art underwater weapon which can be launched from a ship and/or a Helicopter.

FEATURES

- Role : Light weight anti – submarine.
- Homing : Active & Passive
- Control : Rudders
- Power Source : Seawater activated battery
- Thrust : By means of contra Rotating Propulsion motor.
- Operating Depth : 10 m – 450 m
- Maximum Speed : 33 Knots
- Endurance : 6 Min (minimum)
- Range : 6 km (minimum)
- Weight : 220 + 5 kg (Warhead version)/197 kg (Exercise version)
- Explosive : 44 Kg
- Dia : 324 mm +1 mm
- Length : 2750 + 5 mm



HEAVY WEIGHT TORPEDO (VARUNASTRA)

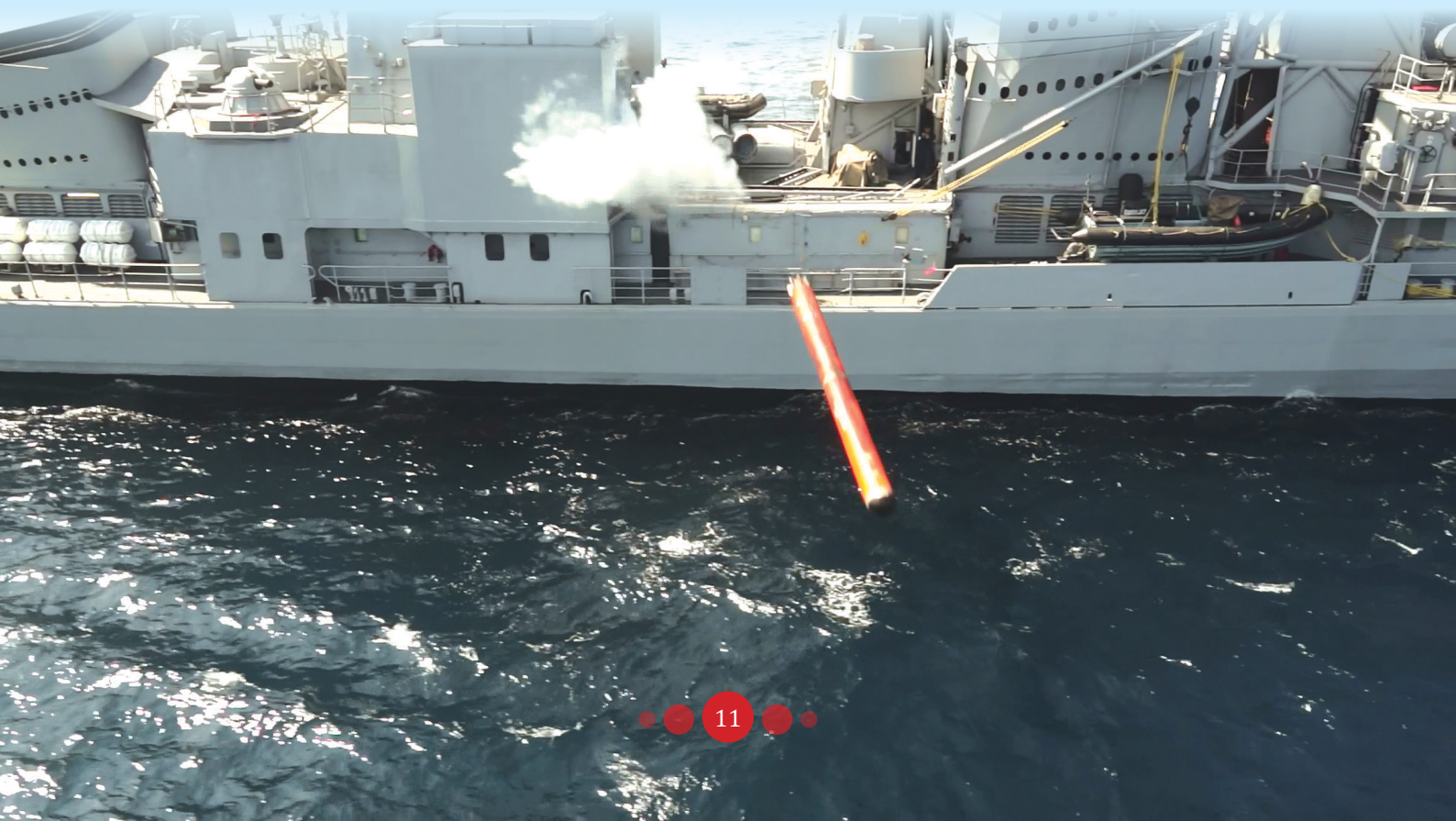


APPLICATION:

