GLOBAL INDUSTRIAL & DEFENCE SOLUTIONS PAKISTAN

EMPOWERING DEFENDERS


GIDS
Empowering Defenders

COMPANY PROFILE

Global Industrial & Defence Solutions (GIDS) is Pakistan's premier state-owned defence conglomerate represents the country's largest defence manufacturing units and hub of core R&D activities by offering products for multifaceted military applications. By means of offering high-tech defence systems to the international clients – GIDS has emerged as a reliable defence supplier in an ever-changing competitive industry.

We have a wide-ranging product portfolio for current & future defence requirements of our clients. The product portfolio comprises of an extensive range of systems in the domains of Air, Land, Sea, and NBC Defence & Security.

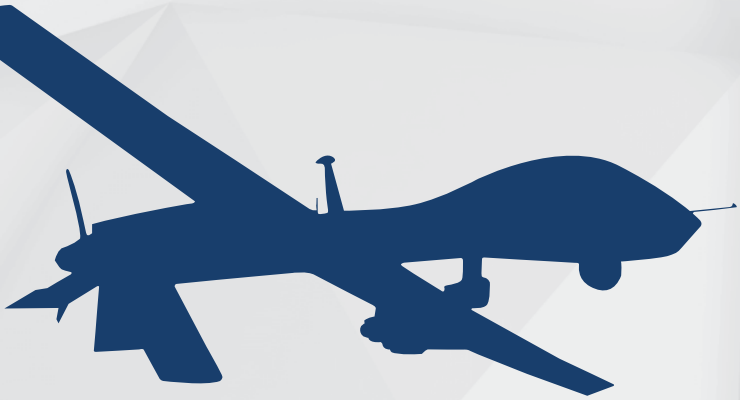
Technology and innovation are the keystones of GIDS success and competitive edge. GIDS companies invest a huge amount in R & D activities making us the leading Pakistani investor in hi-tech sectors. We lay great emphasis on training and development of our human resource.

Our strength is our ability to offer quality with reliable and long-term relationship to our clients.

INTEGRATED SYSTEMS

NBC DEFENCE

SECURITY & RIOT PROTECTION



UNMANNED AERIAL VEHICLES

SHAHPAR III – GROUP 4+
MALE UCAV

The Shahpar-III is a Medium Altitude Long Endurance (MALE) Unmanned Combat Aerial Vehicle (UCAV) designed to deliver superior performance in surveillance, reconnaissance, and combat missions. Shahpar-III is a testament to GIDS' commitment to innovation and excellence in defense technology. Its combination of advanced features, robust design, and versatile capabilities makes it an indispensable tool for modern military operations.

Features

- Armed capability (06 wing hard points)
- Molded high Strength Composite Structure
- Retractable Landing Gears
- Satellite Link (SATCOM)
- ATC transponder / IFF
- Indigenously developed Avionics Systems
- Dual redundant Flight Control Computer, Power Management System, Engine Control Computer, Payload Management Computer, Data links, Control Servos
- Multiple Payload Carriage: EO / IR, SAR, COMINT / ELINT
- Image based accurate Geo Referencing
- Live and post flight video processing for AI based target detection and identification
- Group 4+ category UCAV

Specifications

Data link Range	250 + km (LoS) 2500 + km (BLoS)
Wing Span	64ft
Max Ceiling	30000 Ft (ISR) 28000 Ft (Armed)
Endurance	30 Hrs (ISR) 16 Hrs (Armed)
Internal Payload	165 kgs (ISR) 75 kgs (Armed)
External Payload	400 Kgs (06 x Hard points)
Max Take-off Weight	1600 Kgs

SHAHPAR-II BLOCK II
UCAV SYSTEM

Shahpar-II Block-II is a medium-altitude, long-endurance unmanned aircraft with armed capability. It has a modular airframe structural design comprising of advanced composite and metallic hybrid structure. Salient features include autonomous take-off and landing, robust autopilot scheme, user-friendly and comprehensive mission planning and management software suite in Ground Control Station, multiple redundant data links, and capability of integrating various types of payloads and weapons.

Features

- Dual redundant Avionics Suit and Navigation Systems
- Triple redundant communication data links
- Optional Payloads (COMINT / ELINT, SAR, HD EO / IR)
- Satellite link
- Internal Pilot Option
- Retractable Landing Gears
- Asymmetric Landing & takeoff
- Mid-air Engine Restart Capability
- Low acoustic signature
- Laser guided missiles with CEP less than 1. 5 m
- Integration of 3rd party payloads and weapons
- User friendly Ground Control Station (GCS) with 02 UAVs operations simultaneously
- Advanced Ground Data Terminal (GDTs)
- Advance Simulators for Pilot Training

Specifications

Wingspan	35 Ft
MTOW	1100 + Kg
Datalink Range	LoS ~ 250 kms & BLOS ~ 1500 Kms
Altitude Ceiling	25,000 Ft (ISR) & 22,000 Ft (Armed)
Endurance	20 Hrs (ISR) 15 Hrs (Armed - 60kg External Payload) 12 hrs (Armed - 120kg External Payload)
Weapons	120 kg (04 x wing hard points)
Internal Payload	50 kgs
Engine	140 HP Turbo-charged Engine

UQAB-NG
TACTICAL UAV SYSTEM

Uqab NG meets the challenging demands of Intelligence, Surveillance & Reconnaissance (ISR) in the battlefield. With Range of 150 km, Endurance of more than 8 hours & Flight Ceiling of 18,000 ft, Uqab NG offers all operational features of a state of the art Tactical UAV system. It has effectively been used in Counter Terrorism operations in Pakistan.

Uqab NG is a battle hardened UAV with built in redundant systems & fail safe features. It has been designed & manufactured to meet stringent Military & Aviation standards. With the capacity to carry more than 15 kg payload, modern Digital Tactical Data Links, User Friendly multi UAV operation capability & proven Robustness & Reliability, Uqab NG offers features comparable to any modern UAS.

Specifications

Range	150 km LOS
Endurance	8 Hrs
Service Ceiling	5,500m (18,000 ft) AMSL
Takeoff Weight	100 ± 10 kg
Payload	≤ 15kg Gyro stabilized, Multi Senor POD with Full HD Day & Night (TI) video & AI features
Navigation	RTK based Tri Constellation DGNSS, Magnetic Compass based Dead reckoning
Communication System	C-Band, encrypted, HD video
Launch / Recovery	Hydro-pneumatic launch / Hoisted Net System & Emergency Parachute
GCS	Environmentally controlled cabin with stand alone consoles

Features

- FAR-23 compliant airframe
- Low SWAP MIL STD home grown Flight Controller & GNC System
- Inbuilt redundancies & automatic fail safe / emergency procedures
- HD video with Cooled Thermal Imager with AI Based tools
- EFI Based High Efficiency Engine
- Catapult Launch & Net Landing with Parachute Emergency Recovery
- Hybrid Electric Vertical Take off & Landing Version (under development)




BEETLE
MORTAR CARRIER HEXACOPTER

Beetle is a versatile and robust Mortar carrier Hexacopter for modern military and tactical operations, engineered for Intelligence, Surveillance, and Reconnaissance (ISR) missions, as well as the precise engagement and neutralization of targets. This advanced hexacopter is designed to meet the rigorous demands of modern tactical operations.

Features

- Multiple Mortar Payloads Dropping Capability
- Day/Night Intelligence, Surveillance & Reconnaissance Missions
- Complete Autonomous Operation with pilot override option
- Modular, man portable
- Handheld GCS consoles for AV & payload operator
- Fast redeployment / turnover

Specifications

Airframe	Hexacopter configuration, carbon fiber structure, man portable
Camera	Day: 40x Optical Zoom, 1080p, 30fps Night: 640 x 512, 25 Hz, TI Lens (50 mm)
Payload Capability	3 x 60 mm Mortars
Hit Accuracy (at 500m)	10 m
Endurance	60 mins in ISR Mode 40 mins with Max Payload
MTOW	28 kg
Range	5 ~ 7 km
Max Service Ceiling	3500 m AMSL
Wind Resistance	14 m/s
Dimensions	1650 x 1650 x 750 mm
Navigation	Multi GNSS (GPS + GLONASS + BeiDou + Galileo)
Telemetry	Flt Modes, Voltage indicator, Signal strength, Flt Altitude / Attitude / Distance & Speed
Fail-safe	Auto Return to Base / land in case of low battery & link failure

BEETLE
MORTAR CARRIER QUADCOPTER

Beetle is a versatile and robust Mortar carrier Quadcopter designed for modern military and tactical operations, ensuring mission success through advanced technology and innovative design. Beetle is designed for Intelligence, Surveillance, and Reconnaissance (ISR) missions, as well as precise engagement and neutralization of targets. This state-of-the-art quadcopter offers unparalleled capabilities for modern tactical operations.

Features

- Multiple Mortar Payloads Dropping Capability
- Day/Night Intelligence, Surveillance & Reconnaissance Missions
- Complete Autonomous Operation with pilot override option
- Modular, man portable
- Handheld GCS consoles for AV & payload operator
- Fast redeployment / turnover

Specifications

Airframe	Quadrotor configuration, carbon fiber structure, man portable
Camera	Day: 40x Optical Zoom, 1080p, 30fps Night: 640 x 512, 25 Hz, TI Lens (50 mm)
Payload Capability	2 x 60 mm Mortar
Hit Accuracy (at 500m)	10 m
Endurance	60 mins in ISR Mode 40 mins with Max Payload
MTOW	18 kg
Range	5~7 km
Max Service Ceiling	3500 m AMSL
Wind Resistance	14 m/s
Dimensions	1230 x 1230 x 690 mm
Navigation	Multi GNSS (GPS + GLONASS + BeiDou + Galileo)
Telemetry	Flt Modes, Voltage indicator, Signal Strength, Flt Altitude / Attitude / Distance & Speed
Fail-safe	Auto Return to Base / land in case of low battery & link failure

RANGER
HYBRID VTOL SURVEILLANCE UAV

Ranger is a Hybrid VTOL Surveillance UAV offering runway independence, unprecedented endurance, innovative modularity and rapid emplacement. It is designed for expeditionary Land and Sea operations with a useable payload capacity of up to 5-10 kg. Ranger offers flexible payload options utilizing industry leading imaging sensors such as long range EO / MWIR as well as on board tracking, stabilization and video processing.

Expanded size, weight and power (SWAP) profile makes Ranger an ideal choice for Intelligence, Surveillance, Target Acquisition, Reconnaissance (ISTAR) and Artillery Fire Correction (AFC) roles.

Specifications

MTOW	65 ~ 70 kg
Wingspan	4.8 m
Length	2.58 m
Endurance	6 ~ 8 hrs
Control Radius	100-150 km
Speed	90~110 km/hr
Maximum Altitude	4500 m AMSL
Wind Resistance	Level 7 (28~37 Knots)
Operational Temperature	-10~ + 55°C
Powerplant	2-Stroke EFI Engine
EO / IR Payload (Gyro Stabilized)	EO: 30X Optical Zoom, 1080p FHD Cooled IR: 640 x 512 with 5-10X Optical Zoom LRF: 8 - 12km
Artillery Fire Correction Accuracy	10-15m using AI based Geo Ref Algorithm

Features

- Vertical Take-off and Landing
- Reduced Operational footprint and transportation loadout
- Covert Missions with negligible visual and acoustic signature
- Autonomous missions
- AI cameras with Auto detection and tracking
- Digital Datalink
- Fault tolerant flight control system with redundant IMUs
- Auto Return to Base / Land in case of low battery & link failure
- Open Sys Architecture for customer defined payloads
- From transport to flight in less than 30 minutes with 4 men crew
- Small Portable Ground Station

SCOUT
ELECTRIC VTOL SURVEILLANCE UAV

Scout is designed for Intelligence, Surveillance, Target Acquisition, Reconnaissance (ISTAR) and Artillery Fire Correction (AFC) roles. For its small size, Scout offers exceptional performance. Scout carries a multi-sensor gimbal payload, capable of detecting, recognizing and identifying enemy targets during day and night missions while flying at altitudes up to 1500 m Above Ground Level (AGL). With an operating radius of up to 50 km and a service ceiling of 4500 m Above Mean Sea Level (AMSL), it is a potent tool for militaries and paramilitaries.

Specifications

MTOW	17 kg
Wingspan	3 m
Length	1.8 m
Endurance	Up to 3.5 hrs
Control Radius	50 km with Ground Antenna Tracker
Cruise Speed	65~80 km/hr
Cruise Altitude	1000~1500 m AGL
Maximum Altitude	4000 m AMSL
Wind Resistance	Level 6 (22~27 Knots)
Operational Temperature	-10~ +55° C
EO / IR Payload (Gyro Stabilized)	EO: 30X Optical Zoom, 1080p FHD IR: 640 x 512, 50mm lens, 12µm pixel pitch LRF: Up to 2.5km
Navigation	Multi GNSS (GPS + GLONASS + BeiDou + Galileo)
Artillery Fire Correction Accuracy	10-15m using AI based Geo Ref Algorithm

Features

- Vertical Take-off and Landing
- 3.5 hours of endurance; exceptional flight time in its weight class
- Fully Autonomous missions
- AI cameras with Auto detection and tracking
- HD Digital Datalink
- Fault tolerant flight control system with redundant IMUs
- Auto Return to Base / Land in case of low battery & link failure
- Battery powered all electric propulsion
- Low acoustic and visual signature
- Complete sys assembly in 15min with 2-3 men crew
- Small Portable Ground Station

BLAZE
LOITERING MUNITIONS

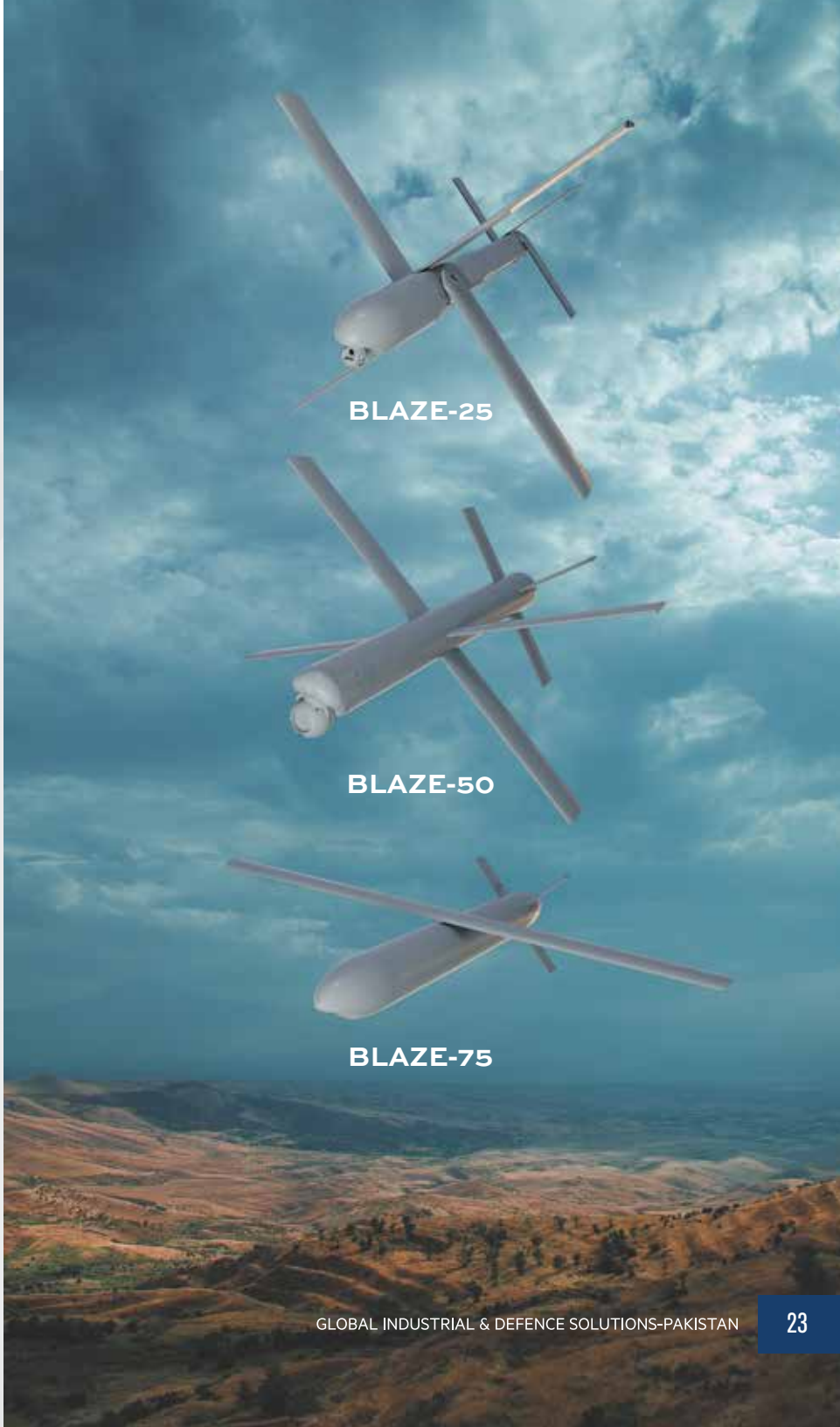
Blaze Loitering Munitions (LMs) have transformed modern warfare by integrating drone technology with precision strike capabilities. The smaller variants are fully electric, providing stealth and logistical advantages for quick deployment and specifically designed for Anti-Tank role. In contrast, the bigger LM use gasoline, significantly extending their range and payload capacity for more complex missions. This versatility enables military forces to tailor their usage based on mission requirements. Additionally, these AI enabled LMs offer a cost-effective alternative to traditional munitions, reducing collateral damage and enhancing operational efficiency.

Features

- Support Multiple types of Warheads for different Roles
- Precision targeting capabilities with AI
- Advanced sensor for real-time surveillance, identification and targeting
- Extended flight endurance and Range
- Secure communication links for data transmission and control
- Low Acoustic & Thermal Signature
- Compact design for ease of transport and deployment
- Training LMs with recovery option

Specifications

	BLAZE-25	BLAZE-50	BLAZE-75
Weight (kg)	25	50	75
Datalink Range (km)	50	100	150
Max Range (km)	75	180	500
Endurance (mins)	60	60	240
Air Launch	Yes	Yes	Yes
Warhead (kg)	8 ~ 10	20	30
Warhead Type / Targets	Anti Tank (Top Attack)	Anti Tank (Top Attack)	PF / Static Targets
Propulsion	Electric	Gasoline	Gasoline



SARKASH
KAMIKAZE DRONE

SARKASH-175 is an advanced Kamikaze Drone, equipped with canister launch technology, offers exceptional performance and versatility. Its 1000 km range enables long-distance strikes against high-value targets, while its significant speed ensures rapid deployment and engagement.

The drone's payload capacity enables it to carry a variety of warheads, from conventional explosives to specialized munitions tailored for specific targets. The canister launch system provides a compact and efficient means of deployment, making it suitable for various platforms, including ground vehicles and ships. With its combination of range, speed, payload capacity, and canister launch capability, this kamikaze drone is a formidable weapon system for modern warfare.

