

Harobanx Industries Pvt Ltd.

AVANT GARDE OF TECHNOLOGY



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Harobanx Industries Pvt Ltd.

AVANT GARDE OF TECHNOLOGY

We are a design, development and manufacturing company with highly skilled manpower and specialized infrastructure for products of modern era warfare. Every day, our more than 400 employees come to work with focus on meeting customers' requirement in a befitting manner. We offer products with precision strike capability coping with variety of combat requirements, integrated with our steadfast commitment and resolve to achieve customers' satisfaction.

Our business model includes active engagement with renowned defense and commercial partners to synergize our strengths for provision of military warfare products of future, and bring state-of-the-art cutting-edge technology to the competitive defense market. The company has a modern facility furnished with high end manufacturing machinery and equipment that provides extensive capabilities ranging from parts manufacturing to end product assembly, environmental testing, and field trials prior to delivery.

Harobanx product line is short to medium range precision guided missiles deployable on multiple types of launch platforms (aerial, land, sea) and capable of engaging variety of targets depending upon battle filed requirements. We provide seamless life cycle support and services in order to maintain combat worthiness of customers' arsenal equipped with our products. Harobanx continuously develops, adapts and banks upon modern era technology to fulfil customers' evolving needs.

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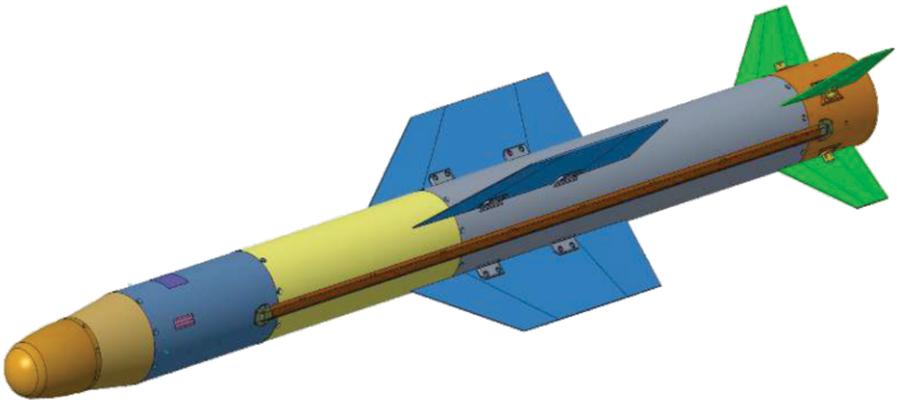
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AVANT GARDE OF TECHNOLOGY

ANTI UAV PRECISION GUIDED MISSILE

ZARB



| | |
|-------------------------|---|
| Target Type | UAV |
| Mass | ~ 66Kg(with SAL Seeker) ~68Kg(with MMW Radar Seeker) |
| Max Range | 10Km inclined distance at 5Km relative altitude |
| Max Target Speed | 240Km/h |
| Guidance Type | INS / GNSS + SAL / MMW |
| Hit Probability | ≥75% |
| Propulsion | Solid Rocket Motor |
| Warhead | 16.2Kg Blast Fragmentation / Penetration |
| Launch Platform | Ground Launch Vehicle |

- High precision, low cost
- Adaptable to real battlefield environment
- MMW radar seeker enables 'fire and forget' mission

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AVANT GARDE OF TECHNOLOGY

MULTI-PURPOSE PRECISION GUIDED MISSILE

AAHAN



| | |
|------------------------|---|
| Target Type | Personnel, Light armored vehicle, Runway, Radar station, Fortified building |
| Mass | ~ 75Kg |
| Dimension (Length/Dia) | 2120 mm / 160 mm |
| Max Range | 35Km(UAV) / 16Km(vehicle) |
| Guidance Type | INS / GNSS + SAL / MMW seeker |
| Hit Probability | ≥ 90% |
| CEP | < 1m |
| Propulsion | Solid Rocket Motor |
| Warhead | 35.6Kg Blast Fragmentation / Penetration |
| Launch Platform | UAV Launch / Ground Launch Vehicle |

- High precision, low cost
- Adaptable to real battlefield environment
- Capable of engaging moving targets
- MMW radar seeker enables 'fire and forget' mission

