

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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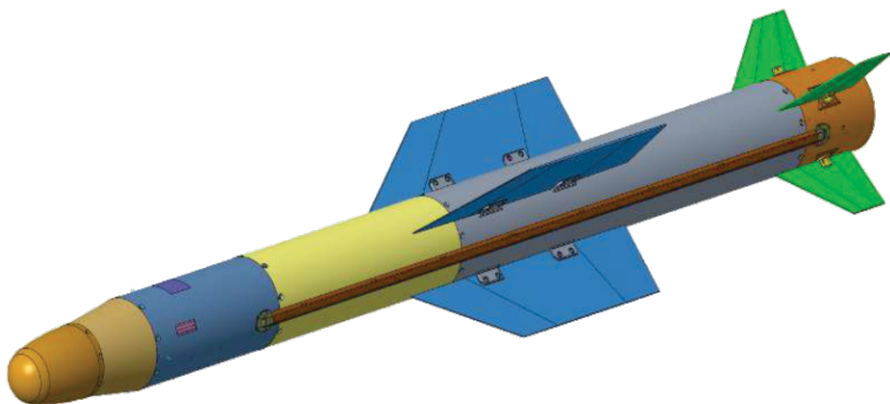
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AVANT GARDE OF TECHNOLOGY

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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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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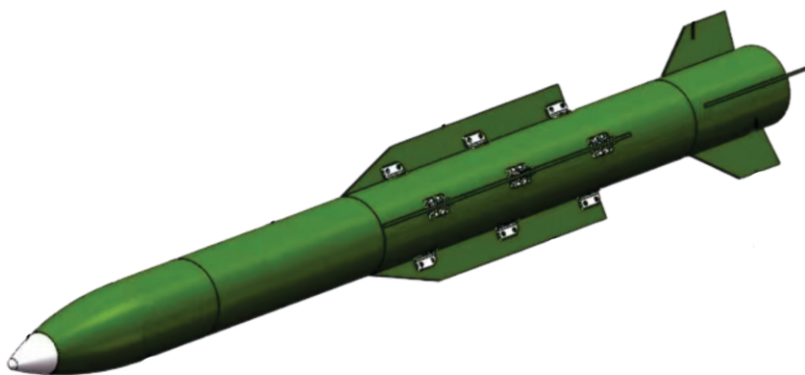
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SURFACE TO SURFACE GUIDED MISSILE

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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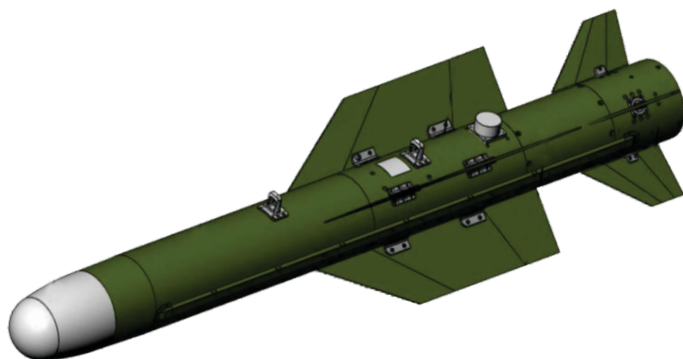


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AVANT GARDE OF TECHNOLOGY

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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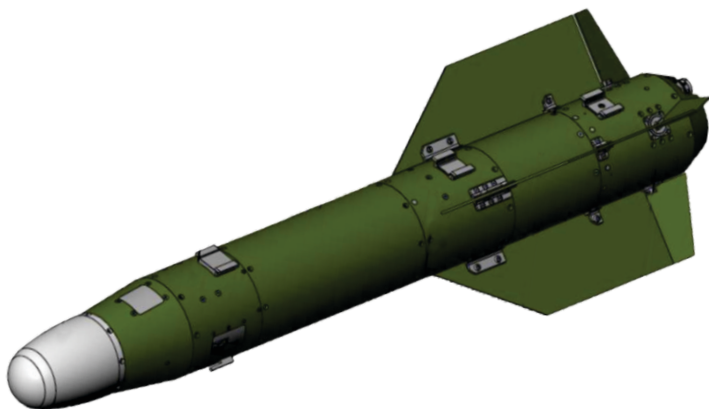
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AIR TO GROUND PRECISION GUIDED MISSILE