Features

- User-friendly operation
- Very Long Range enabling launch from a safe region
- Support Multiple type of Warheads for different Roles
- Precision targeting capabilities
- Compact design for ease of transport
- Quick Canister launch and ready for operation

Specifications

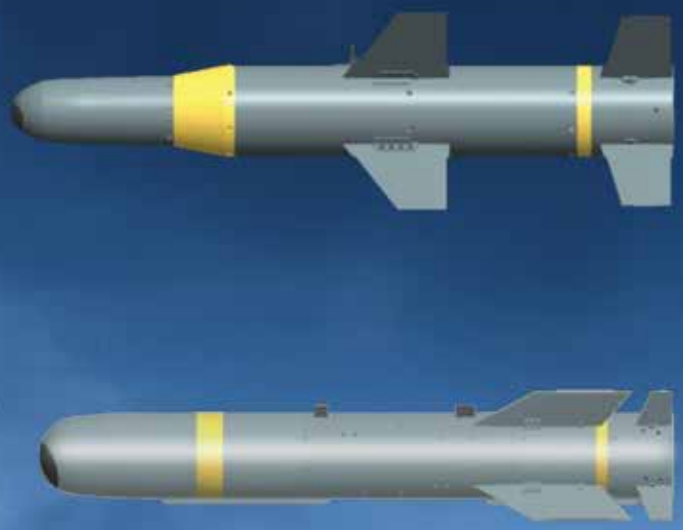
Weight (kg)	175
Max Range (km)	1000
Endurance (mins)	> 120
Warhead (kg)	50
Warhead Type / Targets	BF ~ Special Effects / Bldgs, Radar etc
Propulsion	Turbojet

BURQ
AIR TO GROUND MISSILE (AGM)

BURQ-50P is an enhanced lethality state-of-the-art laser guided propelled weapon with high precision and hit accuracy. It has the capability to hit static and moving targets. Different types of WHs can be integrated with this weapon as per target type and operational requirement. It can be mounted and fired from UAVs as well as from combat Helicopters. Laser designation can be done from on-board EO-payload or ground designator. It can support both lock-on before launch (LOBL) and lock-on after launch (LOAL) modes of operation.

BURQ 45P is state-of-the-art laser guided propelled weapon with high precision and hit accuracy. It is capable to hit static and moving targets. Different types of warheads can be integrated with this weapon as per target type and operational requirements, It can be fired from combat helicopters and UAVs. Laser designation can be employed through on-board EO payloads as well as ground designators, It can support both lock-on before launch (LOBL) and lock-on after launch (LOAL) modes of operation:

BURQ 25G is a state-of-the-art laser guided glide weapon with high precision and hit accuracy. It can be launched from smaller UAVs with lower payload capacity. It has capability to hit static and moving targets, Laser designation can be done from on-board EO-payload or ground designator. It can support both lock-on before launch (LOBL) and lock-on after launch (LOAL) modes of operation.



Parameter	BURQ (50P)	BURQ (45P)	BURQ (25G)
Range	2.5 - 12.0 km	2.5 - 12.0 km	3.0 - 12.0 km
Launch Altitude	0.5 - 7.0 km	0.5 - 7.0 km	3.0 - 7.0 km
Diameter	180 mm	180 mm	160 mm
Wing Span	380 mm	380 mm	480 mm
Length	1450 mm	1450 mm	1000 mm
Weight	≤ 50 kg	≤ 45 kg	$ 25 kg
Warhead Mass	~ 20 kg	~ 10 kg	~ 9 kg
Warhead Type	Blast Fragmentation Penetration WH Anti-Armor	Blast Fragmentation Penetration WH Shape Charge	Blast Fragmentation
Warhead Fuse Type	Electro-mechanical	Electro-mechanical	Electro-mechanical
Guidance System	Semi-active Laser Homing Guidance + GNSS (Optional)	Semi-active Laser Homing Guidance	Semi-active Laser Homing Guidance + GNSS (Optional)

ZUMR – III LONG RANGE HD

DAY/ NIGHT SURVEILLANCE & TARGETING PAYLOAD

ZUMR – III is a high-performance, high-definition Multispectral Imaging (Vis/NIR, SWIR, MWIR) payload with 24/7 Mission Capability with Enhanced Image stabilization. It supports INS, GMTI, and geo-referencing, ensuring 24/7 mission capability for Shahpar III and other platforms, enabling precise munitions delivery, battlefield damage assessment, and search/rescue operations.

Features

- High performance High Definition Multispectral Imaging System
- 24 / 7 Mission Capability with Enhanced Imagers
- Highly Stabilized System
- Single LRU based Designation System

Technical Characteristics

- 4 axis gyro stabilized system
- Azimuth 360° continuous
- Elevation +90° to - 120°
- Weight <75 Kg

Sensor Configuration

Thermal Imager

Resolution:	1280 × 1024
Field of view:	
- Wide	30° × 24°
- Medium-Wide	7.89° × 6.3°
- Narrow	0.97° × 0.76°
- Super-Narrow	0.72° × 0.57°

Short Wave IR

Resolution:	1280 × 1024
Field of View:	0.5° × 0.40°

Missions

- High Definition Aerial imagery
- High performance EO / IR payload for precision munitions (LGB, Missile) delivery
- Battlefield Damage Assessment
- Search and Rescue
- Tactical Support

Day Imager

Resolution:	1920 × 1080
Field of View:	24° - 0.70°

Laser Designator

Range:	> 30Km
Energy:	85 mJ / 160 mJ
Wavelength:	1064 nm
Code:	NATO, Custom

Laser Range Finder

Range:	> 32 Km
Wavelength:	540 nm

ZUMR – II (HD)

DAY / NIGHT SURVEILLANCE & TARGETING PAYLOAD

ZUMR - II (HD) is a high definition, high-performance Multispectral Imaging payload with 24/7 Mission Capability with Enhanced Imagers. It is highly stabilized system with 2 LRUs (Line Replaceable Units). The multi-sensor Optronic Payloads can provide geo-referenced Day, Near Infrared and Infra-red imagery to battlefield commanders for reconnaissance and designation purposes. The Electro-Optical Payloads can be integrated on Fixed-Wing manned and unmanned aerial platforms as well as on helicopters.

Features

- High performance HD Imaging
- 24/7 Mission Capability with Enhanced Imagers
- Highly Stabilized Turret
- Superior Image quality
- 2 LRUs (Line Replaceable Units)

Missions

- Tactical support
- Aerial imagery
- High performance EO/IR payload for precise munitions (LGB, Missile) delivery
- Battlefield Damage Assessment
- Search and Rescue, Tactical Support

Technical Characteristics

- 4 axis gyro stabilized system
- Azimuth 360° continuous
- Elevation 10° to - 110°
- Weight 50 Kg

Options

- System Coupling: GPS, INS, Radar, Moving Map Interactive
- Customized GUI to reduce operator fatigue, Image Enhancement
- Geo-Pointing, Geo-Referencing, Geo-Lock Modes

Platforms

UAVS, Aircrafts, Helicopters, Naval Ships

Sensor Configuration

Enhanced Day Imager

Resolution:	1920 × 1080
Field of View:	36.6° - 0.70°

Thermal Imager

Resolution:	1280 × 720 FPA
Field of view:	
- Wide	30.25°H × 17.4°V
- Medium-Wide	4.85°H × 2.71°V
- Narrow	1.52°H × 0.87°V
- Super-Narrow	0.76°H × 0.43°V (2x E-Zoom)

Laser Designator

Range:	20 m - 20 Km
Energy:	>100 mJ
Code:	NATO, Custom

NAHL

LIGHT WEIGHT HD SURVEILLANCE PAYLOAD

NAHL is a Light weight HD Surveillance Payload with Single LRU based surveillance system and highly stabilized Multispectral Imaging. It has 24/7 Mission Capability with Enhanced Imagers; Day and Night surveillance of site (Offshore platforms, industrial and sensitive sites), Border surveillance & homeland security.

Features

- Light weight suitable for small UAVs,
- Single LRU based surveillance system
- Highly stabilized Multispectral Imaging
- 24/7 Mission Capability with Enhanced Imagers
- Day and Night surveillance of site (Offshore platforms, industrial and sensitive sites)
- Border surveillance and homeland security
- Tracking, Tactical support

Technical Characteristics

- 4 axis gyro-stabilized system
- Azimuth 360° continuous
- Elevation 10° to – 110°
- 13.5 Kg

Platforms

- UAVs, Aircrafts, Helicopters
- Aerostats and Ground Based Vehicles for area monitoring

Sensor Configuration

Day Camera HD

Resolution	1920 x 1080
Field of view:	
- Wide	63.7°H x 47.7°V
- Narrow	2.3° H x 1.7°V
- Zoom	30x (Optical)

Spotter Scope/NIR HD

Resolution	1920 x 1080
Field of view:	
- Wide	24° H x 13°V
- Narrow	0.9° H x 0.5°V
- Zoom	27x (Optical)

Thermal Imager SD

Sensor	640 x 512 MCT
Field of view:	
- Wide	16°H x 12°V
- Narrow	1.8°H x 1.35°V
- Zoom	9x (Optical)

Laser Range Finder & Laser Pointer

Range	15 Km max
LP	NVG Compatible (150 mW)

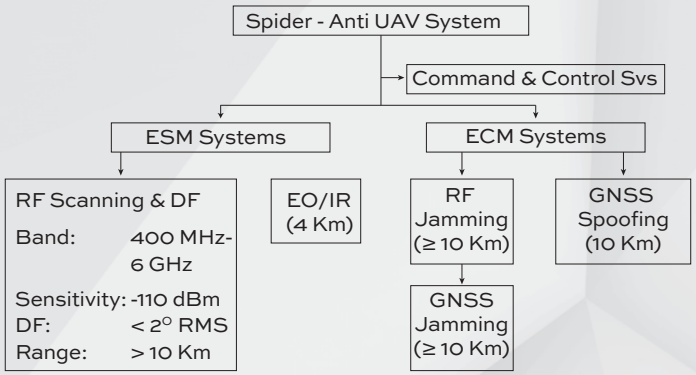
SPIDER
ANTI UAV SYSTEM

Spider Anti UAV System is designed to provide comprehensive drone detection, tracking, and interdiction capabilities. This state-of-the-art system ensures that potential threats are neutralized effectively, safeguarding critical assets and infrastructure. Spider System stands as a formidable solution against the evolving threat of UAVs. It is equipped with a suite of advanced technologies to address the multifaceted challenges posed by drone warfare. Its capabilities include RF Interception and Scanning, Direction Finding, RF Jamming, GNSS Jamming, GPS Spoofing and EO/IR (Slew to Cue).

Features

- Modular configuration with replaceable LRUs
- Jamming Freq Range: 400 MHz – 6 GHz
- Detection Range: ≥ 10 Km
- Jamming & Spoofing Range: ≥ 10 Km
- Customizable Form fit & GUIs (installation on 1.5 Ton Hino Truck)

Specifications



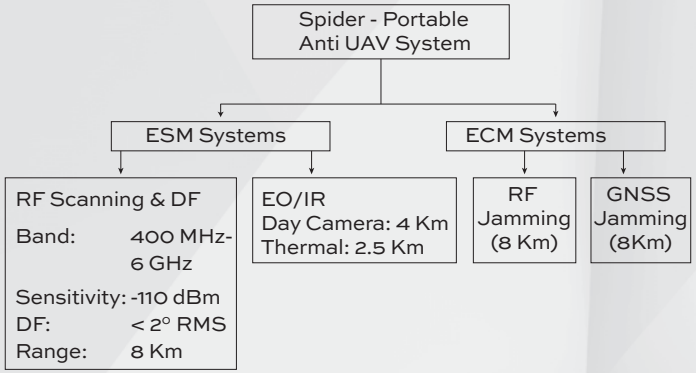
SPIDER
ANTI UAV SYSTEM (PORTABLE)

GIDS has indigenously developed Portable Anti UAV System, designed for Drone Detection, Tracking and Interdiction (Jamming / Spoofing). The System is capable of RF Scanning and Interception, Direction Finding, EO/IR (Slew to Cue), RF Jamming and GNSS Jamming.

Features

- Light weight and quick deployment
- Indigenous modular system architecture
- RF based drone detection, DFing & jamming
- Customizable form fit & GUI

Specifications



AIR LAUNCHED SYSTEMS & AIR DEFENCE

TAIMOOR
CRUISE MISSILE WEAPON SYSTEM

Taimoor is a long range Air Launched Cruise Missile (ALCM) that can be deployed in Air-to-Ground and Anti-Ship roles. It is able to carry conventional warheads for land and marine attack. Taimoor is equipped with IIR seeker head for precise land and marine attack missions. The weapon can fly very low over ground or sea at a programmable height thus reducing the detection probability. It is equipped with warheads designed for lethality against specific targets.

Features

- Long Range
- Highly Precise
- All Weather Operation
- High Hit Probability
- Smart Size & Weight
- Fire & Forget
- High Survivability
- Lethal Destructive Power of Warhead

Specifications

Range	290 Km
Warhead Type	Blast Fragmentation
Navigation System	INS / GNSS
Prolusion System	Turbojet
Length	4.38 m
Weight	1100 kg
Wing Span	3.20 m

AL BATTAAR
LASER GUIDED BOMB KIT

Al Battaar is a laser guidance bomb kit attached to the nose and tail of the GP (General Purpose) Bombs. It can be carried and launched from all NATO aircraft and is designed for use when attacking soft, hard, slow moving and stationary targets. The weapon will operate from a variety of different launch scenarios (high/ low altitude, level/ dive/ loft deliveries).
Al Battaar is capable of a single or multiple carriage on host aircraft. Guidance is provided by laser energy reflected from the target. Target illumination, may be provided by the delivery aircraft, another aircraft, or a ground designator. Flight can be divided into three phases: Ballistic, Acquisition, and Terminal Guidance.

Performance Characteristics

Feature	Specification
Impact Accuracy / CEP	≤ 10 meter
Max Release Altitude	25000ft
Range	8 nm
Guidance	Laser
Employment Mode	Single
Laser Designated Compatibility	Yes
LSHA FOV	±12deg
Field of Regard	±18deg
Laser Code	Yes
Missing Pulse Logic	Yes
Field Replaceable Electronic Tray	Yes
Carriage Vibration	6.3 g
Carriage speed limit	1.4M
Release speed limit	1.2M
Acquisition Range (NOMINAL)	12000ft
Canard Travel	±10.5deg
Laser Coding	PRF Selection Enabled
Maneuverability (500 KTAS, SL)	2.8 g

AZB-83
(PRECISION GUIDED MUNITION)

REK converts the General Purpose Steel Bombs to guided weapons by simply integrating the Range Extension Kit. The kit includes a Tail Unit integrated with the bomb body that provides both guidance and navigation to the target, and an additional Wing Unit (with deployable wings) for extending the range.

Characteristics Specifications

Range (km)	100
Launch Speed (Mach)	0.6 - 0.8
Launch Altitude (m)	≤ 9000
Weight with 250Kg GP Bomb (kg)	< 300
Interface	RS 422 / Mil-Std-1760
Accuracy (with GPS)	< 10 m CEP
Flight Time	~ 5 min

Main Features

- Autonomous guidance by means of an onboard AHRS System aided by a Global Positioning System (GPS) processor.
- All Weather Weapon.
- Capable to accept precise targeting information in the form of World Geodetic Survey (WGS)-84 coordinates provided either during mission planning or in flight.
- Environmental Test Methods as per MIL STD 810F.
- Specification Practices as per MIL STD 490A.
- Defense System Software Development as per MIL STD 498.
- Control of EMI as per MIL STD 461D.

GP SERIES BOMBS

GP Series Bombs are the standard air delivered ordinance deployable on NATO and Warsaw standard aircrafts. These bombs (PK-81, PK-82, PK-83, PK-84) are available in Steel, Pre-fragmented versions with IM and Thermobaric filling. The bomb will produce blast, fragmentation and 'crater' effects with its main function being determined by the Fuze used.

General Purpose Steel Bombs
- NATO / Warsaw Standards
- High & Low drag Configurations
- Qualified on F-7, A-5, Mirage & F-16
- Supplied to PAF as well as other countries

Pre-Fragmented Bombs
- External profile like GP Steel Bombs
- 6 times more lethal
- Thousands of uniformly shaped steel balls shoot out in all directions
- Anti-personnel and anti-vehicle role
- Burst at 2 to 12 meters height from the ground giving optimal lethality

Thermobaric Bombs
- Thermobaric Weapons are characterized by Large blast and High thermal energy
- These are solid explosives as opposed to FAE (fuel airexplosives) which are liquid

BUNKER BUSTER BOMBS

Bunker Buster Bombs are hard-nosed penetrators that are housed within the MK-82 Form Factor. These bombs are highly effective against hardened bunkers, bridges, piers, and A/C pens. The penetration is maximized through kinetic energy gained by the bomb as it follows its ballistics. These bombs have a dynamically stable explosive specifically required for penetrators.

Features

- Penetrates four double-reinforced concrete walls/floors 200mm thick each
- Penetrates 1.5m in 35 MPa Reinforced Concrete Target
- Can be used as an effective stand-off weapon in combination with a Range Extension Kit
- Compatible with All Guidance Systems
- Qualified to MIL-STD 810H

Specifications

Penetration in 5000psi reinforced concrete target	1~1.5 meter Endurance
Max Fragment Lethal Range	> 250 m
Explosive Dynamic Shock Capacity	Mach 3 Impact
Max Blast Over Pressure (open environment)	17.5 g/cm3

AB - SERIES
ELECTRONIC IMPACT & PROXIMITY FUZES

Fuzes play a key role in optimizing the performance of air and ground burst bombs. GIDS is one of the few companies in the world that has complete command over the technology for electronic fuzes. GIDS has successfully developed the following fuzes:

Impact Fuzes
AB-100 (For Low Drag Bombs)
AB-105 (For Low/High Drag Bombs)

- Provide instantaneous firing pulse on impact, thus ensuring true surface detonation
- High performance electronic fuzes replacement for M-904 Fuze or equivalent mechanical fuzes.
- Includes E.F.I capability for interface to Russian aircraft pylons.

Proximity Fuzes
AB-103 (For Low Drag Bombs)
AB-104(For Low/High Drag Bombs)

- Optimizes the performance of air-burst bombs
- Allow a 2-12 meters above ground level burst of the bomb for all types of targets, approach angles and closing velocities
- Have an Impact Detonation Backup System
- Smoke or dust on the terrain does not interfere with the proximity function.
- Includes E.F.I capability for interface to Russian aircraft pylons.

Multi-Role Fuze AL-788
- AL-788 is a versatile Nose Fuze that offers Proximity and impact detonation modes both in high & low drag modes.
- Incorporates all the features of AB -100, AB-103 , AB -104 & AB -105 Fuzes

COUNTER MEASURE SYSTEMS

Infrared Flares

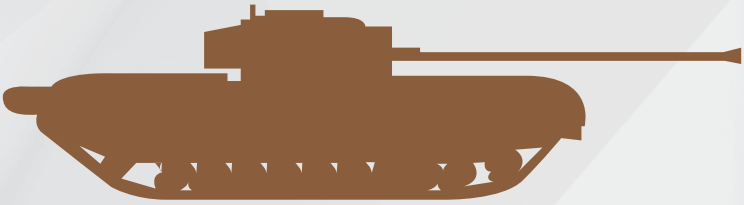
(CMF-1, CMF-2, CMF-3)

IR-Flare provides an aircraft airborne countermeasure capability to dispense flare pellets to prevent interception by heat-seeking missiles. Upon actuation electricity, it ejects and ignites a pellet which produces infrared radiation according to black body radiation phenomenon.

	CMF 1	CMF 2
Aircraft	NATO	Chinese
Dispensers	ALE 29 A, ALE 39, ALE 47	GT-1, GT-1P
Firing Requirement	05 A pulse for 50 ms	0.7 A pulse for 35 ms
Burning Time	> 4 Sec	> 4 Sec

Chaff & Flare Dispenser System (MOHAFIZ)

- Chaff & Flare dispenser system(Mohafiz) is an electromagnetic (RF) and Infrared (IR) countermeasure self-protection dispensing system for airborne objects
- Chaff gives protection against Radar Guided Missile and Flare protects against infrared guided missiles
- When this system is integrated with radar warning receiver (RWR) and missile approach warning system (MAWS), the Mohafiz CFD system is effective in multiple threat environments.