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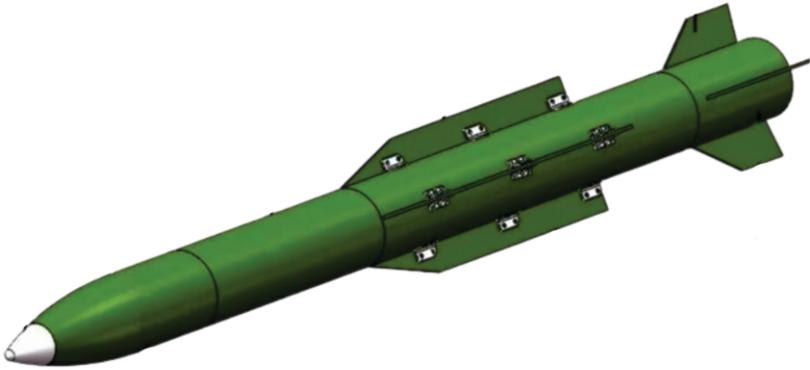


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AVANT GARDE OF TECHNOLOGY

SURFACE TO SURFACE GUIDED MISSILE

ORHAN



| | |
|-------------------------------|--|
| Target Type | Personnel, Armored vehicle, Fortified buildings, Runway, Radar station |
| Mass | ~ 320Kg |
| Dimension (Length/Dia) | 3500mm / 252mm |
| Max Range | 80Km |
| Guidance Type | (INS + GNSS) + SAL seeker (Optional) |
| CEP | < 25m (INS + GNSS), < 3.5m with SAL seeker |
| Propulsion | Solid Rocket Motor |
| Warhead | 70Kg Blast Fragmentation / Unitary Blast |
| Launch Type | Vehicle Launch |

- High precision, low cost
- Potent warhead to neutralize bigger targets
- Adaptable to real battlefield environment

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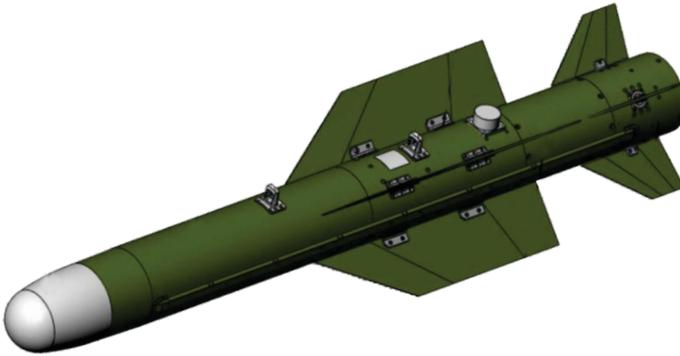


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AIR TO GROUND PRECISION GUIDED MISSILE

HASSAM - 20



| | |
|-------------------------------|---|
| Target Type | Personnel, Armored vehicle, Fortified building, Marine vessel |
| Mass | ~ 50Kg |
| Dimension (Length/Dia) | 1610 mm / 160 mm |
| Max Range | 20Km(stationary target) / 16Km(moving target) (launch height 7km) |
| Guidance Type | INS / GNSS + SAL seeker / MMW radar |
| Hit Probability | ≥90% |
| CEP | < 1m |
| Propulsion | Solid Rocket Motor |
| Warhead | 28Kg Blast Fragmentation / Penetration 10Kg Blast Fragmentation / Tandem |
| Launch Platform | UAV / Helicopter |

- High precision, low cost
- Adaptable to real battlefield environment
- Can be used as anti tank guided missile with tandem warhead
- MMW seeker enables 'fire and forget' mission

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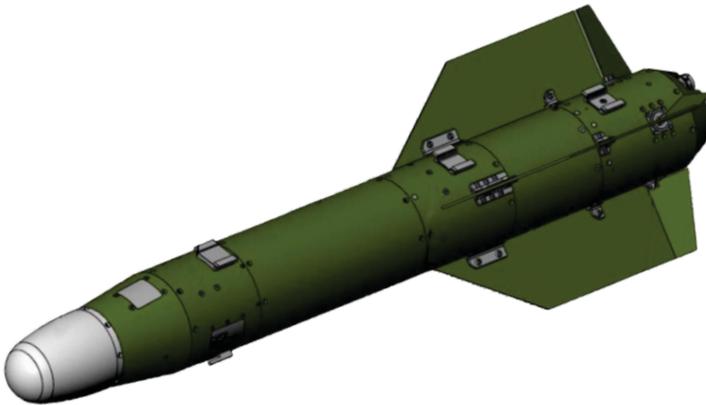


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AIR TO GROUND PRECISION GUIDED MISSILE