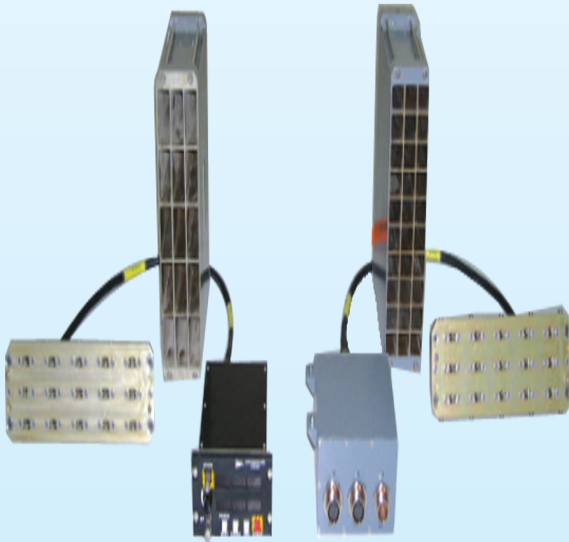
VARUNASTRA is an advanced state-of-the-art, ship launched heavy weight, anti-submarine Torpedo capable of targeting submarines operating in shallow / deep waters.

FEATURES:

- Length : 7.780 m
- Diameter : 533.4 mm
- Speed : 27 & 40 knots
- Operating depth : 8 to 600 m
- Propulsion : contrarotating propellers
- Weight of the torpedo : 1605 $\pm$ 10 kgs(exercise version)
: 1850 $\pm$ 10 kgs(combat version)
- Long range with multi maneuvering capabilities.
- Acoustic homing with wide look angle capable of tracking silent targets.
- ACCM features and multiple signal tracking system.
- Autonomous advanced guidance algorithms.
- Low drift navigational systems over long endurance.



COUNTER MEASURES DISPENSING SYSTEM (CMDS)



FEATURES

- Auto / Semi auto mode firing of flare and/or chaff payloads.
- Stand – alone CMDS / Operation through EW Suite or MFD
- Mixed payload Dispensers
- Direction specific Dispensation of Payloads based on the PFM or by EW Suite
- PFM Data loading through Various methods as per users choice (through MIL 1553 or Directly through PDA/DFL)
- Any combination of payloads can be fired at any interval in any direction from any Magazine
- Programmable critical quantity
- NVG compatible display
- User friendly firing program data base generation and programming software
- MIL STD 1553 B / RS-422 full duplex communication for external interface with EW Suite.
- Doubling of flares firing during “After Burner” stage.
- Simultaneous firing of payloads
- Training mode
- Stopping of currently executed firing program
- No direction specific loading of payloads

APPLICATION:

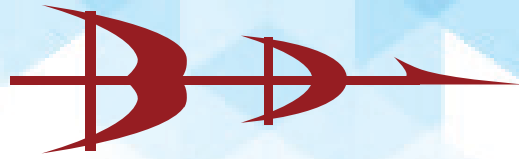
COUNTER MEASURES DISPENSING SYSTEM (CMDS) is a state of the art Flare and Chaff Dispensing System. CMDS is an airborne defensive system providing self-protection to the aircraft against Radar guided & IR seeking missiles by dispensing Chaffs and Flares.

Anti - Submarine Warfare Suite (ASW Suite)

APPLICATION:

BDL is capable of integrating and supplying **Anti - Submarine Warfare Suite (ASW Suite)** equipped with systems like Torpedoes, Torpedo Defence System including fire control system. Integration can be customized as per user requirement





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Bhanur Unit



Visakhapatnam Unit



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