LAND
SYSTEMS

FATAH – II
GUIDED MULTI LAUNCH ROCKET SYSTEM

FATAH – II is a surface-to-surface Guided Multi Launch Rocket System (GMLRS). It is an indigenously designed, state of the art, twin canister (oblique launched), Non-Ballistic, all course manoeuvre, supersonic, highly accurate weapon system capable of carrying conventional Warhead upto 290 km.

Features

- Single-stage Dual Thrust Solid Rocket Motor
- Unique Programmable Trajectory
- In-flight Manoeuvrability, Guidance till Impact
- Specially Designed Indigenous Thermal Protection System
- Integrated Navigation (INS + GNSS)
- Auto Aiming, Levelling, Positioning & Orientation System
- Mode: Salvo / Non-Salvo

Specifications

Range	100 - 290 km
Accuracy	< 50m CEP
Length	7.5 m
Diameter	0.6m
Warhead Weight	365 kg

FATAH – I
GUIDED MULTI LAUNCH ROCKET SYSTEM

The MLRS FATAH-I is an advanced guided rocket system characterized by fast reaction, long range, high accuracy and firepower of high density. Its mission is to precisely attack and destroy enemy's group and area targets, such as military bases, massive armored troops, missile launching sites, large airports, harbors and other important facilities

Features

- Fast reaction
- Long range
- High accuracy
- Concentrated firepower
- Various munitions
- Self positioning and orienting
- High mobility
- Integrated fire control system

Specifications

Range:	≥ 140 Km
Accuracy:	CEP < 15 m
Rockets per MLV:	8
Cap to engage 8 different Tgts:	8km x 8km at max rg
Operating temperature:	-20 to +55°C
Shelf Life:	10 Years

YARMUK
-122mm MBRL

122mm MBRL is the most widely used weapon system employed by many nations of the world for the purpose of neutralization of area targets by saturating the area with large number of rockets.
The Yarmuk 122mm Unguided Multi Barrel Rocket Launcher (MBRL) Rocket System has a maximum range of 40 Kms and is equipped with high explosives fragmentation WH having high destructive power. It is used to defend or attack against targets such as troops positioned in open terrain or in trenches and shelters as well as light armor vehicles, mortar and artillery sites, command posts, garrisons, defense works and similar targets.

Features

Fire Control Unit (FCU) is also available with enhanced features including automatic calculation of firing table. The subject FCU can fire 122mm Rockets.
Fire Control Unit key features are listed below:-

a. Supports 40x Channels
b. Automatic generation of firing table
c. Automatic continuity test of all rockets
d. Supports single, multiple and salvo firing modes
e. User friendly GUI
f. Navigation & mission planning on map (optional)

Specifications

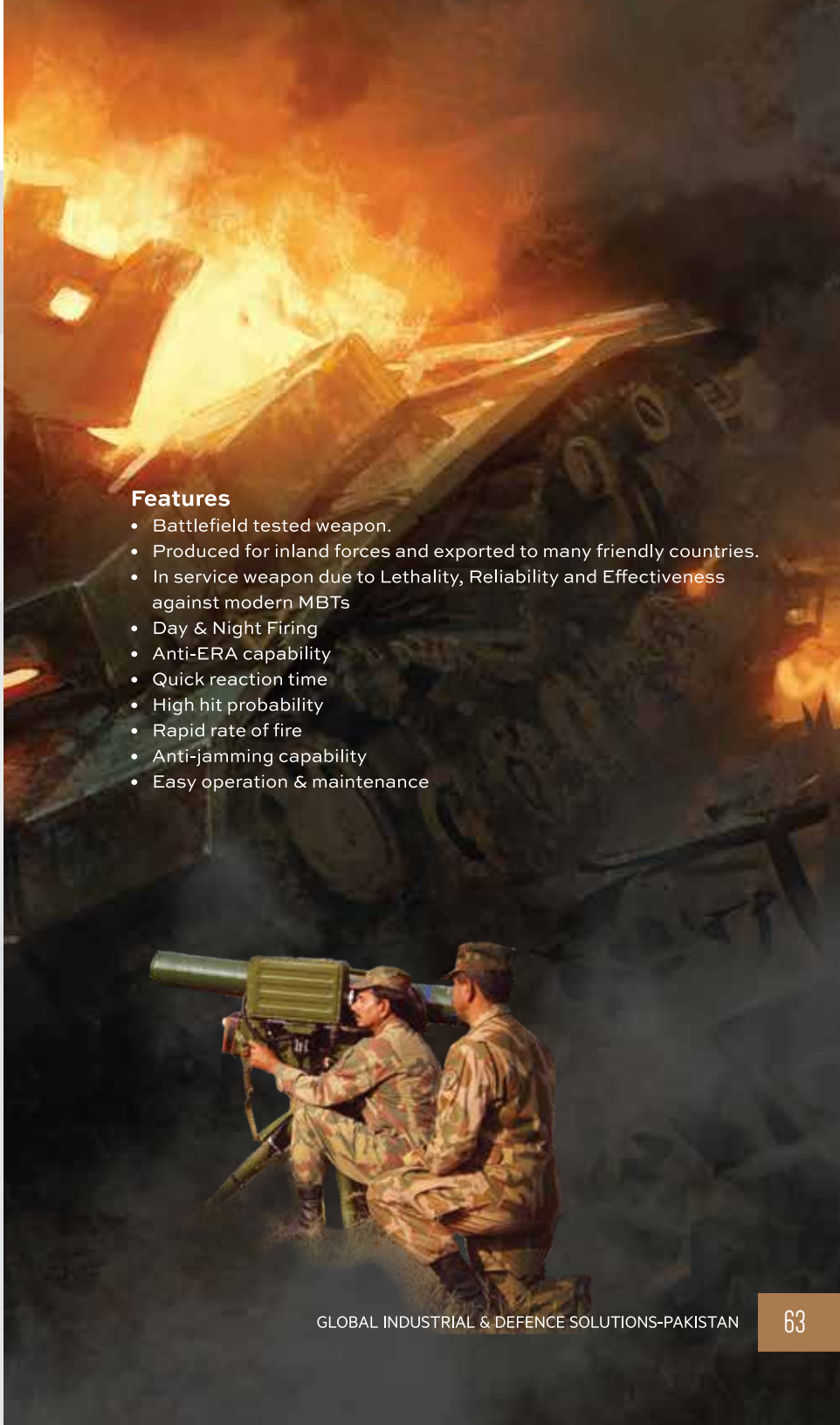
Fuze Type	Mechanical Impact
Max Effective Range	40 Km
Warhead Effective Area	50 m^2
Rocket Weight	75 Kg
Warhead Weight	18 Kg
Rocket Length	2.9 m
Muzzle Safety/Back Blast	≤ 50 m
CEP	<1.6% of Range
Shelft Life	Min 10 years

BAKTAR SHIKAN
ANTI TANK GUIDED MISSILE WEAPON SYSTEM

Baktar Shikan is an anti-tank missile weapon system which pursues the principle of optical aiming, IR tracking and automatically generated, remotely controlled and wire transmitted guidance signals.
The system can quickly be dis-assembled into four sub-units, each weighing not more than 25kgs, thus making the system man-portable. It can also be mounted on Cobra attack helicopters and Armored Personnel Carriers (APCs).
Its long range, penetration power and a powerful anti-jamming capability, the system forms a potent defence against armoured targets. Baktar Shikan family of missiles is in service for more than two decades and a battle tested weapon held with different armies worldwide.

Performance Characteristics

Propulsion		Solid
Effective Range		3000m
Operating Temp		-40 °C to + 50 °C
High Anti jamming capability		
Firing Capability		Day & Night
Hit Probability		90%
Rate of fire	2-3 rounds/min	
Telescope	Magnification	12x
	Field of View	6°
	Wide IR Field of View	±49 mrad
	Narrow IR Field of View	±7 mrad
Range of fire	Elevation	-7° to +130
	Azimuth	0° to 3600



Features

- Battlefield tested weapon.
- Produced for inland forces and exported to many friendly countries.
- In service weapon due to Lethality, Reliability and Effectiveness against modern MBTs
- Day & Night Firing
- Anti-ERA capability
- Quick reaction time
- High hit probability
- Rapid rate of fire
- Anti-jamming capability
- Easy operation & maintenance

BAKTAR SHIKAN
SALVO

Modern MBTs are equipped with active protection systems. These systems are capable to enhance protection of MBTs by destroying the incoming single missile before it reaches the target. In order to defeat said system, two missiles are fired consecutively (Salvo) on common Line of Sight, in which first missile neutralizes the said protection and subsequently second missile defeats the target.

Features

- Real-Time Image Processing Based System
- Dual Missile Tracking
- Multiple Platform (Ground Role & Vehicle Mounted)
- Remote Firing Unit
- High Anti Jamming Capability

Specifications

Effective Range	100 ~ 3000m (8D) 100 ~ 4000m (8E)
Firing rate	4 - 6 rounds/min
Effectiveness	• Active Protection System • Heavy ERA
Hit Probability	≥ 90%
Communication	Wired link / Wireless

BAKTAR SHIKAN
LIGHT LAUNCHER

BSWS-LL is a man portable, light weight, medium range anti tank weapon system. It can also be used to attack and defeat armored vehicles, low flying helicopters and field fortifications.

Features

- Day and Night Operational Capability
- Man Portable (02x Crew)
- High Altitude Firing Capability i.e. 4km
- Anti-Jamming Capability
- All Weather Conditions
- Easy Operation & Maintenance

Specifications

Weight	22.5 kg
Hit Probability	90%
Operating Temp	-40° C — +50° C
Guidance System	Wire with Optical Aiming & IR Tracking
Flight Time at Max Range	Not more than 15s

ANZA MK-III

ANZA MK-III is a third generation Shoulder Fired MANPAD with an advanced digital electronics and Laser Proximity Fuse.

It is primarily designed to engage low altitude aerial targets i.e. Helicopters, low flying Aircrafts, Cruise Missiles and UAVs.

Missile Weapon System

Missile Weapon System

Specifications

Min Range	500 m
Max Range	5000 m
Type of Targets	Aircrafts
	Helicopters
	Cruise Missiles
	UAVs
Guidance	Passive IR Homing
Mass of Warhead	1.40 Kg
Fuze	Laser Proximity
	Impact / Graze
Anti-jamming	Yes

TIPU WEAPON SYSTEM

TIPU is a fin stabilized rocket assisted 155mm Cannon Launched Guided Projectile, designed to destroy ground targets such as civil structures (Bunkers, Bridges, C4I centers, Field Depots, etc.), armored vehicles, rocket launchers and incapacitation of tanks.
System Composition

1. SAL Guided Projectile with HE Frag. Warhead
2. Fire Synchro Unit
3. Smart Ballistic Computer

Features

- Semi Active Laser Guidance
- Compatible with 155mm Howitzers
- (39 Cal. / 45 Cal. / 52 Cal.)
- Compatible with NATO / WARSAW compliant Laser Designators

Specifications

Weight / Length	52 Kg / 1300mm
Hit Probability	> 80%
CEP	≤ 2m SAL Guided
Guidance	Semi Active Laser
Range	5 ~ 20 Km (Hwtz caliber dependent)
Gun Shock (G's)	< 10000 g's
Warhead	HE Frag.
Lethality	Not less than 155mm HE
Detonation	Impact or Delayed Impact Detonation
Targets	Stationary & Moving
Shelf Life	10 years

ROCKET LAUNCHER RPG-7

Technical Specifications

Caliber of Rifle	40 mm
Length of Launcher	950 mm
Weight of Launcher	6.3 Kg
Max Aimed Range	500 m
Rate Of Fire / Minutes	4-6 Round
Armour PenetrationWarhead	Dependent
Shipping Volume	0.21 Cum

Features

- A portable, Re-usable shoulder launched anti-tank Rocket-Propelled Grenade Launcher.
- Effective and low cost weapon widely used for anti armor and in irregular operations.

LAUNCHERS

LIGHT MORTAR M-60MM

Technical Specifications

Caliber	60 mm
Length of barrel	623 m
Max range	2000 m
Rate of fire	8 Round/minute
Type of firing mech.	Manual
Total weight	14.8 kg

Features

- Effective Support weapon for short & medium range targets
- User friendly, reliable in all weather operations
- Close-in-support for ground troops
- All type of qualified 60mm ammunitions are usable for operations

MORTAR M-81MM

Technical Specifications

Caliber	81 mm
Length of barrel	1.45 m
Max range	5000 m
Type of firing mech.	Manual
Total weight	41.5 Kg

Features

- Effective Support weapon for short, medium and extended range targets
- User friendly, smooth bore, muzzle loading, reliable in all weather operations
- All type of qualified 81mm ammunitions are usable for operations.
- Dismantled in 3 loads (barrel, base plate, and bipod) for quick transport

HEAVY MORTAR M-120MM

Technical Specifications

Caliber	120.15 mm
Length of barrel	1.746 m
Max range	8950 m
Rate of fire	8-12 round/minute
Type of firing mech.	Manual
Total weight	402 Kg

Features

- Highly Effective Support weapon for medium and extended range targets
- User friendly, reliable with rapid deployment in all weather operations
- All type of qualified 120mm ammunitions are usable for operations
- Quick transportation with towable wheeled carriage for assemble Mortar

LASER DESIGNATOR & RANGE FINDER (LDR-4N)

LDR-4N is a high performance, compact and light weight system. The low mass and volume of the equipment enables the complete system to be carried by a soldier either in its transit case or in the soldier's rucksack. The LDR-4N is capable of designating up to 5 km using any user-defined codes, with excellent beam quality and stable bore sight over the full temperature range.

Features

- Acquires target coordinates by measuring Range, Elevation and Azimuth Angle to the target with respect to LDR-4N
- Designates a target for laser-guided weapon homing on the laser spot

Specifications

Supply voltage	24 V
Field of View of Telescope	4.5°
Magnification of Telescope	X13
Cooling Pump	Liquid Flow
LRF Range	10 Km
Energy	> 70mJ
Laser Beam Collimated Diameter	48 mm
Divergence	≤0.35mrad
DES Frequency	0-21 Hertz
Laser Pulse Width	25nsec
Azimuth	360 Degree (1-6400) mils)
Elevation (Up)	28.5 Degree (0-499 mils)
Elevation (Down)	28.5 Degree (0-499 mils)
Battery Type	Ni-Cd
Lasing Cycle	30 sec
Weight	11.7 Kg
Dimensions (L x W x H)	36 x 34 x 17 cm

LASER RANGE FINDER (AR3)

AR-3 is a compact, high performance laser range finder that is suitable for stand-alone military-based range finding applications. It is ideally suited for end-users requiring installation to externally mounted platforms. It offers true plug and play compatibility within a host of military based environments.

Features

- 0.2Hz repetition rate
- Environmental performance to MIL-STD-810F
- Extensive on-board BITE facilities

Specifications

Laser Type	Nd: YAG (1.064 µm)
Pulse Energy	10 mJ (nominal)
Pulse Width	10 nSec
Beam Divergence	< 1.0 mRad
Pulses / min	15 (30 for short time)
Field of View	2.0 mRad
Aperture	47 mm
Range of Display	4 Digits LED
Range Accuracy	+ 5m
Max / Min range	9995 / 200 m
Range Blanking	200 m – 4000 m
Range update rate	0.5 Hz (max)
Magnification	X 7
Field of view	120 mils
Eye Protection	OD 5
Battery Capacity	Ni Cd 12V 0.5 Ah
Readings / Charge	Over 600 at 20 0C
Operating Temp.	-30 0C to +55 0C
Dimensions	25 x 20 x 11 cm
Weight	2.2 Kg

THERMAL IMAGER BIOCULAR

TIB786-1

TIB786-1 is a short-range compact and light weight thermal imager-based night vision goggle comprised of 384x288 micro-bolometer FPA detector. This system provides true night vision capability for general area surveillance, perimeter security and border patrol etc. in all weather conditions, both day and night, in the presence of fog, some type of smoke and dust. It is primarily hand-held device but can also be mounted on Helmet for long missions.

DRI

	Vehicle	Human
Detection	1300m	900m
Recognition	500m	350m
Identification	250m	150m

TIB786-3

TIB786-3 is a Long Range compact thermal imager based night vision goggle comprised of microbolometer FPA Detector. It is primarily a hand held device but can also be mounted on Tripod for long missions. It has snap shot and recording feature. It has Light weight and long battery endurance of more than 6h operation.

DRI

	Vehicle	Human
Detection	3000m	2000m
Recognition	2000m	1000m
Identification	1200m	800m

	TIB786-1	TIB786-3
Sensor Type	Uncooled Micro-bolometer	
Sensor Size	384x288, 17 um	640x480, 17 um
TEC	Shutter less Operation Always ON, never blind	
Spectral Response	8-14 um thermal band	
Obj. Lens	35 mm	75mm
Focus	Fixed	Manual
FOV	10.6° x 8° (1x)	8.3° x 6.2° (1X)
Battery	2x Li-Ion rechargeable Cells	4 x AA NiMH Batteries
Media Storage	No	8GB, >4Hrs video recording
Battery Time	>6 hrs.	
Display	Colored AMOLED 800 x 600	
Ingress Protection	IP67	
Weight	< 0.8 Kg	<1.5Kg
Video Out	Standard 3m Composite Video out (BNC/RCA)	
USB	Plug & play USB cable for video and image data	
External Power Supply Options	PC/Laptop PORT, Smart phone power bank, 12Vvehicle battery, 6V-12V AC-DC adopter (12V available in accessories)	

AIRBORNE LASER DESIGNATOR & RANGE FINDER (ABLDR-2)

ABLDR-2 is a long-range high-performance laser-based system. It can measure the range and designate the target for LASER guided weapons.

Specifications

Laser Type	Nd - YAG
Emission Wavelength	1064nm
Range Capability	(200 to 20,000m) + 5m
Output Pulse Energy	≥ 80mJ
Beam Divergence	0.35 mRad
Pulse Width	20 + 5 nSec
Designation Frequency	8 – 21 Hz (NATO & Custom)
Lasing Cycle	90 sec
External Power	+28V + 10%
Power Consumption	450 Watt
Data Communication	RS-422 (Opto coupled)
Mechanical Interface	Integrated in 17" Payload
Operating Temperature	-20 oC to +55 oC
Storage Temperature	-30 oC to +70 oC
Encapsulation	IP67 (Laser Cavity)
Vibration & Shock	MIL-STD-810G & MIL-STD-461E
Weight (without battery)	≤ 7.2Kg

COMMANDER'S SIGHT FOR APC (ABSAR-C)

ABSAR-C is a long-range TI sight for APC commander. It enables the Commander to see during night as well as day in pitch dark situations under smoke and adverse weather conditions such as rain and fog.

Specifications

TI Sensor Type	Un-cooled
Sensor Size	640x480, 17um
Spectral Response	8 -14 µm
Objective Lens	75 mm, Fixed Focus (A-thermalized)
Focus Range	5m – Infinity
FOV	8.2o x 6.2o
NETED	≤100 mK
Electronic Zoom	1X, 2X, 3X, 4X
Polarity	WH/BH/Sepia
Display	10.4" LCD Display
Video/PICs Storage	64Gb
Video Output	PAL
Battery Type	24V Li-Ion (Recharge) battery Pack
Endurance Time	> 8 hrs
Operating Temperature	-20o C to + 55o C
Storage Temperature	-30o C to + 60o C
Encapsulation	Camera IP67, LCD IP66
Vibration & Shock	MIL-STD-810G
Weight	< 13 kg (without battery)

DRIVER'S TI SIGHT FOR APC (ABSAR-D)

ABSAR-D is a short range compact thermal imager-based night vision system for APC driver sight. It enables the driver to see during night as well as in day under complete darkness, smoke or adverse weather conditions such as rain and fog.