HASSAM - 15



| | |
|------------------------|---|
| Target Type | Personnel, Light armored vehicle, Building, Marine vessel |
| Mass | ~ 25Kg |
| Dimension (Length/Dia) | 1305 mm / 160 mm |
| Max Range | 15Km (launch height 7Km) |
| Guidance Type | INS / GNSS + SAL seeker / MMW radar |
| Hit Probability | ≥90% |
| CEP | < 1m |
| Propulsion | Solid Rocket Motor |
| Warhead | 7.5Kg Blast Fragmentation / Penetration |
| Launch Platform | UAV |

- High precision, low cost
- Adaptable to real battlefield environment
- Capable of engaging moving targets
- MMW seeker enables 'fire and forget' mission

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AVANT GARDE OF TECHNOLOGY

AIR TO GROUND PRECISION GUIDED MISSILE

HASSAM - 10



| | |
|------------------------|---|
| Target Type | Personnel, Light armored vehicle, Building, Marine vessel |
| Mass | ~ 10Kg |
| Dimension (Length/Dia) | 1045 mm / 100 mm |
| Max Range | 10Km (launch height 7Km) |
| Guidance Type | INS / GNSS + SAL seeker / MMW radar |
| Hit Probability | ≥90% |
| CEP | < 1m |
| Propulsion | Solid Rocket Motor |
| Warhead | 5Kg Blast Fragmentation / Penetration |
| Launch Platform | UAV |

- High precision, low cost
- Adaptable to real battlefield environment
- Capable of engaging moving targets
- MMW seeker enables 'fire and forget' mission

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AIR TO GROUND PRECISION GUIDED BOMB

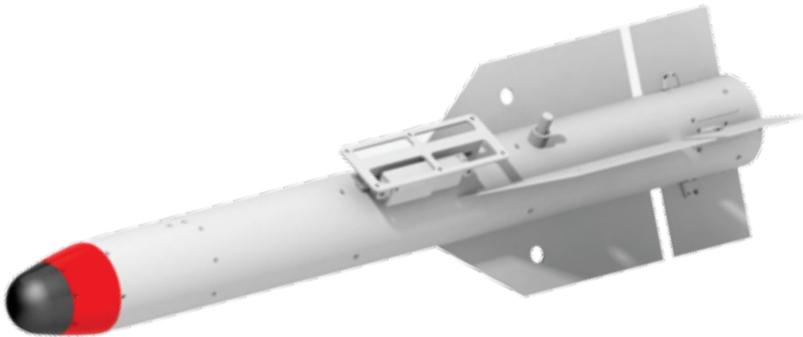
Joint Production Partners



VISTEC

VISION TECHNOLOGIES

SKYARROW - I



| | |
|------------------------|--|
| Target Type | Personnel, Light armored vehicle, Building |
| Mass | ~ 3.3Kg |
| Dimension (Length/Dia) | 700mm / 70mm |
| Max. Range | 1Km |
| Guidance Type | INS / GNSS + SAL seeker |
| CEP | ≤ 1m |
| Warhead | Penetration / Blast Fragmentation |
| Launch Platform | UAV |

- Joint Production of Harobanx Industries & Vision Technologies
- High precision, low cost
- Adaptable to real battlefield environment
- Capable of engaging moving targets
- Warhead with proximity / impact fuze

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AIR TO GROUND PRECISION GUIDED BOMB

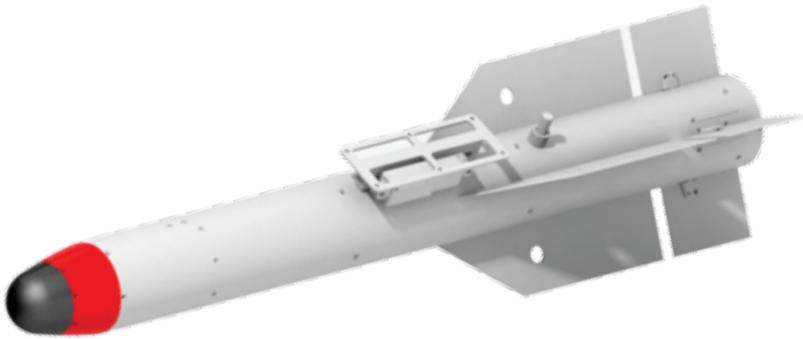
Joint Production Partners



VISTEC

VISION TECHNOLOGIES

SKYARROW - II



| | |
|-------------------------------|--|
| Target Type | Personnel, Light armored vehicle, Building |
| Mass | ~ 7Kg |
| Dimension (Length/Dia) | 900mm / 80mm |
| Max. Range | 1.5Km |
| Guidance Type | INS / GNSS + SAL seeker |
| CEP | ≤ 1m |
| Warhead | Penetration / Blast Fragmentation |
| Launch Platform | UAV |