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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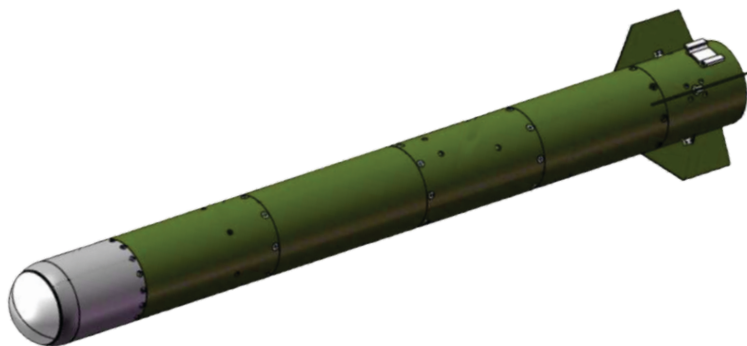
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AVANT GARDE OF TECHNOLOGY

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

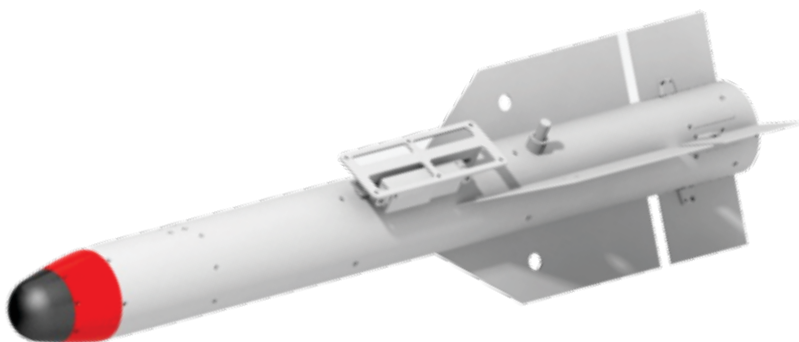
Joint Production Partners



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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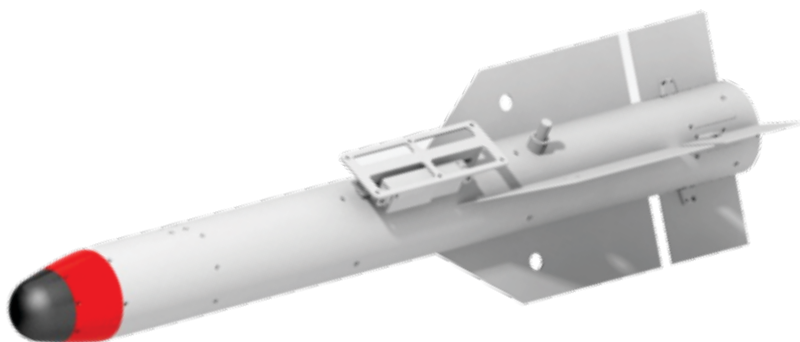
Joint Production Partners



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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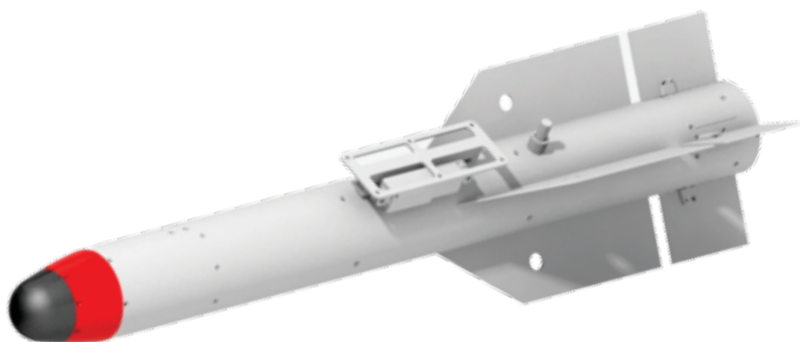
Joint Production Partners



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	$\leq 10000g$
Angular velocity range	Roll $\geq 3600^\circ/s$, Pitch & Yaw $\geq 1000^\circ/s$
Hit Precision	CEP 30m(INS guidance) CEP 10M(INS + GNSS guidance) CEP 1m(INS + GNSS + terminal guidance)
Operating temperature	$-40^\circ C \sim +60^\circ C$
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



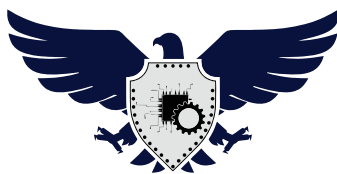
*A View of
Propulsion Simulator*



Instructor Console

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