Specifications

Sensor Type	Un-Cooled
Sensor Size	640x480, 17um
Spectral Response	8 -14 µm
Objective Lens	19 mm, Fixed Focus (Athermalized)
Focus Range	3m – Infinity
FOV	29.8°x23.2°
Electronic Zoom	1X, 2X, 3X, 4X
Polarity	WH/BH/Sepia
Display	8.0" LCD display
Video/PICs Storage	64Gb
Video Output	PAL
Battery Type	Li-ion battery Pack (Rechargeable)
Endurance Time	> 8 hrs
Operation	-20o C to + 55o C
Storage Temperature	-30o C to + 60o C
Encapsulation	Camera IP67, LCD IP66
Vibration & Shock	MIL-STD-810G
Weight	≤ 8 kg (without battery)

FORWARD ARTILLERY OBSERVATION DEVICE (FAOD-2)

FAOD-2 is a compact multi-sensor observation device. It is employed for target GPS coordinates calculation on LCC grid, and forward area surveillance with the help of in-built thermal imager, Day sight and associated sensors.

Specifications

TI Sensor Type	Un-cooled
Sensor Size	640x480,17 µm
Spectral Response	8 -14 µm
Objective Lens	100mm (Manual Focus)
Field of View	6.2° x 4.7°
Electronic Zoom	1X, 2X, 3X, 4X
Day sight Type	CCD
Zoom Ratio	30X
LASER Type	Eye Safe (1540nm)
Maximum Range	5Km ± 2m
Compass Accuracy	±0.5°
GPS Code	P(Y) code or C/A code, LCC
Display	Color AMOLED Display (800x600)
Video Output	PAL
Battery Type	Li-ion battery pack (Rechargeable)
Battery Life	>4 hours
Mechanical Interface	Tripod Mount
Operation	-20oC to +50oC
Storage	-25oC to +55oC
Encapsulation	IP67
Vibration & Shock	MIL-STD-810G
Weight	<4.2 Kg (without battery)

Applications

- Forward Observation
- Area Surveillance
- Perimeter Security
- Border Patrol
- Target Acquisition & Ranging

TI SECURTIY CAMERA (ALHARIS-75)

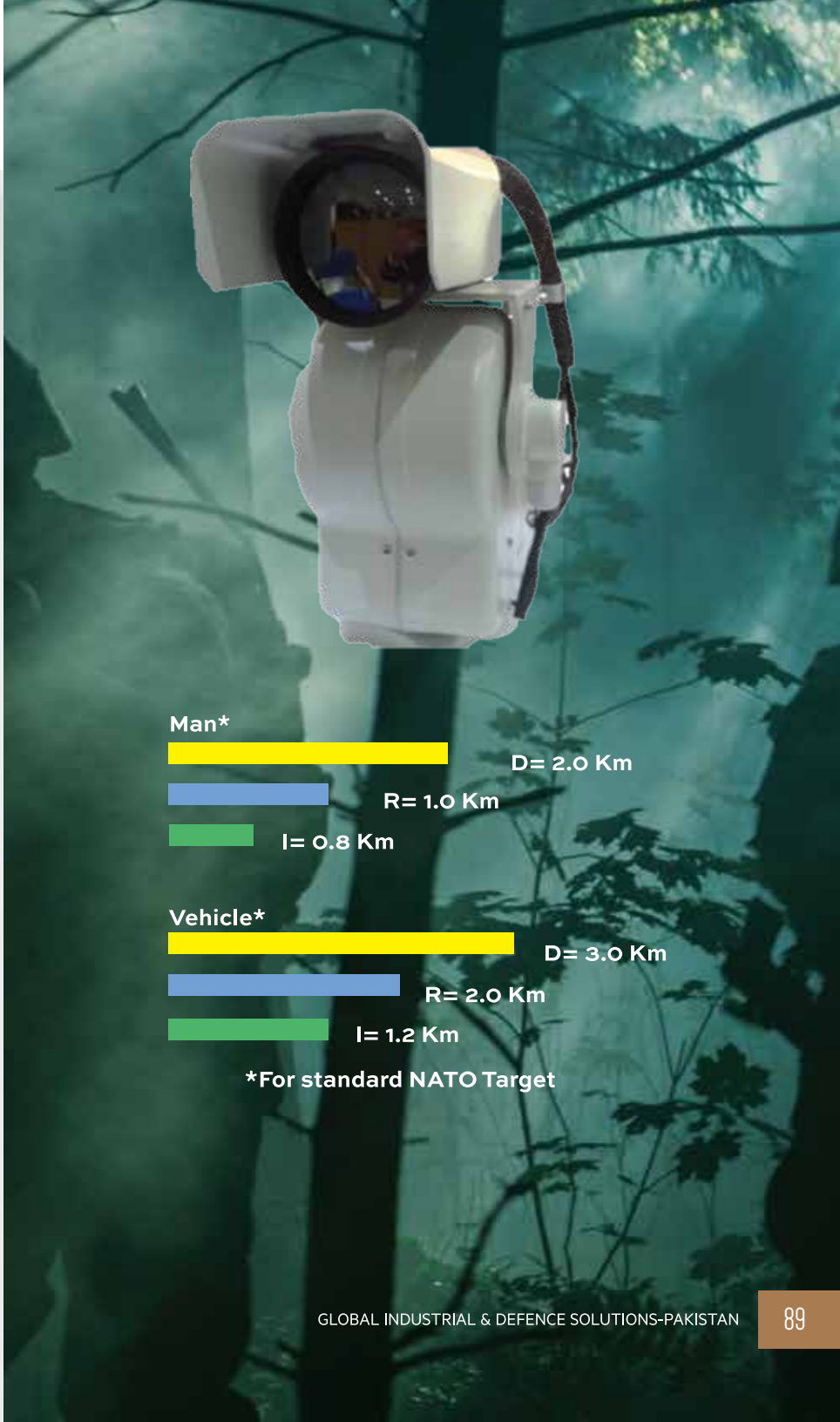
ALHARIS-75 is a long-range thermal imager-based night vision surveillance sight. It can be integrated with any type of high-resolution pan-tilt with video over Ethernet. It can be equally used in the day & night time.

Specifications

Sensor Type	Un-Cooled
Sensor Size	640 x 480, 17 µm
Spectral Response	8 -14 µm
Objective Lens	75mm, Fixed Focus (A-thermalized)
Focusing Range	5m - Infinity
Field of View	8.2° x 6.2° (w/o zoom)
Polarity	WH/BH/Sepia/Fire/Iron/Rainbow
Electronic Zoom	1X, 2X, 3X, 4X
Video Output	PAL, Ethernet
Connectivity	Ethernet (RJ-45), PELCO-D
PTZ	Yes (Optional)
Operating Voltage	12 V DC
Operation	-35°C to 55°C
Storage Temperature	-40°C to +70°C
Encapsulation	IP67
Vibration & Shock	MIL-STD-810G

Applications

- Area Surveillance
- Perimeter Security



THERMAL WEAPON SIGHTS (TWS)
TISA-506M

TISA-506M is a medium-range Thermal Weapon Sight to facilitate night firing capability for a soldier on short range weapons (SMG, G3A3, M4 and M249). It uses un-cooled thermal imaging technology with manual focus lens. It is also MIL-STD 810G compliant.

Features

- Picture-in-Picture
- Hot Tracking
- Hot Spot
- Image Freeze
- Video Recording / Snapshot Capturing
- Wifi
- C-Type USB Port

Specifications

TI Sensor Type	Un-cooled
Sensor Size	640x512, 12µm
Spectral Response	8-14 µm
Objective Lens	50mm, Manual Focus
Focus Range	5m – Infinity
FOV	8.8° x 7.1°
NETD	≤50 mK
Electronic Zoom	1X, 2X, 4X
Polarity	WH/BH/Sepia/Fire/Iron/Rainbow
Display	HD Display (1920x1080)
Built-in Memory	32 GB
Built-in Capacity	> 12hrs video recording or > 30K snapshots
Battery Type	1x Li-Ion Cell (Rechargeable)
Endurance Time	> 6 hrs
Mechanical Interface	MIL-STD 1913
Operating Temperature	-35°C to + 55°C
Encapsulation	IP67
Qualification	MIL-STD 810G
Weight	≤ 800 g

THERMAL WEAPON SIGHTS (TWS)
TISA-756M

TISA-756M is a long-range Thermal Weapon Sight to facilitate night firing capability for a soldier on long range weapons (LMG/MG1A3, SSR). It uses un-cooled thermal imaging technology with manual focus lens. It is also MIL-STD 810G compliant.

Features

- Picture-in-Picture
- Hot Tracking
- Hot Spot
- Image Freeze
- Video Recording / Snapshot Capturing
- Wifi
- C-Type USB Port

Specifications

TI Sensor Type	Un-cooled
Sensor Size	640x512, 12µm
Spectral Response	8-14 µm
Objective Lens	75mm, Manual Focus
Focus Range	5m – Infinity
FOV	5.5° x 4.5°
NETD	≤50 mK
Electronic Zoom	1X, 2X, 4X
Polarity	WH/BH/Sepia/Fire/Iron/Rainbow
Display	HD Display (1920x1080)
Built-in Memory	32 GB
Built-in Capacity	> 12hrs video recording or > 30K snapshots
Battery Type	1x Li-Ion Cell (Rechargeable)
Endurance Time	> 6 hrs
Mechanical Interface	MIL-STD 1913
Operating Temperature	-35°C to + 55°C
Encapsulation	IP67
Qualification	MIL-STD 810G
Weight	≤ 1.2 kg

THERMAL WEAPON SIGHTS (TWS)
TISA-356M

TISA-356M is a short-range Thermal Weapon Sight to facilitate night firing capability for a soldier on short range weapons (SMG). It uses un-cooled thermal imaging technology with manual focus lens. It is also MIL-STD 810G compliant.

Features

- Picture-in-Picture
- Hot Tracking
- Hot Spot
- Image Freeze
- Video Recording / Snapshot Capturing
- Wifi
- C-Type USB Port

Specifications

TI Sensor Type	Un-cooled
Sensor Size	640x512, 12µm
Spectral Response	8 -14 µm
Objective Lens	35mm, Manual Focus
Focus Range	5m – Infinity
FOV	12.4° x 10.0°
NETD	≤50 mK
Electronic Zoom	1X, 2X, 4X
Polarity	WH/BH/Sepia/Fire/Iron/Rainbow
Display	HD Display (1920x1080)
Built-in Memory	32 GB
Built-in Capacity	> 12hrs video recording or > 30K snapshots
Battery Type	1x Li-Ion Cell (Rechargeable)
Endurance Time	> 6 hrs
Mechanical Interface	MIL-STD 1913
Operating Temperature	-35°C to + 55°C
Encapsulation	IP67
Qualification	MIL-STD 810G
Weight	≤ 750 g

THERMAL WEAPON SIGHTS (TWS)
QANIS-756M

QANIS-756M is a Clip-on Thermal Scope designed to quickly clip on to existing day scope. It allows quick switching between normal and thermal optics without removing riflescope thus ensuring the zeroing of riflescope.

Features

- Picture-in-Picture
- Hot Tracking
- Hot Spot
- Video Recording / Snapshot Capturing
- Wifi
- C-Type USB Port

Specifications

TI Sensor Type	Un-cooled
Sensor Size	640x512, 12µm
Spectral Response	8 -14 µm
Objective Lens	75mm, Manual Focus
Focus Range	5m – Infinity
FOV	5.5° x 4.5°
NETD	≤50 mK
Electronic Zoom	1X, 2X, 4X
Optical Mag	1X (1-8X day sight MAG supported)
Polarity	WH/BH/Sepia/Fire/Iron/Rainbow
Display	HD Display (1920x1080)
Built-in Memory	32 GB
Built-in Capacity	> 12hrs video recording or > 30K snapshots
Battery Type	1x Li-Ion Cell (Rechargeable)
Endurance me	> 6 hrs
Mechanical interface	MIL-STD-1913
Operating Temperature	-35°C to + 55°C
Encapsulation	IP67
Qualification	MIL-STD-810G
Weight	≤ 1 kg

THERMAL WEAPON SIGHTS (TWS)
QANIS-356MR

QANIS-356MR is a Clip-on Thermal Scope designed for RPG-7 to quickly clip on with existing optical day sight. It allows quick switching between normal and thermal optics without removing optical day sight thus ensuring the zeroing of the day sight with RPG-7.

Features

- Clip-On Sight
- Re-zeroing not required
- Ballistic of Day Sight will be used

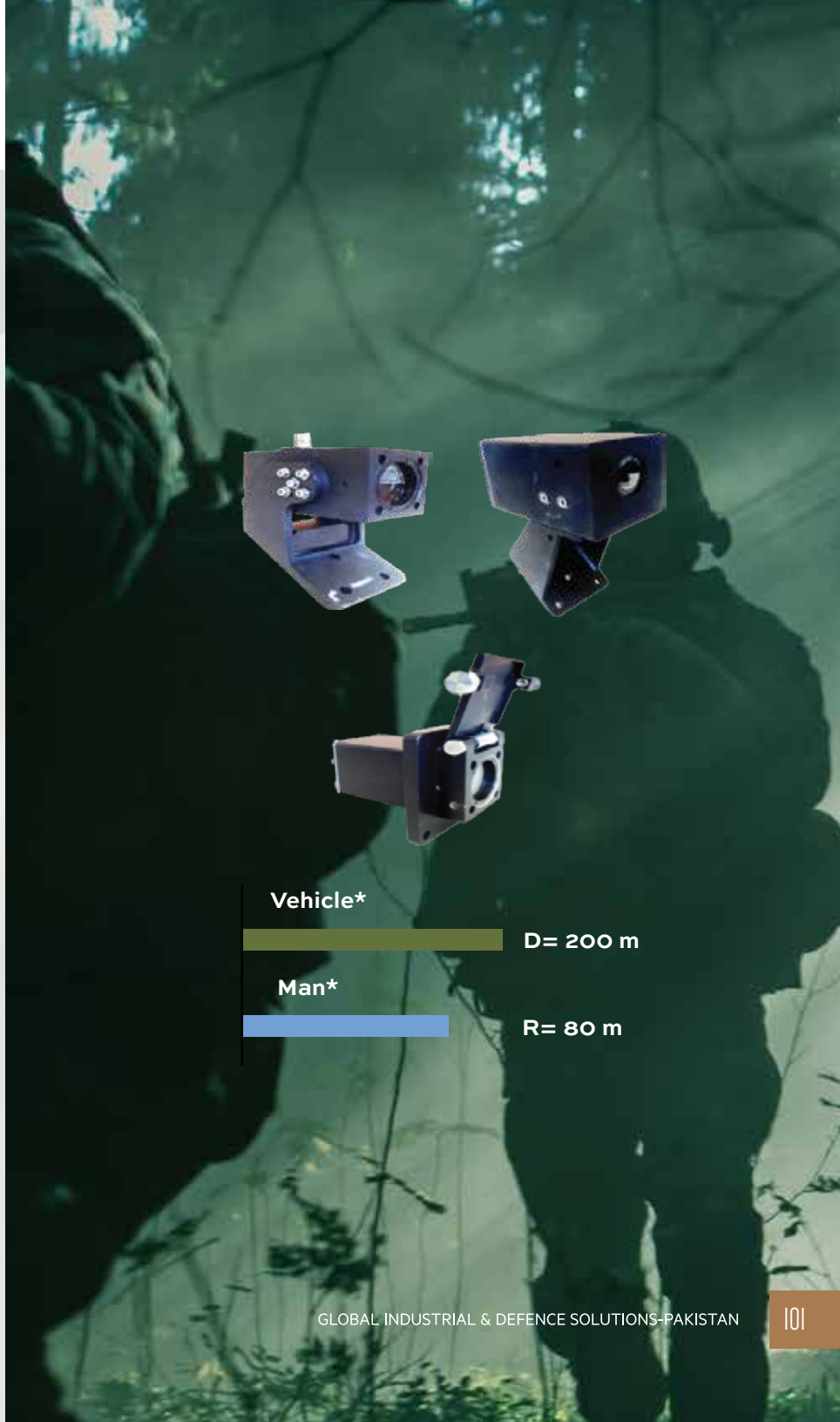
Specifications

TI Sensor Type	Un-cooled
Sensor Size	640x512, 12µm
Spectral Response	8 -14 µm
Objective Lens	35mm, Manual Focus
Focus Range	5m – Infinity
FOV	12.4° x 10.0°
NETD	≤50 mK
Electronic Zoom	1X, 2X, 4X
Optical Mag	1X (RPG-7 Optical Day Sight supported)
Polarity	WH/BH/Sepia/Fire/Iron/Rainbow
Display	HD Display (1920x1080)
Battery Type	1x Li-Ion Cell (Rechargeable)
Endurance time	> 6 hrs
Mechanical interface	Mountable with RPG-7
Operating Temperature	-35°C to + 55°C
Encapsulation	IP67
Qualification	MIL-STD-810G
Weight	≤ 600 g

DRIVER OBSERVATION FOR TANKS
DOS

Specifications

Sensor Type	Un-cooled
Sensor Size	384 x 280, 17 µm
Spectral Response	8 -14 µm
Objective Lens	50mm, Manual Focus
Focusing Range	5m – Infinity
Field of View	360x270 (1X)
Day Sensor	640x480
Range	30m
Operation	-35o C to +55o C
Storage	-40o C to +70o C
Encapsulation	IP67
Vibration & Shock	MIL-STD-810G



AIRBORNE TI SIGHT FOR LIGHT DRONES ABTIQ-640

Specifications

Sensor Type	Un-Cooled
Sensor Size	640x480, 17um
Spectral Response	8 -14 µm
Objective Lens	25mm, Fixed Focus
Focusing Range	5m - Infinity
Field of View	23.5° x 18.1° (w/o zoom)
Polarity	WH/BH/Sepia/Fire/Iron/Rainbow
Electronic Zoom	1X, 2X, 3X, 4X
Operating Voltage	3.0 - 5.0 V DC
Operation	-35°C to +55°C
Storage Temperature	-40°C to +70°C
Encapsulation	IP67
Vibration & Shock	MIL-STD-810G
Weight	<230 g

DIGITAL AIMING CIRCLE (DAC-786P)

Digital Aiming Circle DAC-786P is an opto-electronics device used for orientation of indirect fire weapons. It measures the horizontal and vertical angles with respect to Magnetic North or any other benchmark. Magnetic North is acquired by using digital compass embedded in the system. User can define center of arc and can select any type of equipment.