- Joint Production of Harobanx Industries & Vision Technologies
- High precision, low cost
- Adaptable to real battlefield environment
- Capable of engaging moving targets
- Warhead with proximity / impact fuze

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AIR TO GROUND PRECISION GUIDED BOMB

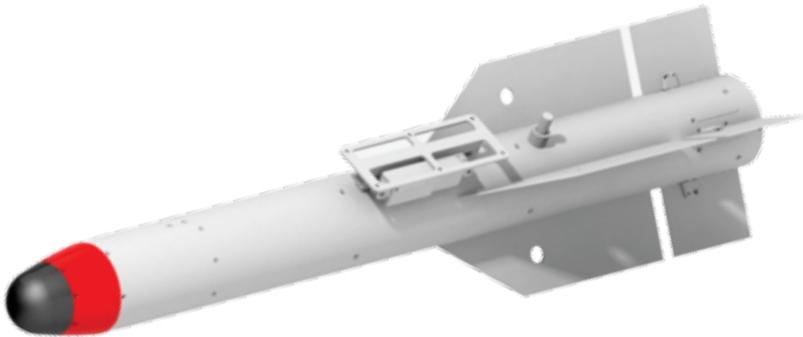
Joint Production Partners



VISTEC

VISION TECHNOLOGIES

SKYARROW - III



| | |
|-------------------------------|--|
| Target Type | Personnel, Light armored vehicle, Building |
| Mass | ~ 10Kg |
| Dimension (Length/Dia) | 1000mm / 90mm |
| Max. Range | 2Km |
| Guidance Type | INS / GNSS + SAL seeker |
| CEP | ≤ 1m |
| Warhead | Penetration / Blast Fragmentation |
| Launch Platform | UAV |

- Joint Production of Harobanx Industries & Vision Technologies
- High precision, low cost
- Adaptable to real battlefield environment
- Capable of engaging moving targets
- Warhead with proximity / impact fuze

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UNMANNED BOAT ATTACKING SYSTEM

PIRANHA

Function

- Intelligence surveillance and reconnaissance
- Protect and patrol around harbor, reefs etc...
- Rapid response against potential threats
- Anti-terrorism, repel enemy battleship
- Protect / communicate with main battleship
- Max cruising range 800Km

Specifications

| | |
|-----------------------|---|
| Length | 12.7m |
| Tonnage | 13t |
| Payload | 3000kg |
| Max Speed | <42kn |
| Endurance | <14h |
| Communication | Satellite data link, short wave |
| Reconnaissance | Radar |
| Missile weapon system | 6 x Canisterized Missiles Range: 2Km - 18Km Warhead: 35Kg Blast fragmentation / Penetration |



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PRECISION GUIDANCE AND CONTROL KITS

AMEED

Suitable for:

**120MM, 100MM, 81 / 82MM
MORTARS**

**122MM, 152MM, 155MM
HOWITZERS**

122MM UNGUIDED ROCKET



| | |
|----------------------------------|---|
| Mass | ~5Kg |
| Axial overload | ≤ 10000g |
| Angular velocity range | Roll ≥ 3600°/s, Pitch & Yaw ≥ 1000°/s |
| Hit Precision | CEP 30m(INS guidance) CEP 10M(INS + GNSS guidance) CEP 1m(INS + GNSS + terminal guidance) |
| Operating temperature | -40°C~+60°C |
| Wind speed at launch site | Ground wind < 8m/s |

- Integrated
 - Navigation, guidance and control
 - Data acquisition and processing
 - Actuator and servo control
- High overload resistance
- Miniaturized, lightweight, low cost

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Automatic Azimuth Determination System

PAC-1V | PAC-1T

This system has capability of true heading determination and satellite navigation (optional). It covers applications, which require accuracy, reliability, a flexible interface and easy usage. It also ensures shoot-and-scout capability for weapon system. Device can be integrated with any third party fire control system of a weapon.