Features

- Compatible with Mils and Rukhs Units System
- Automatic Level Correction
- Digital Compass
- Multiple Operational Mode

Specifications

Resolution (Hor. & Ver.)	0.3 Mils
Optical Magnification	4x
Field Of View	10 degrees
Azimuth Range	6400 Mils / 6000 Rukhs
Elevation Range	-400 ~ 1100 Mils
Types of Guns Supported	15
Weight	5kg

TANK FIRING SIMULATOR (TSM-II)

TSM-II tank firing simulators for T59/T69 Tanks are used by Army for the training of their gunners. The simulators are upgraded through industrial grade DAQ system and software with enhanced training features. These simulators provide realistic firing practice in simulated 3D battlefield enviroment 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 static and moving targets
- Real time electronic monitoring of all controls via Instructor Console
- Electronic logging of all trainees' actions
- Induction of faults and emergencies to analyze trainee's response
- Basic, intermediate and advanced level exercises
- Performance record and graphical analysis of trainees' performance
- Automation of controls with state of the art industrial grade Data Acquisition System (DAQ)
- Sound simulation for realistic training

Specifications

Power Supply	220 V±10%,50H
Power Consumption	Less than 5KW
Controls	Replica controls for simulated response
Type of Platform	Moving platform for gunner

Inner view of Gunner Cabin TSM-II

Instructor Console TSM-II Sml

COMINT SYSTEM

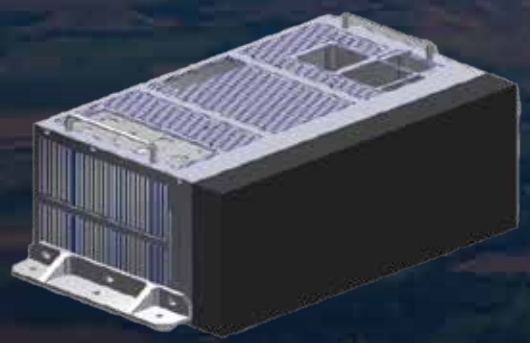
COMINT payload is a complete spectrum monitoring and analysis system for aerial / UAV platforms providing scanning and logging up-to 3 GHz on a solid state hard drive. The system is designed to cope with the challenges of modern dense communications network environments and to perform long-range, high endurance COMINT missions. The system's tasks are to scan, intercept, measure, locate, analyze, classify and monitor communications transmissions.
The modular architecture, the compact size, the low power consumption and the flexible interfaces of the COMINT Payload enables its integration in a variety of Aerial Platforms & UAVs from Tactical to MALE/HALE categories.

Features

- Lightweight, portable and easily deployable form factor
- Spectrum search data transmitted via telemetry link to ground station
- Onboard threat library
- FPGA based high sensitivity receivers.
- User friendly system software application
- EMI / ECM Compliance

Specifications

Dimension	
Main Box	440 x 200 x 290 mm
Antenna Scanning	290 x 200 x 100 mm
DF Antenna	380 x 100 x 100 mm
Weight	
Main Box	290 Kg
Antenna	5 Kg
Frequency Range	20 MHZ to 3 GHZ



AUTOMATIC FIRE CONTROL SYSTEM

UP-GRADATION OF 37MM ANTI AIRCRAFT GUN

The original 37mm twin barrel AD gun has been upgraded in order to meet the present combat threats.The upgraded gun with its new firing system gives a unique combination of modern technology resulting in a very reliable weapon system. Capable to track high speed targets coupled with auto ranging.The gun can be operated in three modes, i.e. joystick, handheld fire control and laser aiming sight.

- Sunlight viewable alpha numeric displays
- Provision of interfacing with multiple guns (optional)
- Off Gun tracking of target for stability
- Computer aided leveling
- Smart electronics for gun control
- Power electronics for motors
- Limit switch for safety arc range
- Emergency stop
- Motors for azimuthal & elevation movements
- Horizontal and vertical shaft encoder
- Fire safety switch

PROTECTION SOLUTIONS FOR MAIN BATTLE TANKS / APCS

We provide customized protection solution against all kinds of MBTs / APCs within desired weight and geometrical configuration. Currently, protection kits for Al-Khalid, Al-Zarrar, T-85 and VT-4 MBTs have been successfully developed and being delivered to Pak Army for onward installation on respective MBTs.
Capability in the development work with various protection level is mentioned below:

Specifications

Description	Protection level against 125 mm Projectile		Scope of Work
	APFSDS	HEAT	
Al-Khalid-I	460	550	Turret / Hull CABs, Turret
A-Zarrar	460	550	Turret / Hull CABs, Turret
T-85	460	550	Turret / Hull CABs
VT-4	600	750	Turret / Hull CABs, Hull Side / Bottom Plates, Turret
Modified VT-4	600	800	Turret / Hull CABs

Note: Protection level can be further enhanced with the addition of ERA.

- Scope of work can be enhanced/ reduced as per user's requirement.
- ToT of MBTs Protection Solution to any customer can also be offered and the same may take 2-3 years for completion (installation of equipment and production line)

WATER PURIFICATION PLANT

Used to purify contaminated/polluted water in order to make it safe for drinking. It works on the principle of Reverse Osmosis (RO).

Features

- Fully Automatic/Semi-automatic
- The system can be transported by aircraft /helicopter, truck, or other platforms like rail and ships
- Optimal treatment is achieved by integrated process equipment
- Latest & state-of-the-art ultraviolet system for removal of harmful bacteria and viruses (optional)
- Permeate (product) and concentrate (reject) flow meters
- Pre-treated water addition to cover the TDS range
- Easy Maintenance

Specifications

	Model	
	WPP – D 2500	**WPP – D 650**
Capacity	2500 ltr/hour	650 ltr/hour
TDS Input Range	1000 - 8000 ppm	1000 - 8000 ppm
TDS Output Range	Less than 400 ppm	Less than 400 ppm
Weight	1800 Kg	300 Kg

HEPA FILTERS

HEPA Filters are manufactured in state of the art plant and are tested with Hot DOP and ATI Equipment. Hot DOP Testing Equipment and Cold DOP Testing Equipment are used to ascertain the efficiency of filters.

Features

- Fully Automatic / Semi-automatic
- The system can be transported by aircraft / helicopter, truck, or other platforms like rail and ships
- Optimal treatment is achieved by integrated process equipment
- Latest & state-of-the-art ultraviolet system for removal of harmful bacteria and viruses (optional)
- Permeate (product) and concentrate (reject) flow meters
- Pre-treated water addition to cover the TDS range
- Easy Maintenance

Specifications

Dimension (mm)	Flow Rate (CMH)	Pressure Drop (pa)	Efficiency (% @MPPS)	Frame Material
305 x 305 x 69	150	≤ 120	99.995	Aluminum
522 x 522 x 69	450	≤ 120	99.995	Aluminum
610 x 610 x 69	600	≤ 120	99.995	Aluminum

GUNSHOT DETECTION SYSTEM

Sound Based Situational Awareness System for detection of small / medium gunshots.

System Configuration

- Handheld module for GUI. Foldable Acoustic Sensors Array (ASA) with microphones, tripod and cable
- Signal acquisition and processing module with integrated battery
- A moving camera can also be attached that automatically moves in the shooter direction
- Laptop computer (optional) for advanced users

Features

- Displays the shooter direction / position on handheld GUI unit in real-time
- Full 3600 surveillance with source localization
- Fully Passive
- Light weight and easily portable
- Wireless GUI , Compact and rugged
- Easily deployable in the field within few minutes
- Response time < 1 Sec
- Azimuth angle error < 20
- Elev. angle error < 50

Power Requirements

Operating Voltage:	24V DC
Current Requirement:	< 350mA
Charging Time:	12 hrs continuous operation

Applications

- Counter Terrorism Localization
- Counter Sniper
- Situational Awareness against Asymmetric Threats
- Explosion Localization for Law Enforcement

DISTRESS SIGNAL CARTRIDGE (DAY & NIGHT)

The compact hand held signal distress day / night emits dense orange smoke from one end and yields red flame of 100 K-lux from other end.

- Easy to handle
- Easy to operate

Performance

- Orange Smoke Duration ≥ 18 Second.
- Red Flare Duration ≥ 20 Second.
- Water Resistance = 30 meters

Dimensions

- Height = 5.40 Inch
- Dia = 1.625 Inch

Application

Cartridge type device is used for personal distress signaling. It is a part of rescue kit placed in fighter aircrafts.

Hazard Classification

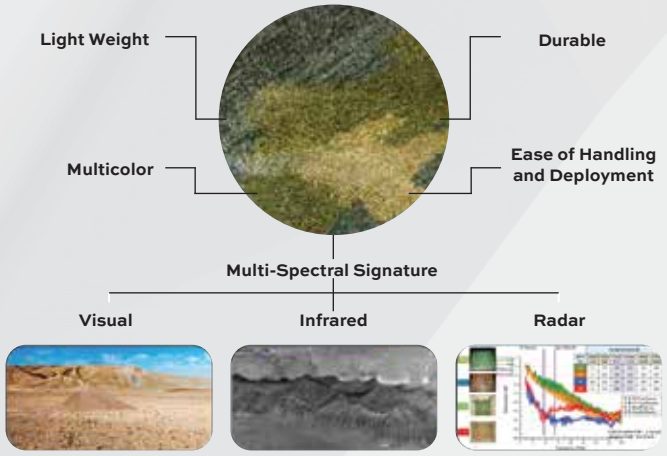
Compatibility	G
Hazard Division	1.4
Firefighting classification	3
Safety	Device is safe in handling, storage, transportation & operation

ECLIPSE
MULTI SPECTRAL CAMOUFLAGE NET

Multispectral Camouflage Infrared Net (MSCN) stands out as a premier solution for enhancing the survivability of strategic assets. Supplied for many years, its reliability and durability in harsh environments are well-proven.

Radar Wave Efficacy: Leafy MSCN excels in scattering incoming radar waves without special arrangements, thanks to its high density of 3D, fine metallic leaves. This results in superior radar suppression, achieving more than -20 to -30 dB in X and K bands, significantly outperforming ordinary MSCNs.

Thermal/Infrared Performance: Its grass-like structure ensures excellent heat management, maintaining a minimal temperature difference (ΔT ≤ 7°C) from the background. This seasoned MSCN effectively reduces thermal transmission from objects, enhancing concealment and survivability.



Desert Patch

Green Patch

Features

- Fine Metallic-Polymeric sheet having grass like cuts
- Higher number of Leaves in Unit Area hence unmatchable radar performance
- Ready to perform-No special arrangements are required
- Porous structure with excellent heat management abilities
- Least difference in temperature with immediate surrounding (≤3°C)

NAVAL SYSTEMS

HARBAH WEAPON SYSTEM

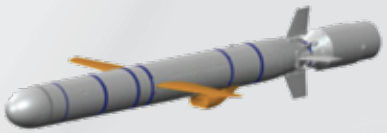
Harbah is a Navy Ship Launched Subsonic Cruise Missile system able to target Enemy Ships and Land based targets within an accuracy of ≥10m radius. It employs cutting edge navigation technologies such as Inertial Navigation System (INS) with GPS/GLONASS making it exceptionally accurate weapon system to precisely engage the desired targets. It is capable of engaging land based installations as well as both small and large ships. Harbah has a modular design, allowing a wide variety of warhead, guidance, and range capabilities. Harbah is all weather capable and flies at lower altitude which makes it impossible for countermeasures to come into play, making it one of the deadliest systems

Salient Features

- Medium Range
- Highly Precise Navigation
- All weather Operation
- High Hit Probability
- Smart Size and Weight
- High Survivability
- Easier Ground Handling

Types of Payload / Warheads

- Fragmentation Warhead
- Anti-ship Warhead



Guidance

- Inertial Navigation System
- DSMAC Camera
- Radar Altimeter
- Imaging Infrared Seeker
- Radar Seeker

Parameters

Range	≥280 Km
Speed	0.6 – 0.8 (Mach)
Gross Weight	1350 Kg
Diameter	0.5 m
Length	6.8 m
Fuel	Liquid Aviation Fuel JP-8
Seekers	Radar & IIR
Single shot hit Probability	>90%
After Sales Service	Yes(Life Support Program)
Survivability Features	Multiple way points, Maneuverability, Speed

EXPANDABLE MOBILE ASW TRAINING TARGET (EMATT)

The Expendable Mobile ASW Training Target (EMATT) is used as a target for Anti-Submarine Warfare training in sea to ASW teams. It is a self-propelled underwater vehicle which can be programmed to execute certain manoeuvres according to the selected run geometry. It can be deployed from certain surface and/or aerial platforms. It can be used with active and passive sonars of PN surface ships including PN helicopters equipped with dipping sonars.

Salient Features

- Longer Shelf life
- Manual Deployment
- Sea water activated Battery
- Light weight
- Hydrodynamic stability

Main Specifications

Length	30-40 inches
Diameter	5 inches (approx.)
Weight	10-12 kg (approx.)
Buoyancy	Approximately 1.6 pounds (negative)
Speed	4-8 KNs
Endurance	5-6 hrs.
Operating Limits (Depth)	60 feet to < 600 ft.
Dive/Climb Rate for Depth Changes	2.5 ft/sec
Turn Rate for Course Headings	3.5 deg/sec

SONOBUOY ACOUSTIC PROCESSING SYSTEM (SAPS)

The Sonobuoy Acoustic Processing System (SAPS) is a combination of hardware and software that enable users to receive, process, record and analyze underwater acoustic signals transmitted by Sonobuoy(s) over radio frequency (RF) link.

Salient Features

- Wideband concurrently processed at different frequency resolutions.
- Selectable Center Frequency
- Multiple divider
- Spectral Analysis
- Demon analysis

Main Specifications

VHF Band	136.000 MHz to 173.500 MHz
Compatible Sonobuoys	LOFAR, DIFAR
Analysis Tools	• Narrowband • Broadband • Demon
Total Sonobuoys Managed	Up to 32
Localization Tools	Energy Plots
Classification	Harmonic Dividers
Operating Modes	• Initialization and Self-Test • Normal operation • Replay mode

SLIM LINE TOWED ARRAY (SLTA)

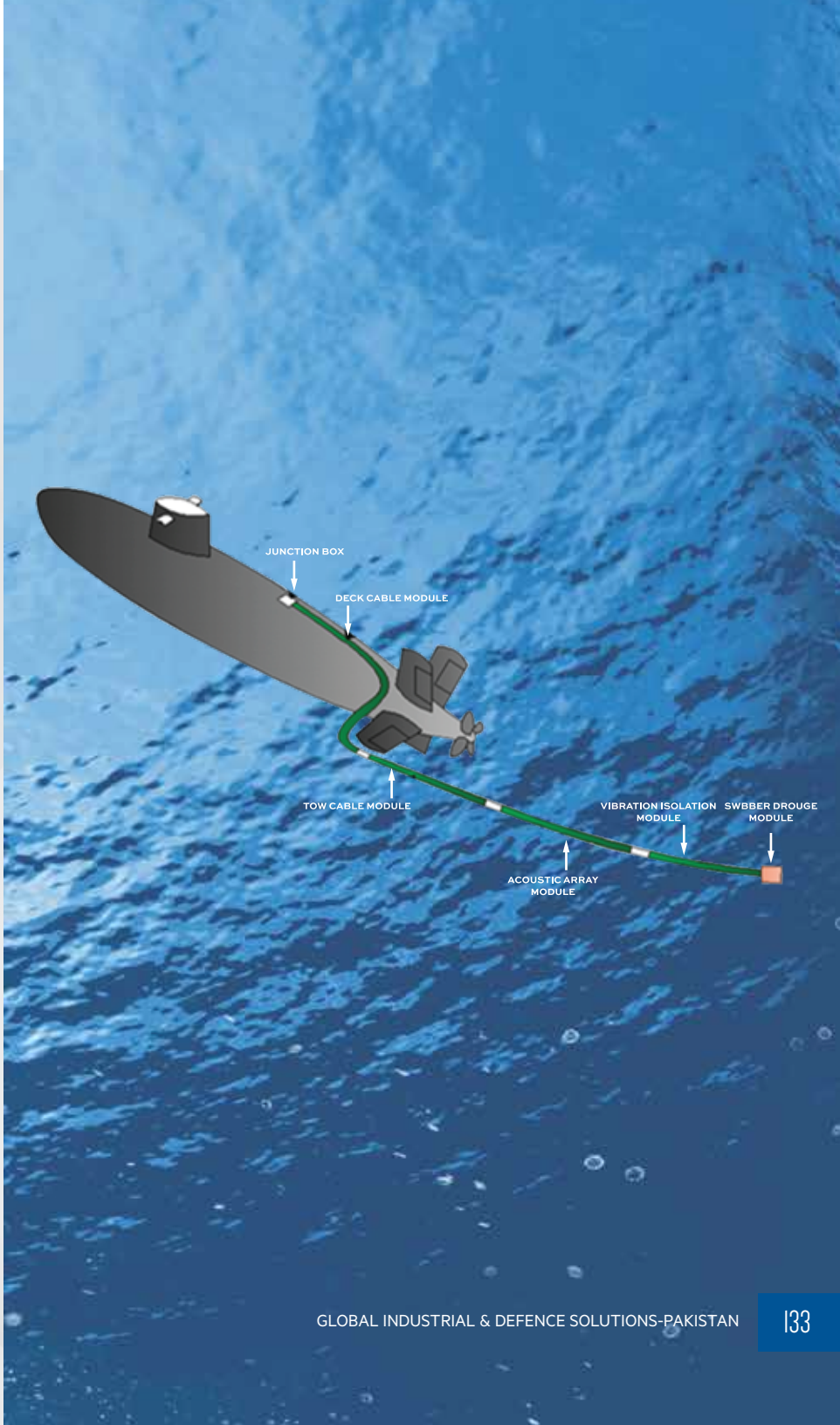
Anti-Submarine Warfare is an important capability for surface ships. Generally, Surface ships use Hull Mounted Sonar for ASW mission and detection of submarines. However, Hull mounted Sonar performance is limited due to its frequency range and environmental conditions. The shortcomings are overcome by use of low frequency Towed Array Sonar that provides long detection ranges and capability to vary depth to counter environmental conditions.

Salient Features

- Long Range detection
- Smaller Diameter
- Light weight
- Neutrally Buoyant
- Maintainable

Main Specifications

Number of Acoustic Channels	78
Frequency Band	Up to 1.5 KHz
Operating Speed	~Up to 17 Kts
Operating Depth	~Up to 300m
Number of Depth Sensors	02



SEA SURGE ANTI SUBMARINE

Sea Surge air launched anti submarine weapon can be deployed at shallow depths from either a fixed wing aircraft or a helicopter. This weapon is ideally suited for coastal defence operations.

Techincal Specifications

Total Length	142 cm
Dia	28 cm
Weight of full prepared unit	150 kg
HE	82 kg
Firing depth	21 meter

System Configuration

- Main body carrying HE
- Fuze
- Tail unit
- Suspension and releasing mechanism

RIBAT-2S (ESM)

ELECTRONIC SUPPORT MEASURES SYSTEM

Electronic Warfare (EW) is of prime significance in modern warfare, both for short-term reconnaissance and long-term strategic purposes. Electronic Support Measures (ESM) system is the most important EW component required for ground (shore-based), surface and airborne applications, especially in maritime scenario.

RIBAT-2S cover all the essential features available in ESM systems being used by modern navies worldwide. The system can detect, classify and track both CW and pulsed radar emitters operating in 0.5 - 18 GHz frequency band.

RIBAT-2S has 100% POI, high sensitivity, and instantaneous frequency measurement with high accuracy, fast reaction time and threat identification. The system is compact. lightweight, and can easily be interfaced with other onboard sensors and systems.

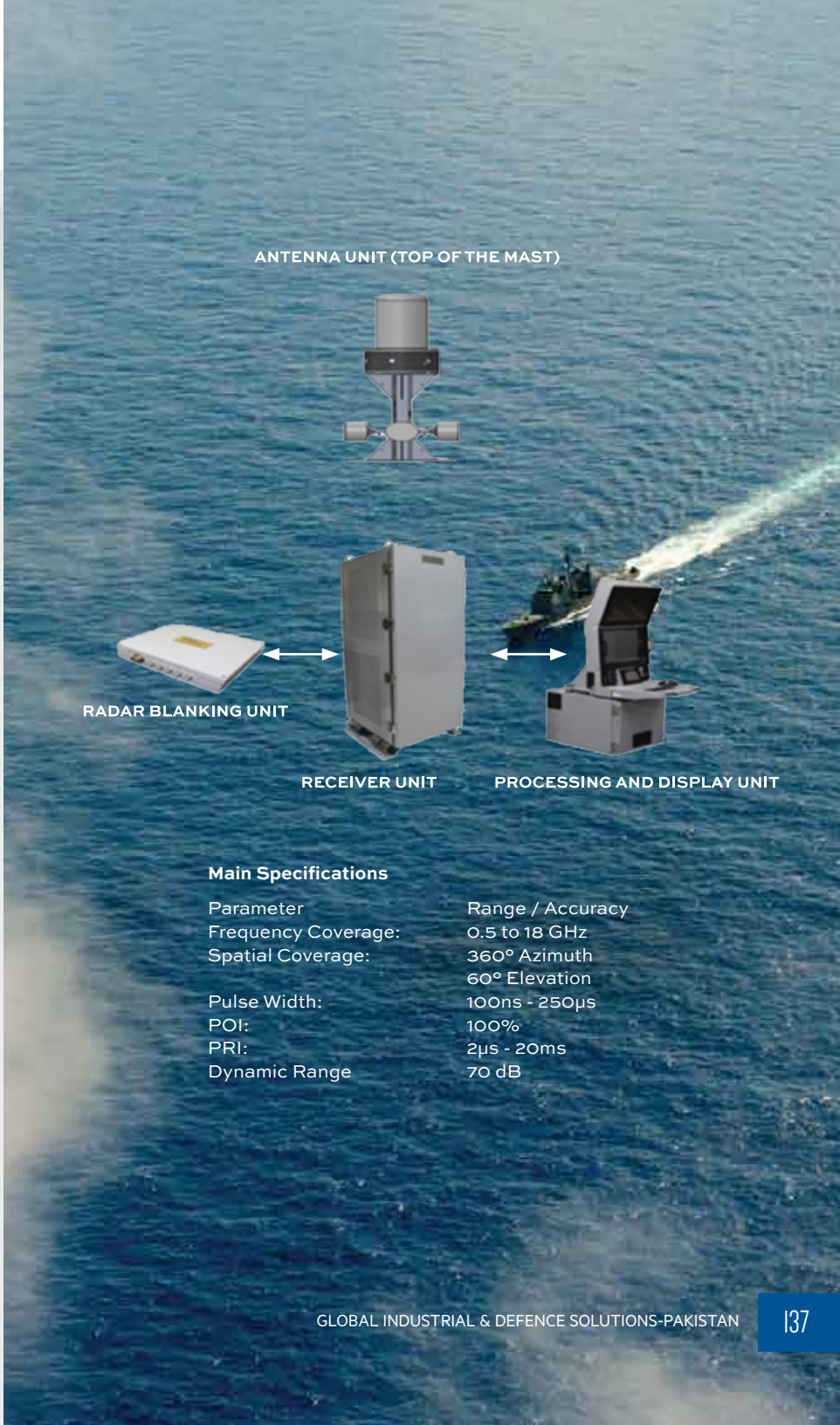
The system consists of four main units comprising of Antenna Unit (AU) - outdoor unit, Receiver Unit (RU) - indoor unit, Processing and Display Unit (PDU) - indoor unit & Radar Blanking Unit (RBU) - indoor unit.

Features

- High Probability of Intercept
- Wide Frequency and DF coverages
- High Frequency and DF accuracies
- High system sensitivity & dynamic range
- Capable to handle complex & dense EM environment with high parameter extraction accuracies
- Data Recording Capability
- Mission Specific Threat Library
- Modular architecture
- Fast reaction time
- High resolution display
- Audio/visual threat alarm

Applications

- Sub-Surface
- Surface
- Air (UAV& Helicopter)



Main Specifications

Parameter	Range / Accuracy
Frequency Coverage:	0.5 to 18 GHz
Spatial Coverage:	360° Azimuth
	60° Elevation
Pulse Width:	100ns - 250µs
POI:	100%
PRI:	2µs - 20ms
Dynamic Range	70 dB

ACTIVE & PASSIVE SONOBUOY

Modern submarines are getting quieter and more efficient, requiring an agile response from maritime forces in terms of ASW operations. The use of Sonobuoys for underwater target detection and classification had become an integral part of this response. Sonobuoy is used for underwater target detection & classification. Sonobuoys can be deployed quickly and over a wide area while providing varied data that can be used to develop an accurate picture of the undersea acoustic environment.

Salient Features

- Longer Shelf life
- Manual Deployment
- Sea water activated Battery
- Light weight

Main Specifications

Channel Selectivity	35 Channels selectable in VHF Band 158MHZ-173.125MHZ
VHF Transmitter power	Up to 1 watt
Operating depth	Preset three different depths selectable(30m/120m/300m) (Shallow/ Medium/ Deep Depth)
Tolerable Sea State	Less than 4

AUTOMATIC DEPLYABLE AND RETRIEVAL SYSTERM (ADRS)

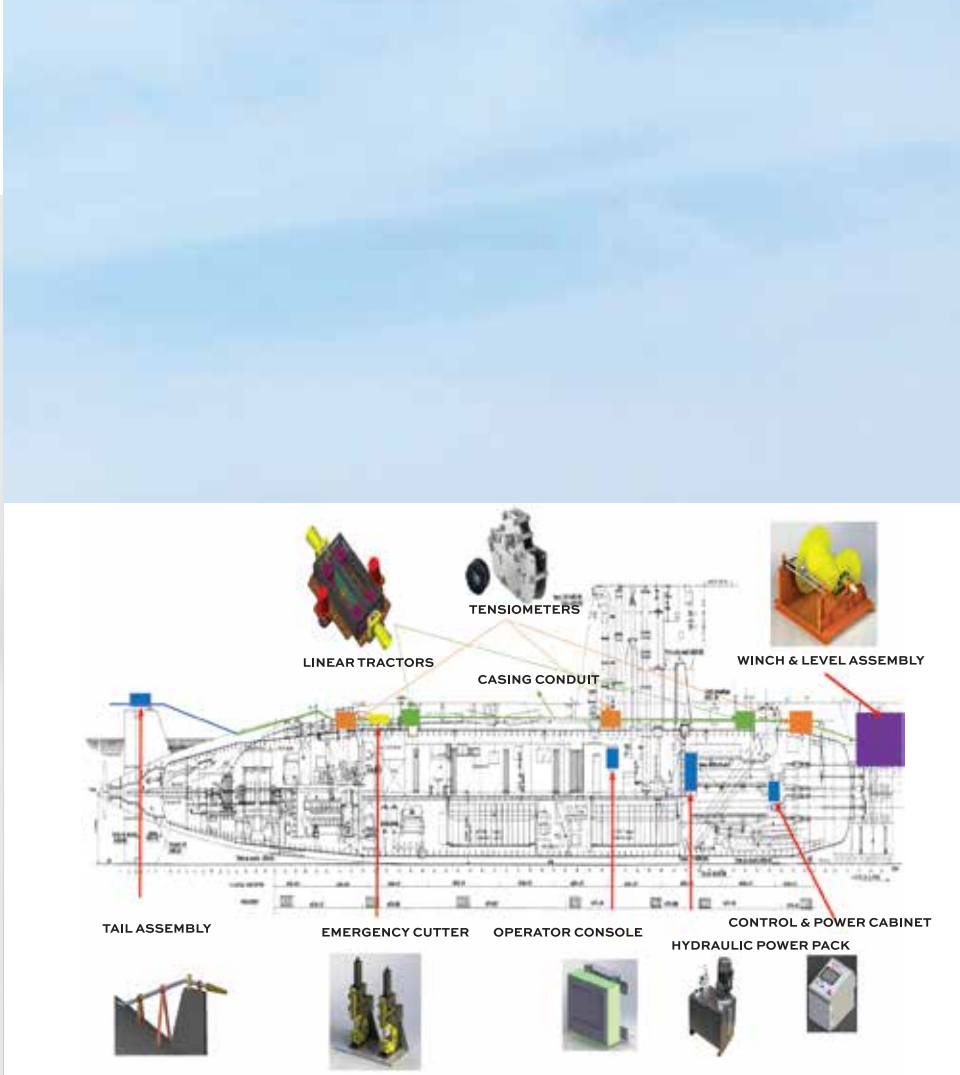
Automated Deployment and Retrieval System (ADRS) for towed arrays is vital to improve covertness and enhance operational capabilities of the submarine in varied scenarios. The overall deployment and retrieval time is greatly reduced along with reduced human resources required for the activity. Since TA is the only long-range sonar, its wartime availability shall also be made available using ADRS which is not currently possible due to manual deployment and retrieval.

Salient Features

- Reduced Deployment & Retrieval time
- Automatic operation
- Enhanced operational capabilities

Main Specifications

Overall Power Requirement	7.5 kW/ 10 HP
Hydraulic Pressure	250 bar
Hydraulic Reservoir Capacity	100 liters
Array Deployment / Retrieval Speed	20m/min (approx.)
Deployment/retrieval time	20-30min
Winch Drum Speed	5 rpm



NAVAL COMBAT MANAGEMENT SYSTEM

GIDS has developed a Naval Combat Management System (NCMS) which takes in all relevant internal and external information, from onboard sensors, systems and tactical communication link (s), and enables ship command to detect, analyze and act against threats to the ships itself and the friendly forces around. NCMS is able to provide requisite operational capabilities to the command team for undertaking all peace & war missions. NCMS provides a comprehensive and up-to-date tactical picture to the command team and assists the command in four essential domain of naval warfare; Anti-Air warfare (AAW), Anti-Surface Warfare (ASuW), Anti-Subsurface Warfare (ASW) and Electronic Warfare (EW).

Key Features

Tactical Navigation	Min, Max, Avoidance, CCM, Formation CCM, Stationing, Situation Prediction
Search & Rescue	Incident Reporting & Management, Rescue Planning, Search Patterns (e.g. Expanding square search, sector search, parallel lines search etc), Man Over Board
Anti-Surface Warfare	Safeguard Areas, Threat Identification, prioritization, promotion/ demotion, Threat List, Auto/ Manual weapon designation, Fire Authorization, Mission Planning, SSM/ Guns
Anti-Air Warfare	Safeguard Areas, Threat Identification, prioritization, promotion/ demotion, Threat List, Auto/Manual weapon designation, Fire Authorization, CIWS/ SAM/ Gun/ Chaff
Anti-Sub Surface Warfare	Torpedo Danger Zone, Threat Identification, prioritization, promotion/ demotion, Threat List, Auto/ Manual weapondesignation, Fire Authorization, Torpedo/ Depth Charge
Electronic Warfare	Display of Bearing Lines, Missile Alarms and Warnings, Threat Identification, prioritization, promotion/ demotion, Threat List, Auto/ Manual weapon designation, Fire Authorization, ECM, Chaff
Auxiliary and Support	Record and Replay, User and Role Management, Training and Simulation, System Monitoring and Management, Emission Control (EMCON), Alarm Warning and Information Management

Dual Vertical Screen (MFCC)

Data Processing Cabinet (DPC)

Tactical Picture Compilation in NCMS

SONAR TRANSDUCER & SYSTEMS

Design, development/manufacturing and refurbishment of underwater transducers, hydrophones and sensors for different applications is a rare technology. The developed products feature in a wide range of underwater sonar applications, ranging from echo sounders, towed arrays, Hull mounted sonars, sonobuoys, and mine-hunting sonars has been developed and delivered to PN.

Salient Features

- Spherical Transducers (LF,MF & HF)
- Echosounder
- Tonpilz/Pistion
- Cylindrical Hydrophone
- Flexural Disc

Main Specifications

Resonant Frequencies ranges	1 kHz to 500 kHz
Acoustic sensitivity	up to -201 dBV re 1V/µPa
Depth ranges	100 m to 1400 m
Bearing Resolution (Theoretical)	~1.50 ± 0.10 deg
Range Resolution (Theoretical)	~6.2 cm
Source Level	217 (1 µ Pa, 1m)

BRIDGE PILOTAGE SIMULATOR (BPS)

Bridge Pilotage Simulator (BPS) is a generic navigation simulator which simulates the bridge of Destroyer type of ship. The simulator provides 3D virtual environment of different harbors including important navigation landmarks. It provides configuration of different environment effects like day & night, rain, fog, sea states, etc. The simulator provides training of different navigational exercises such as Entering/Leaving harbor, RAS, Mooring, Tug handling, rope passing, MOB etc. The simulator is also capable of incorporating new models of harbors, different type of ships, submarines, etc.

Main Specifications

- Simulation of complete bridge room along with Customized Consoles including (Quarter Master, Captain, OOW, Pelorus) as per onboard ship
- The simulator displays one large synchronized scene of around 270 degree replicating actual Bridge of the ship
- ECDIS, Echo Sounder, GPS Simulation
- Radar Simulator

Modules

- Instructor Application
- 3D Visual Application
- Radar Simulator
- 3D Sound Simulator
- Record/Replay and post exercise evaluation report
- Physical Consoles
- Bridge Layout

BRIDGE SIMULATOR AREA

3D VISUAL

3D HARBOUR VIEW

SHIP STERN VIEW

TOWED ARRAY SONAR DRY END

Dry ends of Towed Array sonar cover the whole chain from Front End Conditioning, Analogue to Digital Conversion, Sonar Processing and presentation of the results on new Multi-Function Consoles. The primary purpose of TA Dry End is to provide an accurate rendering of the surface and undersea environment by processing data from the Towed Array Sonar and displaying the information extracted through high quality human machine interfaces on a rugged Multi-Function Computer Console. The displays are geared towards optimally fulfilling the surveillance, tactical and safety requirements of the sonar operators.

Specification

Sensor Type	Un-cooled
Sensor Size	384 x 288,17 µm
Spectral Response	8 -14 µm
Objective Lens	50mm, Manual Focus
Focusing Range	5m – Infinity
Field of View	7.4° x 5.6° (1X)
Display	Color AMOLED Display (800x600)
Electronic Zoom	1X, 2X, 4X
Polarity	WH/BH/Sepia/Fire/ Iron/Rainbow
Battery Type	1 x Li-ion (Rechargeable) battery
Battery Life	>5 hours
Mechanical Interface	MIL- STD 1913, STANAG 2324
Operation Temp.	-35oC to +55oC
Storage Temp.	-40oC to +70oC
Encapsulation	IP67
Vibration & Shock	MIL-STD-810G
Weight	<0.7 Kg (without battery)

Salient Features

- Long-range detection
- Broad and narrow band detection
- Transient Noise Detection

Main Specification

Broadband processing frequency	8Hz-1280Hz
Narrowband processing frequency	10Hz-640Hz
Audio Analysis	LOFAR, Vernier and DEMON
Tracking	Auto, Manual & Prediction

AVIATION MAINTENANCE MANAGEMENT SUITE

Aviation Maintenance Management Suite (AMMS) is the first in-country 100% indigenous, web-centric, technologically advanced, fully customizable, **Maintenance Repair & Overhaul (MRO) or Maintenance & Engineering (M&E)** Solution that can be customized for any **Aerospace & Defence (A&D)** Organization to meet the diversified needs of complete fleet (**one solution for all types of aircrafts**).
AMMS enables & integrates all the major departments/ functions of **Maintenance organization** through comprehensive modules/Components including:

- Admin & Security
- Human Resource Management
- Human Resource Training
- Configuration Management
- Document Management
- Inventory Management
- Work Shop Management

Salient Features

- Manage & Maintain complete **configuration of Aircrafts** from system / sub-system to component level
- Provide **spontaneous visibility & status of Line/Shop Replaceable Units** (LRUs & SRUs)
- Give complete repair/ **maintenance history of aircraft/ equipment** for fault diagnosis and rectification analysis
- Ensures **automated tracking of life for aircraft & equipment** in Hours, Landing and Days
- Track and monitor **all type of flight check,** schedule maintenances (A-Check, B-check etc.) & Depot Maintenance
- Provide complete **visibility and status of work requisition / work orders** undergoing at work shops
- Maintain & Verify requisite **qualification & technical status to ensure safety & compliance**

- Online fast and easy **searching and accessibility of maintenance manuals & technical publication**
- Fully **integrate with demands of stores/ tools and spares** with complete visibility of inventory items/components
- Powered with highly intuitive & analytical dashboards for holistic view of each **Key Performance Indicator (KPI)**

Main Specifications

- **Processes architected and structured to comply aviation standards for maximum safety & airworthiness**
- **Enterprise Collaboration & applicable Integration to geared-up MRO Operations & activities**
- **Use cutting-edge web-responsive technologies for machine independence**
- **Instant/ Summarized reporting of KPI with drill-down tools**
- **Flexible Data Searching with export capabilities**
- **Offline/ Mobile Computing (with PDAs / Tablets)**
- **Intuitive, Informative & Analytical UI/ UX**
- **Workflows (customizable) with e-signatures**
- **Enabled with Barcodes, encrypted passwords**
- **Data-level** access control & security

WAR GAMING SIMULATOR (WGS)

War Gaming Simulator (WGS) simulates military operations involving two or more opposing forces using rules, data & procedures designed to depict an actual or assumed real life situation. WGS provides an efficient and automated means to learn futuristic strategic planning and decision making skills. WGS provides user friendly and computer assisted war games to allow the course members to exercise Naval Operational Planning Process and enhance decision making abilities. WGS supports computer assisted analysis for evaluation of trainees' actions in an almost real time environment.

WGS MODULES

WGS WAR GAME SCENARIO GENERATION

ENTITY LIBRARY MODULE

WGS SYSTEM LAYOUT

WGS Modules:

- Privileged Access Management Module
- Entity Library
- Terrain Modification Utility (TMU)
- Exercise Library
- Map Utility
- Command Hierarchy Tool (CHT)
- Map filters
- Information Management Tool (IMT)
- Integrated Message Browser (IMB)
- Electronic Documentation Module (EDM)
- Controller's Module
- Trainee's Response Planning Module
- Record replay exercise
- Players orders
- Controllers orders
- 3d Visual Planning
- Post Game Performance Analysis
- Periodic Reports

SERVICES

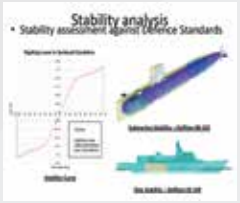
Measurement & Testing Services

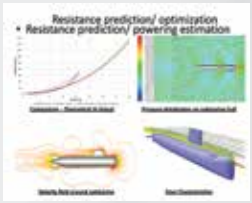
We design and install Electromagnetic Shielding for military, industry, medical facilities, hospitals and R&D laboratories. We offer a wide range of Electromagnetic Compatibility (EMC) services e.g. EMC testing of ships, submarines, other tactical platforms and electronic systems.

Designing of Small to Medium Size Surface Vessel

We have the capability to undertake the design of small to medium size surface vessel including missile boats, small merchant ships and coastal crafts etc. We have design labs that are equipped with latest ship design software like paramarine that enable following analysis to be undertaken:

- Stability analysis
- Powering calculations
- Sea keeping analysis
- Manoeuvring analysis
- Detailed structural design
- Radar Cross Section analysis
- Vulnerability analysis etc.

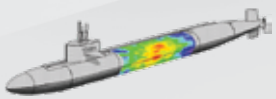


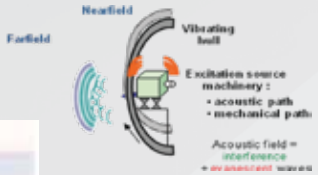


ACOUSTIC RANGING OF NAVAL VESSELS

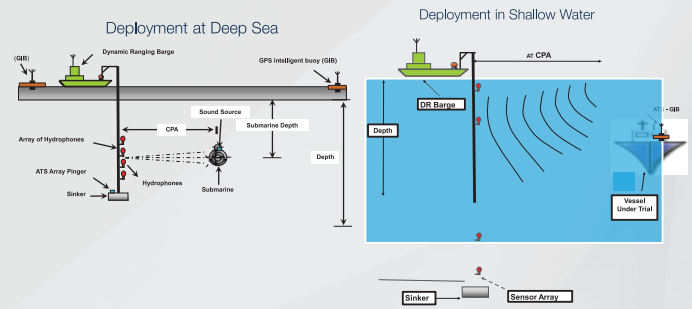
In today's naval warfare, knowledge of one's own acoustic signatures is the difference between the prey and the predator. Signature management facility provides own noise level in full range of audible frequency spectrum, by utilizing static and dynamic measurements of naval vessels i.e. ships, Mine Counter Measure Vessels (MCMVs) and submarines.