Main Features

- Vehicle Mount / Tripod options
- All Weather Operation
- Autonomous
- Self-Contained
- Stand-alone system
- Powered by Veh Battery
- Short Operation Time
- GNSS Navigation (optional)

Technical Specifications

True North Determination

- Accuracy: ≤ 1 mil

Operation Time

- Time: 3~7 min

Measurement Range

- $0^\circ \sim 360^\circ$

Applications

Laying / Aiming and Positioning:

- MLRS
- Arty Gun, Radar and GCS

Note: Above parameters can be customized as per user requirement.



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MANPADS IR SAM Training Simulator

Overview

An effective and realistic battlefield training Simulator for IR SAM launch crew by utilizing simulated missile launcher and Virtual Reality technology for depiction of aerial targets and scenarios. Missile launch training in a safe and risk free environment enhances trainee's confidence before operating the actual missile launcher in the field/operation area.

Features

- Realistic 3D aerial battlefield environment with extreme realism in training through state of the art Virtual Reality technology.
- Exact replica of actual missile launcher for its simulated operations with wireless data acquisition
- Instructor console with complete control and flexibility for exercise generation & performance monitoring.
- Preset beginner, intermediate and advanced level exercises.
- Customizable scenarios using weather conditions, exercise time, deployment of 3D aerial targets (enemy Aircrafts and Helicopters) and attack formations/ profiles
- Simulated acoustics for realistic training
- Logging of trainees' actions for post analysis and debriefing.



Specifications

| | |
|-----------------------|--|
| Operating Environment | Virtual Reality Environment |
| Controls | Replica of actual launchers with simulated responses |
| Capacity | 2 x shooters at a time |

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Tank Firing Simulator

Overview

Tank firing simulators are used by Army for the training of their gunners. These simulators are developed by using industrial grade DAQ system and software with advanced training features. These simulators provide realistic firing practice in simulated 3D battlefield environment to equip the trainee with requisite tactics and assume high value in view of conservation of actual equipment and ammunition.

Features

- Realistic 3D battlefield environment for trainee through customizable scenarios based on various weather conditions, Ammunition types, Artillery Area, static and moving targets including tanks, soldiers and military vehicles.
- Real time electronic monitoring of all controls via Instructor Console along with recording and playback facility
- Electronic logging of trainees' actions
- Induction of faults and emergencies to analyze trainee's response
- Preset basic, intermediate and advanced level exercises
- Performance record and graphical analysis of trainees' performance
- Simulated acoustics for realistic training
- Industrial grade Data Acquisition System



Inner View of Gunner Cabin



Instructor Console

Specifications

| | |
|------------------|--|
| Type of Platform | Moving platform for gunner seat |
| Controls | Replica of actual controls with simulated response |
| Capacity | 1 x trainee |
| Backup Power | UPS |

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Diving Simulator for Submarine

Overview

Diving Simulator for submarine is real time simulator for offshore training of the crew. It simulates Diving, Snorkling and Surfacing exercises through reproduction of trim movement upto ± 45 degree with variable speed encountered onboard. This system simulates the operations of Diving Safety Panel, Steering Station, Air Circuits, Hydraulics and other auxiliary assemblies of Diving Control Room.

Features

- Risk free and efficient off shore training of the crew
- Instructor console to manage and monitor the training sessions
- Electronic log of entire training session for performance evaluation
- Simulation of various emergency situations like fire, flooding, and equipment failure
- Preset basic, intermediate and advanced level exercises
- Acoustic simulation for realistic training
- Performance record and graphical analysis of trainees' performance
- Industrial grade data acquisition system



Inner View of Diving Cabin



Instructor Console and Diving Cabin

Specifications

| | |
|------------------|---|
| Type of Platform | Hydraulic |
| Trim Movement | $\pm 45^\circ$ |
| Speed | 9 arc minutes/sec to 9 degree/sec |
| Controls | Replica of actual controls with simulated responses |
| Capacity | 10 x Trainees |
| Backup Power | UPS |

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Propulsion Simulator for Submarine

Overview

Propulsion Simulator for submarine, is a real time simulator for offshore training of Propulsion Control Room crew. It simulates the operations of Propulsion Control Panel, Main AC Switch Board Panel, Main Motor local control and Cruising Motor local control.

Features

- Risk free and efficient off shore training of the crew
- Instructor console to manage and monitor the training sessions
- Electronic log of entire training session for performance evaluation
- Simulation of various emergency situations like fire, flooding, and equipment failure
- Preset basic, intermediate and advanced level exercises
- Simulated acoustics for realistic training
- Performance record and graphical analysis of trainees' performance
- Industrial grade Data Acquisition System



*A View of
Propulsion Simulator*



Instructor Console

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