Acoustic Signature Management is a very specialized field which not only requires operational skills but also has a very strong proficient development and analytical aptitude. We can provide the said service to friendly navies in the region. It consists of Static Ranging known as Near Field Holography (NAH) and dynamic ranging of moving vessels in open sea.





Dynamic Ranging



NAVAL VESSEL OPS ROOM SIMULATOR

Tactical training of Operations Room crew onboard naval ships is a paramount requirement of modern naval warfare. For this purpose sending of naval units at sea for longer durations is an expensive proposition. On the other hand the Ops Room Simulator provides continuous training to ships crew as convenient while remaining ashore. The system can provide integrated picture of different types of weapons and sensors and create battle scenario as per customer's requirements.

Capabilities and Main Features

- Provides tactical training for OPS room team
- Includes state of the art replica consoles of weapons and sensors as desired by the customer
- Generic library structure
- Simulation of Fire Control System, sensors, weapons etc.
- Record/ replay feature
- Modular & configurable architecture to meet customized needs
- Through life support is ensured

SUBMARINE TACTICAL TRAINER

SMTT Simulator is an exact replica of the Submarine Operation room. The dimension, configuration, colors, and appearance of the controls would be reflected. It includes the complete hardware of the Submarine Operation room. Where the sound effects are required would be reproduced electronically. SMTT is capable to provide various simulated training scenarios for different situations. It facilitates REALISTIC Detection, Tracking, and Analysis of submarines & surface vessels in different tactical maps as well as high-fidelity underwater acoustic and sensor simulations.
SMTT facilitates Defence and attack operations against computer-generated forces which are simulated as REALISTIC targets. Platforms are capable of applying various Anti- Submarine Warfare (ASW) tactics and procedures. Torpedo firing and guidance training as per the actual system is the principal requirement to be accommodated with high fidelity to enable the submarine crew to respond properly to specific tactical problems.

Features

Operation room consoles are an exact replica of the onboard submarine Operations room. The consoles include all MFCCs, steering station, search periscopes & optronic mast, all ops room auxiliary and alert equipment, echo sounder, analysis/debrief station and instructor console, etc.

SUBMARINE DIVING SIMULATOR

The Diving Simulator of the Agosta-90B submarine is a real-time simulator for offshore training of the crew. It simulates diving, snorkeling, and surfacing exercises through the reproduction of trim movement ±45 degrees with variable speed encountered onboard. This system simulates the operations of the Diving Safety Panel, Steering Station, Air Circuits, Hydraulics, and other auxiliary assemblies of the Diving Control Room.

Features

- Risk-free and efficient offshore training of the crew
- Electronic log of an entire training session for performance evaluation
- Simulation of various emergencies like fire, flooding, and equipment failure
- Sound simulation for realistic training
- Performance record and graphical analysis of trainees' performance
- Training capacity of 10x trainees in one session

Specifications

Controls	Replica of actual controls
Capacity	20 x Trainees
Trim Movement	± 45°
Speed	9 arc minutes/sec to 9 degree/sec

SUBMARINE PROPULSION SIMULATOR

The Propulsion Simulator of the Agosta-90B Submarine is a real-time simulator for offshore training of the Propulsion Control Room crew. It simulates the operations of the Propulsion Control Panel, Main AC Switch Board Panel, Main Motor local control, and Cruising Motor local control.

Features

Operation room consoles are an exact replica of the onboard submarine Operations room. The consoles include all MFCCs, steering station, search periscopes & optronic mast, all ops room auxiliary and alert equipment, echo sounder, analysis/debrief station and instructor console, etc.

Specifications

Type of Platform	Static
Controls	Replica of actual controls with simulated responses
Power Supply	220 V ± 10%,50H
Backup Power	UPS

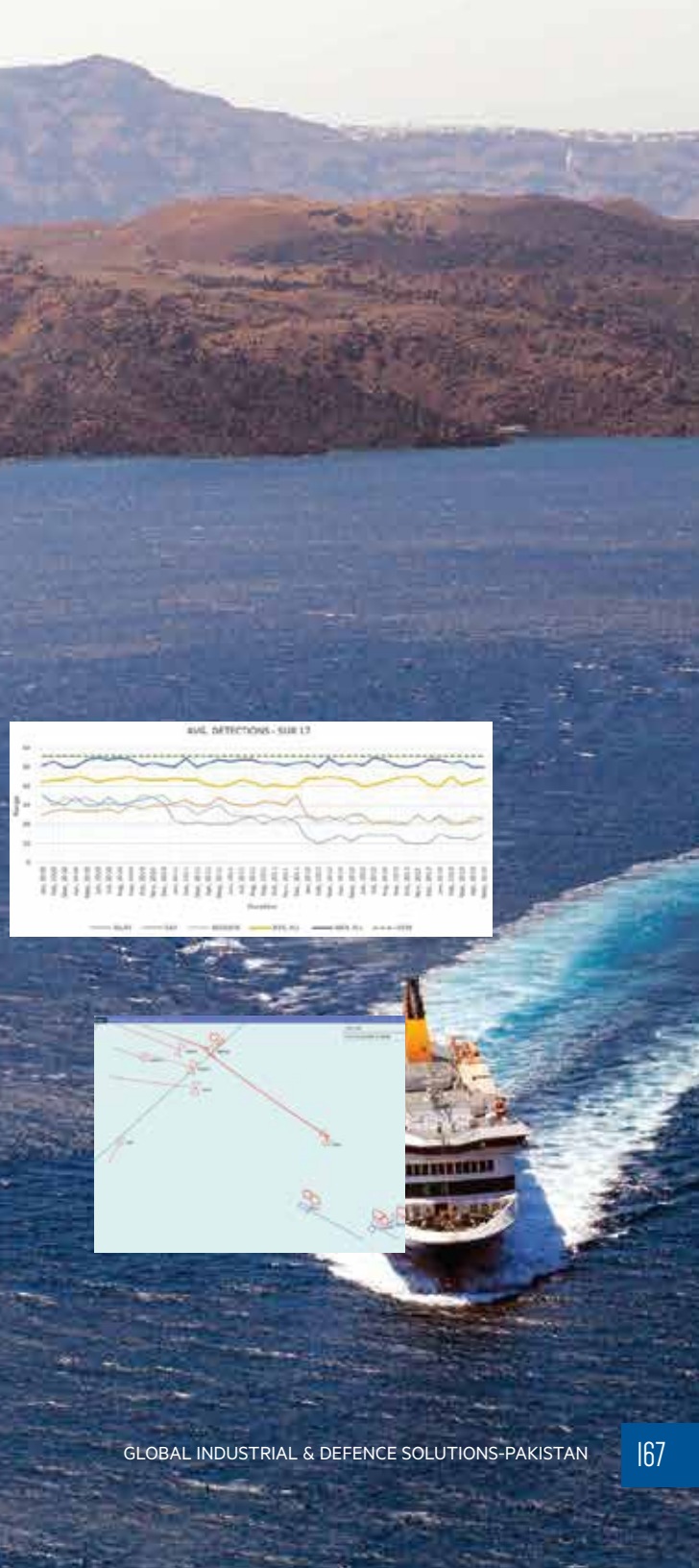
TACTICAL EXERCISE ANALYSIS SOFTWARE (TEAS)

Tactical Exercise Analysis Software (TEAS) is designed to plan and conduct post-exercise analysis of the major events carried out by surface, subsurface & air platforms at sea. All the major events are stored at the unit level. Later the time-based exercise data of all the participating units are stored in the centralized database. On the basis of exercise data stored in the database over a period of time, the system also provides performance analysis of sensors and weapons in tabular and graphical form based on different input parameters.

User-friendly and customizable Graphic User Interfaces (GUI) have been designed for the ease of the operator. TEAS application replays time-based events of the participating units in the selected exercise.

Features

- Plotting of Positional data (GPS / AIS)
- Depiction of Sensors detection data (Sonar, ESM, Radar, Optical Sensors, Sonobuoy deployment, and transmission data as well)
- Interaction during exercise i.e. weapon firing and counteractions taken by the units including depiction of Chaff firing
- Performance analysis of different sensors based on data recorded over a period of time
- Histograms, variance, and standard deviation to generate a more comprehensive analysis of sensors' performance
- Different types of analysis like calculation of sonar miss opportunities, ESM racket miss opportunities, and effectiveness of Chaff fired against incoming threats, etc.



DATA LINK (LINK GREEN)

Tactical Data Link enables information sharing amongst land / sea / air platforms using HF, V / UHF radios, and SATCOM. Link Green is in service with Pakistan NAVY since 2018 and is extensively used in various NAVY exercises. Currently, Link Green has been installed onboard 16 Pakistan NAVY Platforms including surface, subsurface, Land, and Air based units.
Communication ranges up to 1000 NM have been achieved using Radio Network.

Features

- Multilink Processing
- Track Number Management
- Air, Surface, Subsurface, and Land Surveillance
- Network Management, Control and Monitoring
- PPLI, Platform, and System Status
- Correlation of Local and Remote Tracks
- Links Multiple Tactical Data Links / Super Network
- Weapon Management and Coordination
- Command Messages
- Information Management
- Electronic Warfare Control and Coordination
- Data Link Filtering
- Data Forwarding Between Links
- Text Messages

COASTAL SURVEILLANCE NETWORK (MARITIME)

Coastal Surveillance Network (CSN) ensures seaward Defence of coastal areas/border Defence at sea and minimizes asymmetric threats from the coast. CSN uses coastal surveillance radars, thermal sensors, and AIS. Coastal Surveillance Network (CSN) capability provides Command and Control (C2) system.
CSN is an exclusive network of sensors installed alongside the entire coast to enhance Maritime Domain Awareness (MDA). Vital information gathered from these sensors is collated and processed to produce refined actionable information.

Features

- Integration of Local, Regional, and Head Quarters Operations Centers
- Common Operational Picture
- Own Assets Monitoring
- Anomaly Detection
- Search and Rescue
- Inbuilt Training, and Simulation Facility
- Rugged Tactical Consoles
- Recording and Replay

JOINT MARITIME INFORMATION SYSTEM (JMIS)

Joint Maritime Information Command and Control (JMICC) functions as a nerve center to harmonize the efforts of all maritime-related organizations/agencies nationwide. It helps generate a coordinated response to maritime security challenges within the country's Exclusive Economic Zone (EEZ), primarily through information sharing and inter-department/ agency coordination.

JMIS gives a comprehensive and up-to-date Maritime Common Operational Picture (MCOP) to Joint Maritime Information Command and Control (JMICC) for monitoring vessels and planning Search & Rescue operations. For establishing MCOP, JMIS takes input from Long Range Information Tracking (LRIT) service, Satellite Automatic Identification System (S-AIS), and Coastal Surveillance Network.

Features

Authentication: JMIS has two factor authentications
Sources: LRIT, Satellite AIS and CSN
Software Functions:

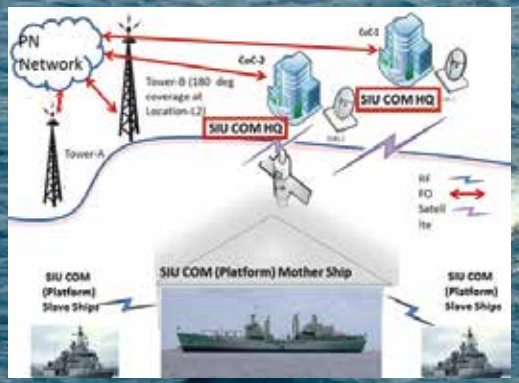
- Operational Picture Compilation and Presentation
- Vessel Monitoring and Management
- Contact of Interests Alerts and Actions Management
- Incidents, Search and Rescue
- Real-time Collaboration
- Pattern of Life (POL) Analysis, Geo-fencing Analysis
- Weather Maps and Management
- Maritime News and Reports
- User Management Security
- Database Management
- Disaster Recovery

NETWORK CENTRIC WARFARE SYSTEM (NCWS)

NCWS is a system designed to have situational awareness and command & control of the overall force. It is comprised of C4I software, Secure Networks, Sensor Interface Units (SIU), and Command & Control Ops rooms for planning and decision-making. It consists of a secure IP-based network connecting all Shore & Afloat-based sensors, command & control rooms, and C4I software for situational awareness and operational activities.

Features

- Floating HQ
- Blue Orange Force Segregation
- OTC-OTC Information Exchange
- Situational Awareness (CTP, COP, etc.)
- Track Management (TM)
- Communication Manager
- Tactical Drawings Sharing with Other Units
- AIS Processing
- Free Text, E-mail, and File Transfer, MMS video streaming, and view through COTS applications
- Web-PORTAL (Command Web Page Access)
- Message Handling System (MHS)
- Record and Replay (RECREPLAY)
- Platform Data Management (PDM)
- Area Monitoring and Management
- Search and Rescue (SAR)
- Lloyds Integration capability
- Jane's DB as offline capability



INTEGRATED
SYSTEMS

INTEGRATED
COMMAND & CONTROL SYSTEM

Command, Control, Communications, Computer & intelligence (C4I) is a concept whereby all the defence entities of a country share, jointly process, and fuse data to establish real time Common Operational Picture (COP). The COP consists of Recognized Air Picture (RAP), Recognized Maritime Picture (RMP), and Recognized Ground Picture (RGP). COP, along with associated operational data, provides the supreme commander with a clear status of country's war fighting potential for the ease of decision-making during fog of war. C4I system forms a self-healing self-forming intelligent network that permits upward, downward, and lateral flow of information to bring all tiers of command at the same level of situational awareness. GIDS Integrated Command & Control System includes all the critical components for ground, air, and naval forces, including:

1. Common Operational Picture (2D and 3D)
    - Detection
    - Tracking
    - Identification
2. Asset Management & Tracking System
3. Intelligence Management System
4. Meteorological Management System
5. Mission Planning System
6. Threat Evaluation & Weapons Assignment System (TEWA)
7. War-gaming, Simulation, and Training System
8. Voice Switching System
9. Role Based Access Control System
10. Digital Audio & Video Recording System
11. Data Security & Encryption System

RABTA C4I & Air Defence Automation System

- Interfering the presence of valid targets form a series of plots and tracks recevied from different radars.
- Calculating true trajectories of the target in presense of uncertainties imposed by the sensor as well as aircraft dynamics.
- Recognizing and rejecting false targets.
- Successfully tracking and predictiing the optimal estimates of the target in the presence of clutter and false alarms.
- Display target tracking information.
- Forming correct association between tracks and observation from radars in different environments.
- Successfully tracking the target during extreme condition of fast maneuver, formations, miss detection, cross-over etc.

ACMI System Air Combat Maneuvering Instrumentation System

The ACMI system is designed to be range-less and can be operated without any restriction in any area. The system records the "Time Space Position Information" (TSPI) of all the aircrafts involved in the training exercises along with their essential parameters onto removable data storage.

- An effective training tool for combat pilots.
- Capture of weapon deployment events.
- Exchange of data between the participating aircraft using realtime data link.
- Notification to pilots of weapon event result such as hit and miss for missiles for real time kill removal functionality.
- Real time warning to the pilots such as collision kill/miss etc.

- Recording of time syncronized relevant information for post mission debriefing replay like .
- Chaff & Flare Dispenser, RWR, EW etc.
- Post Launch Missile fly out and bombing accuracy calculations.
- The system is installed on Mirage / F-7P / F-16 aircraft.

PAKFIRE
ARTILLERY FIRE CONTROL SYSTEM

PAKFIRE is a modular, reliable, secure, user friendly and fully integrated Artillery Fire Control System that automates all operational functions of artillery and ensures fast and accurate fire on targets. It provides an automated soution for Preparation , Coordination, Dissemination, Execution and Modification of Fire Support Plan, Fire Plan and Gun Programs. It has a scalable system architecture that is suitable for present combat scenarios and can be deployed at all combat echelons. PAKFIRE interfaces with all types of external systems, like radars, meteorological systems, UAVs and Command and Control through wired/wireless media.

Major Modules

Artillery Fire Direction Module receives target information from Forward Observers, Counter Bombardment and Fire Support Organizations. The data of met system and non standard conditions is then added to calculate fast and accurate firing data which is then transmitted to guns and digital message units using wired or wireless media.

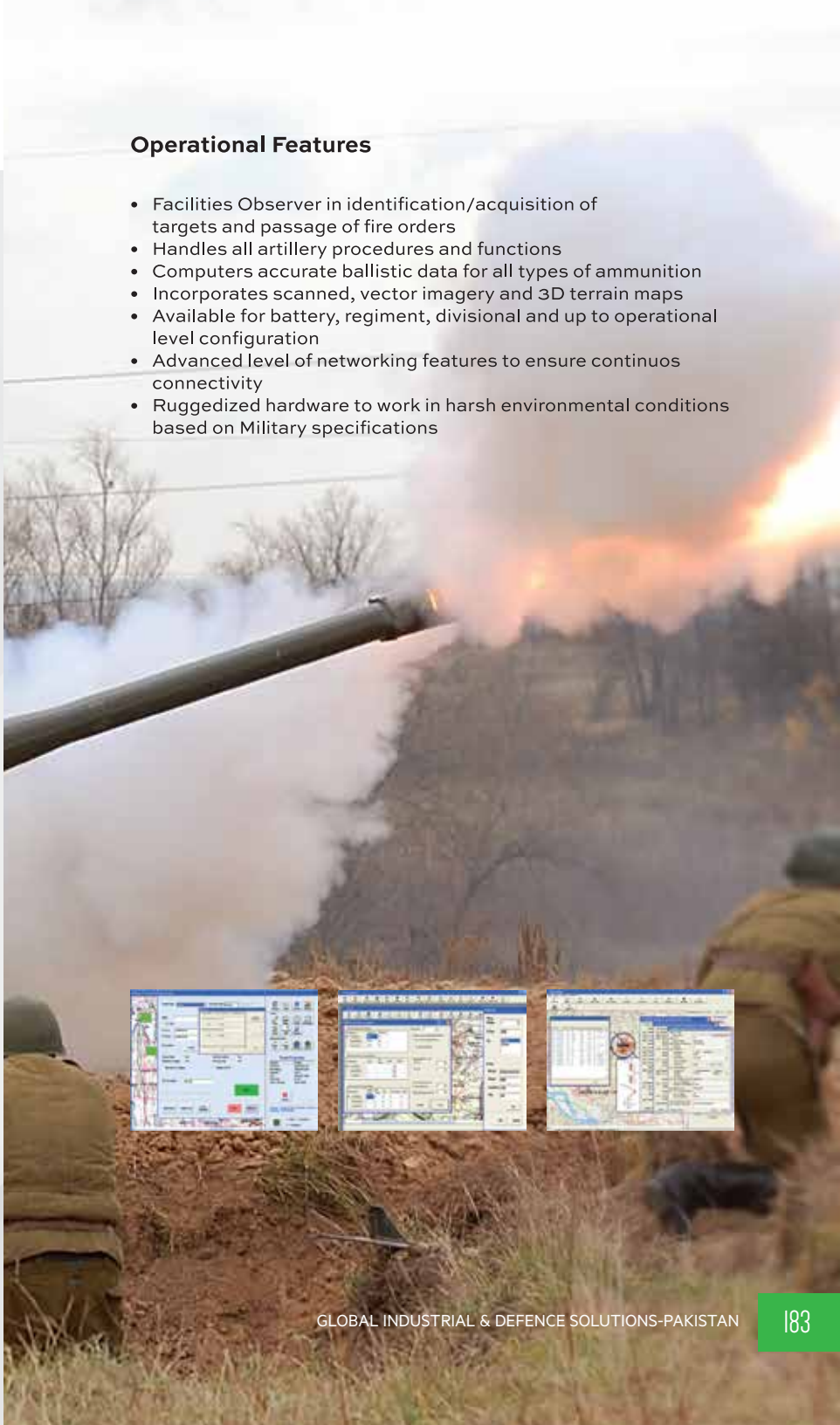
Fire Support Planning Module is designed to integrate fire support with the maneuver plan. It assists in the preparation, coordination, dissemination, execution and modification of Fire Support Plan (FSP). All types of GIS functionalities like map navigation, drawing of tactical and military symbols, preparation of operational overlays etc have been incorporated.

Counter Bombardment Module integrates external sensors like Radars, UAVs etc with PAKFIRE for speedy transfer of information. It assists commanders and staff in employment of Locating Resources by providing Software Aids/Tools. It shows various charts , plots, HB List and CB Task Table generated automatically by the system.

Supporting Functions Module enables commanders in allocation, modification and management of resources like ammunition,weapons, vehicles and manpower.

Operational Features

- Facilities Observer in identification/acquisition of targets and passage of fire orders
- Handles all artillery procedures and functions
- Computers accurate ballistic data for all types of ammunition
- Incorporates scanned, vector imagery and 3D terrain maps
- Available for battery, regiment, divisional and up to operational level configuration
- Advanced level of networking features to ensure continuos connectivity
- Ruggedized hardware to work in harsh environmental conditions based on Military specifications



PAKSIM
ARTILLERY FORWARD OBSERVER SIMULATOR

Artillery Forward Observer Simulator (AFOS) is a computer based system whose purpose is to provide training for the forward observer of the artillery.

The system provides realistic environment for the training of observer in a class room/simulation lab. Budget reductions and limitations of live fire opportunities have adversely affected the proficiency of the forward observer. For these types of reasons, an alternative method for training the forward observer must be found to provide almost realistic environments in order to accomplish the fire missions. One solution is to develop and use a computer simulation system in order to enhance training and operations.

Training of Forward Artillery Observer is a necessary and continuous process and its aim is to enhance observer's skills and capabilities. It is necessary to have a system which provides training that would enhance the capabilities of the observer to react promptly to various situations in war.

Small range practices are not enough to improve the quality of observers because the observations recorded and various corrections passed are not realistic. It is essential to have a system (Artillery Forward Observer Simulator), which would enhance the quality of training of forward observers without engaging ammunition and other expenditure.



AFOS system consists of the following main components

- Image Generation Station
- Instructor Station
- Ballistic Data Calculator

IAFCS
INTEGRATED ARTILLERY FIRE CONTROL SYSTEM

The Integrated Artillery Fire Control System (IAFCS) is a cutting-edge solution designed to provide rapid and effective responses to battlefield threats. The system combines multiple sensors (reconnaissance and targeting technologies), allowing for the swift detection, assessment and neutralization of enemy forces. By processing the data from various sensors in a command vehicle and then engaging the shooters (artillery guns), the IAFCS ensures comprehensive battlefield dominance. The core of IAFCS is an advanced AI based software suite that ties various sensors with diverse number of shooters by providing them accurate ballistic data in near real time.

Features

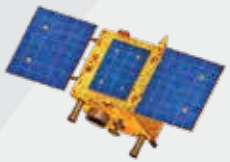
- Modular and scalable design to integrate any sensor/shooter
- Precise ballistic calculating module for computing gun data
- AI based target locating and detection of fall of shot
- Preparation and dissemination of FSP / DF plans
- Supports reliable communication through wireless and wired links
- Situational awareness during an operation
- Enables ICB staff to collect, collate, analyze and fuze information
- Management of all artillery resources
- Enabled with advanced GIS features

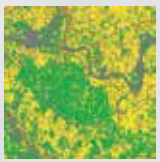
Specifications

Operating System:	Windows 7/10/11
Computer System:	Core i5, 4GB RAM, 500GB Storage
Integrated FAOD:	FLIR, LEOS, LISA
Integrated Radar:	SLC-2, SLC-2E
Integrated UAV:	V-50, V-30, Quad Copter
Integrated Gun:	SH-15 TMG, 109L, 130mm, 122 D30, MBRL
Communication Media:	VHF/UHF SDR, TDL, OFC, Ethernet

SATELLITE DATA APPLICATIONS AND SERVICES

Products	Broad Specifications
Satellite Imagery	Resolution: 0.5 m Pan, 2m XS Resolution: 0.98 m Pan, 2.89m XS Resolution: 1.5 m Pan, 6m XS Resolution: 2.5/5 m Pan, 10m XS (Archived Imagery) Resolution: 10 m Pan, 20m XS (Archived Imagery)
Specialized Products	Digital Elevation Model (DEM) Digital Terrain Model (DTM) Digital Surface Model (DSM) Resolution (1m, 4m, 8m, 30m)





Agriculture

Disaster Management

Forestry

Water Resource Management

Infrastructure Planning

NBC DEFENCE

CBRN SUIT

The NBC suit provides effective protection against chemical warfare agents, comprising a jacket and trousers that can be worn over undergarments. It is engineered to facilitate the evaporation of perspiration and is both air-permeable and breathable, thereby ensuring the wearer's comfort and minimizing thermal stress.

Features

- Cutting-edge technology ensures high breathability and minimal physiological burden
- Provide protection against chemical warfare agents for minimum 24 hours (TOP 8-2-501) and 6 hours (TNO-1.2)
- The outer fabric of the suit is available in customizable pattern with properties such as water & oil repellent, flame retardant as well as anti-fungal.
- The inner fabric features embedded carbon sphere for effective and enhanced protection
- Available in four sizes: small, medium, large, and extra-large.
- Durable, reusable design withstand ten washes

Specifications

Chemical agent penetration test	i. Protection against CWAs (laid drop) minimum for 24 hours ii. Dynamic chemical agent penetration (HD, GD) < 4µg/cm² after 6 Hrs of exposure
Air permeability (l/m²/sec)	> 300 @200 Pa
Water permeability	> 550 g/m²/day (Index: 80)
Weight	< 2.7 kg
Outer Cloth	
Tear strength	Warp > 35 N Weft > 25 N
Breaking Strength	Warp > 700 N Weft > 500 N
Air permeability (l/m²/sec)	> 300 @200 Pa
Material	Polyester / Cotton
ACF	
Breaking Strength	Warp > 500 N Weft > 350 N
Air permeability (l/m²/sec)	> 1000 @200 Pa
Material	Carbon Spherical Ball Fabric

HEADS
High Efficiency Advanced Decontamination System

- Used for decontamination / detoxification of vehicles, gears, buildings, equipment, terrain and personnel against CBW Agents
- The equipment consist of high pressure pump and heating system and is capable to spray hot / cold water, steam and decontamination solution over the contaminated area
- Easy transportation & moveable

Water Purification Plants

Water Purification Systems are used to purify all types of contaminated water from various sources. We have developed BRACKISH as well as SEA WATER purification systems having different capacities which produce water quality as per WHO Standards. Brackish water purification systems include WPP – D650 (capacity – 650 liter/hr, Raw water input – TDS upto 3500 mg/liter) & WPP – D2500 (capacity – 2500 liter/hr, Raw water input – TDS upto 3500 mg/liter) and NAVY vessels model include Dual Stage Reverse Osmosis Plant (Stage 1 & 2 capacity – 800 liter/hr, Raw water input – TDS upto 40,000 mg/liter, Stage 1 Product water Quality – less than 1000 mg/liter & Stage 2 Water Quality less than 2 mg/liter)

- Easy maintenance & fully automatic
- Latest & state-of-the-art Ultra Violet system for removal of harmful bacteria and viruses

- Integrated dispensing system automatically adds Chlorine to prevent re-growth of bacteria in water
- Setting up and operation of the system in 10 min by just one person
- System can be easily transported on various platforms like rail, ship, trailer aircraft and helicopter
- Back-washing of reverse osmosis through CIP system
- Diesel generator provides the system with electricity

SECURITY & RIOT PROTECTION

SECURITY & RIOT PROTECTION EQUIPMENT

Stun Grenade

A device to produce high intensity illumination and loud bang which causes temporary disorientation and incapacition of persons. It is non lethal and does not contain explosive material. No fragments are produced after initiation. Avaliable in singal bang and six bang versions.

Singal Bang	
Illumination intensity	1.3-1.5 Mcp
Sound intensity	170-180 dbs (approx)
Delay time	1.5-2 Second
Total weight	230 g (approx)
Diameter	51.50 mm
Lenght	165 mm

Six Bang	
Illumination intensity	Up to 1.5 Mcp
Sound intensity	170-180 dbs (approx)
Delay time	1.5-2 Second
Total weight	530 g (approx)
Diameter	40 mm
Lenght	118 mm
Function time	3-4 Sec

Tear Gas Shell

Contains CS composition and is used for riot control by the law enforcing agencies, using 38mm Tear Gas Gun. The parameters and its characteristics conform to international standards. Aluminum cased payload enclosed in plastic casting.

Calibre	37/38 mm	Shelf Life	4 years
Range (long)	137 m (150 yards)	Length	140 mm
Range (small)	68 m (75 yards)	Weight	150-160 g
Discharge Time	35 Sec. (Plus)		

CS Grenade

A non lethal hand throw grenade used for riot control. Produces white fumes of CS cause severe irritation of respiratory track, burning pain in nose and burning sensation in eyes etc.

Smoke Grenade

Used to release a very dense cloud of smoke to fill the surrounding area to military unit such as infantry tanks air crafts and ships etc. Used for anti terrorist operations

SECURITY & RIOT PROTECTION EQUIPMENT

Body Scanners

Hand held metal detectors for security and law enforcing agencies.

- Gives an audio signal, red LED visual alarm and vibration
- Available with rechargeable & consumable battery, and auto tuning
- Contains low battery alarm
- Reverse battery protection

Walk Through Scanning Gate

Walk Through Gate is used for detection of metal contents at security locations. The system works on Induction Balancing (IB) technique. Whenever a metallic object comes within the vicinity of WTS an error signal is produced, which is digitally processed.

- No. of zones: 06
- Four LED alarm light bar
- LCD screen readable in sunlight
- Remote Controlled
- Electric Current AC 21 5-230V
- Power less than 35 W
- Work environment -20 C to 55C

EXPLOSIVE & DRUG DETECTOR

Ion Mobility Spectrometry based Explosive and Drug detector (IMS EDD) is a portable and rapid response security equipment to detect the presence of certain explosive and drug materials by responding selectively to their traces, IMS EDD is useful for searching trace amount of explosive and drugs struck to surface. This makes IMS EDD for an extensive variety of applications.

- Military patrols
- Police patrol
- Crowed security
- Parking lots
- Aircraft, luggage and Cargo
- VIP meeting points & Locations
- Stadiums
- Border crossing

Capability

Detects a wide range of explosives like Black Powder, AN, TNT, Tetryl, PETN, Gun Power, NG, RDX, Semtex, Composition B, C4 etc.

Detects a wide range of Drugs like Cocaine Heroin, Morphine, Amphetamines, THC Dehydrogenation Ephedrine Methamphetamine etc.

VEHICLE BASED IED JAMMER

DETJAM-6500

DETJAM-6500 is a reconfigurable and modular Wide Band Jammer for convoys protection (prevent detonation of IEDs) from all the commercial RF devices used as IEDs.

Specifications

Frequency Range: 20 MHz- 6 Ghz
Threat Devices: GSM, DCS UMTS, LTE, Satellite Phone, Wi-Fi, Wi-Max, ISM, GNSS, VHF, UHF

Jamming Technique: Reactive, Sweep, Spot-Sweep & Multi-Spot
Jamming Range: >70~100m [@ RSSI < -35dBM]
>40~70m [@ RSSI < -25dBm & > -35dBm]

Communication Window: 1 x VHF [User Selectable]
Display: Touch Screen
Input Power: 24 VDC
Op Temperature Range: -50 C ~ 500 C (Tolerance + 50 C)

Design Features

- Reconfigurable architecture with intelligent and hybrid technology
- Auto adaptive jamming
- Smart jamming
- Smart jamming economizing on power consumption
- Output power 28W to 150 W in each band
- Over and under voltage/ current protection
- Compliance to heath and safety standards
- Reconfigurable to meet future emerging threats

BARDA
AUTOMATIC FIRE EXTINGUISHER BALL

BARDA is a ball shaped fire extinguisher. When a fire occurs and no one is present; BARDA will self-activate upon contact with flame within 3-10 seconds and effectively disperse the extinguishing chemicals resulting in extinguishing the fire. Additionally, when it comes in contact with fire, it will give a loud noise as a fire alarm. Because of these features, it can be installed in many fire prone areas such as; above electrical circuit breaker or in a kitchen etc. No special training or skill is required to operate BARDA and no need to face the danger of the fire. No inspection or maintenance is required for the product's life span of 05 years.

Performance Characteristics

Material Weight:	1.2±0.2Kg
Total Weight:	1.3±0.2Kg
Shape:	Ball Type
Diameter:	15cm
Warning Sound:	120dB (Impulse Noise)
Instruction:	Fixed position by automatic fire sensor and /or throw in fire area
Ignition:	Automatically explodes within 3-5 second after contact with fire.
Effective extinguish area:	2-3 Cubic meter
Lifespan:	5 years

Features

- Fully Automatic and Rapid Responsive fire protection system
- Rolls like a ball, explodes in a bang to create attention not destruction and puts out fire like an efficient fire extinguishing tool
- Unlike a typical fire extinguisher; it will activate by itself when in need, and doesn't need a supervision in case of any fire emergency
- Very effective when put near flammable objects (circuit breakers, gas tanks etc.) to avoid emergencies

PERIMETER SECURITY SOLUTIONS

Perimeter Intrusion Detection Systems (PIDS) replaces traditional Perimeter Security Solutions like patrolling, watch towers, etc., thus enhancing the reliability and efficiency of your security plan. Depending on your requirements and site conditions, PIDS can be based on Fiber Optics (FO) based technology or Microwave Sensing (MWS).
Both these systems can be designed as underground solutions for covert sensing, or fence-mounted for greater deterrence value.
FO systems are immune to electromagnetic interference and cover longer zones with less hardware, whereas MWS offers a 3D buffer zone at the perimeter, by radiating detection fields in the region around the cables.

Features

- Day / Night Intelligence, Surveillance & Reconnaissance
- Payload Dispensing / Delivery of upto 2 KG
- Complete Autonomous Operation with Pilot Override Option
- Modular, Man Portable
- Handheld GCS Consoles for AV & Payload Operator
- Fast Redeployment / Turn Over
- Multi GNSS (GPS+GLONASS+BeiDou+Galileo)

Applications

- Government Offices, Public Buildings
- Industrial Complexes
- Military Installations
- Hotels and Leisure Centers
- Airports, Hospitals, and Train Stations
- Commercial Premises, Seaport
- Border Entry Port and International Borders
- Access Control Systems (for personnel, baggage, and vehicles)
- Security Barriers (fences, gates, etc.)
- Command and Control Software
- Database Management

INTEGRATED SECURITY SOLUTIONS (ISS)

Integrated Security System (ISS) is a multi-sensor, multi-tier implementation of sensors. ISS acts as an effective deterrent and early warning system, allowing security personnel to respond quickly, intelligently and effectively to an attempted malicious action, thus reducing the possibility of damage to assets.
ISS integrates key strengths of different conventional security technologies into a system that offers reliable, all-weather, around-the-clock protection for high-security areas. It relies on IP-based Ethernet architecture which grants it wide compatibility and trouble-free upgrade and extension capabilities.

Features

- Physical Sensors (CCTV cameras, Fiber Optic or Microwave perimeter intrusion sensors, Microwave and active/passive IR sensors etc.)
- Access Control Systems (for personnel, baggage and vehicles)
- Security Barriers (fences, gates etc.)
- Command and Control Software
- Database Management

Applications

- Government Offices, Public Buildings
- Industrial Complexes
- Military Installations
- Hotels and Leisure Centers
- Airports, Hospitals, and Train Stations
- Commercial Premises, Seaport
- Border Entry Port and International Borders
- Access Control Systems (for personnel, baggage, and vehicles)
- Security Barriers (fences, gates, etc.)
- Command and Control Software
- Database Management

ISS Strengths

The integration of various proven security technologies grants ISS tremendous strengths. Its significance lies in its:

- Rapid detection and assessment
- Minimum false alarms
- Layered physical security
- Fast-track implementation
- Scalability and flexibility
- Effective and reliable communication backbone
- All-weather capability

X-RAY BAGGAGE SCANNER

State of the art high performance X-ray baggage scanner solution. Scanner meets the most demanding potential threat inspection at border crossing, railway station, shopping malls, hotels, government installation and high-risk facilities. System provides high resolution images and a threat detection alert capability due to its advanced software and superior processing technology. This system features top of the line software offering, ease-of-use and high-performance hardware technology as a leader in innovation and quality in Pakistan. It helps in identifying dangerous goods and contraband items with more accuracy and efficiency.

Specifications

Tunnel size	600 mm x 400 mm
Conveyor speed	0.2 ± 0.02 m/s
Conveyor Max Load	Upto 100 kg
Wire resolution	38 AWG
Spatial Resolution	40 AWG (Typical) Vertical 1.0 mm Horizontal 1.0 mm
Steel Penetration	32 mm
X-.Ray Generator	38 mm [Typical)
Image System	160 kV, 0.8 mA L-Shaped Photo-detector Array
Image Storage	50,000 images
Zoom	Up-to 64

Features

- Dual Energy Imaging
- 3 Colors Classification
- Real Time Image Manipulation
- Standard Image Processing Functions
- Continuous Scanning
- User & Image Management

- User Authorization
- Auto Hardware Diagnostics
- Energy Saving Mode
- Threat Image Projection Density Alert
- Baggage Counter
- Date and Time Display
- User Friendly Interface

PERSONNEL ACCESS CONTROL SYSTEM

Integrated Security System (ISS) is a multi-sensor, multitier implementation of sensors. ISS acts as an effective deterrent and early warning system, allowing the security personnel to respond quickly, intelligently and effectively, to an attempted malicious action, thus reducing the possibility of damage to the assets. ISS integrates the key strengths of different conventional security technologies into a system that offers reliable, all-weather, round-the-clock protection for high-security areas. It relies on IP-based Ethernet architecture which grants it wide compatibility and trouble-free up gradation/extension capabilities.

In the ISS environment, the access control system communicates with the central control station where the system health is monitored, alarms are generated in case of wrongful access attempts and overall system logs are generated and saved.

Mechanical measures to control access involving use of a physical barrier at an entry point. Examples of barriers include doors, turnstiles and gates. Electronic turnstiles allow people to pass through unimpeded. Turnstile is most commonly equipped with RFID sensors which can read the employees' access-card information without them having to stop and present ID.

Export Control Policy

Sensitive Items, commodities, products having dual use in nature or other than its military (conventional use) are subject to approval of national authority's clearance under its export policy and Pakistan's Export Control Act, 2004 on Goods, Technologies Materials and Equipment related to Nuclear Biological Weapons and their delivery system”

GIDS
Empowering Defenders

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