METEKSAN DEFENCE

High Technologies For a

Safer World

METEKSAN DEFENCE

METEKSAN
SAVUNMA

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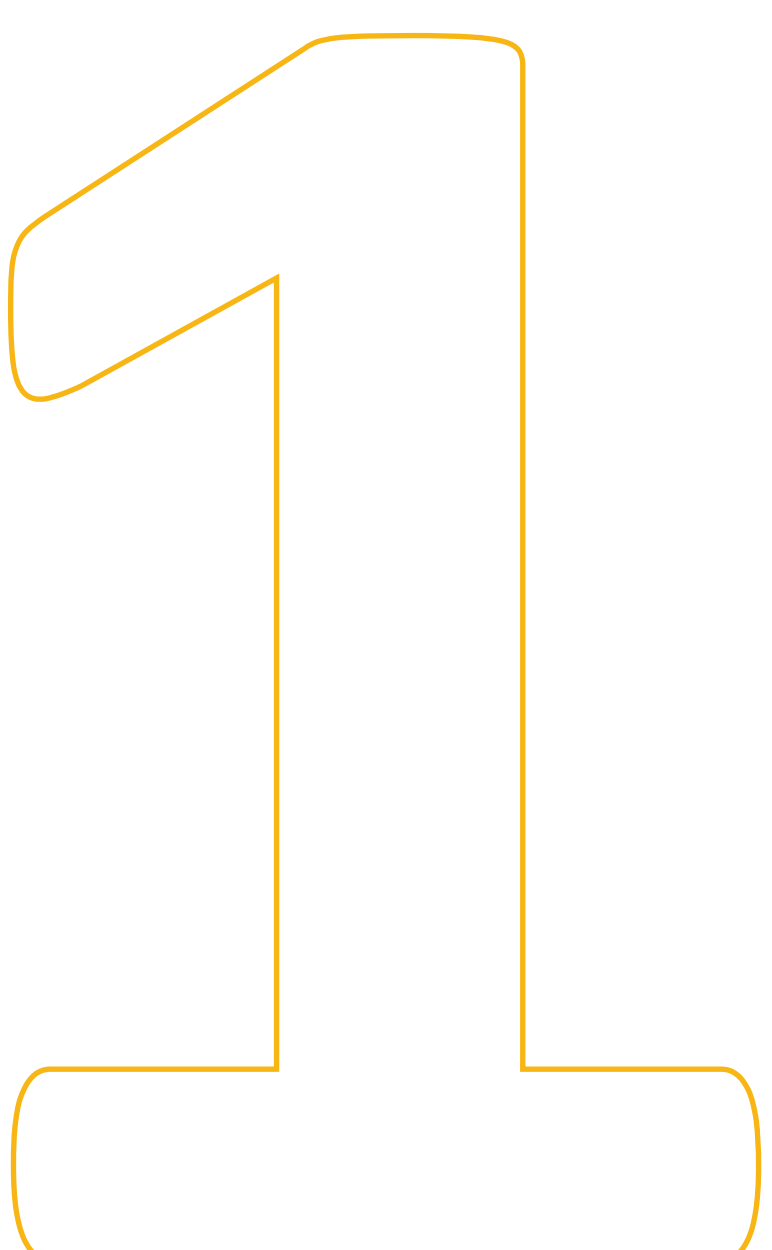
Management's Message



We, as Meteksan Defence, have developed original and advanced technology solutions in the fields we operate since our foundation with the responsibility of being under the roof of Bilkent University, one of the best universities of Türkiye and meeting the expectations of our stakeholders in the defence industry at the highest level.

We define ourselves based on the principle of fulfilling the expectations of our stakeholders at the utmost level and serve more than we obtain. On the other hand, we understand such expectations not only related to our business areas and technical performance but within the frame compromising high ethical values.

We do know that good projects do not create good companies, but only first-class business organizations produce excellent projects and products. Therefore, we build up the future of our company and the continuity of our reason of existence as defined in our mission, on the definition of "Good and Reliable Company". Such a company means that the one running its activities within the outline drawn by its values. Moreover, its customers, business partners and even its competitors do not doubt the company's loyalty to its values in any case.

With the experience we have gained, the infrastructure we have created and our competent engineering staff, we work in close cooperation with all of our stakeholders and move forward to the future by taking confident steps, and we continue to develop and manufacture reliable, high-tech, original and cost-effective systems and subsystems for our customers.

Based on the above understanding, we hereby commit that Meteksan Defence shall serve the most creative and innovative solutions to our customers, exactly within the scope they require and on time.

Adil Baktır
President

About Meteksan Defence

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Established in 2006, Meteksan Defence Industry Inc. is a leading private defense electronics company located in Türkiye. The company specializes in the design and production of cutting-edge indigenous defense products. Its extensive product portfolio includes advanced technologies such as radars, anti-drone systems, sonars, communication systems, and electronic warfare solutions. Furthermore, Meteksan is renowned for its training and simulation systems, which are crucial for preparing military personnel for diverse operational scenarios.

Meteksan Defence is a proud subsidiary of Bilkent Holding, one of the largest and most respected conglomerates in Türkiye. The holding is owned by Bilkent University, the country's largest private, non-profit educational institution, which underscores Meteksan's commitment to academic excellence and innovation in science and engineering. This strong academic foundation has significantly contributed to the company's ability to develop high-tech defense solutions tailored to meet the needs of contemporary warfare.

The company has a proven track record of delivering high-quality, ITAR-free systems that have been utilized by Armed Forces in over 20 countries, spanning across Asia, Middle East, Africa, South America and Europe. Meteksan's products are designed to meet the highest standards of reliability and performance, ensuring that defense forces can operate effectively in complex and challenging environments.

Driven by a vision for global outreach, Meteksan Defence continues to enhance its technological capabilities and expand its international partnerships. The company's unwavering dedication to research and development, along with its emphasis on innovative solutions, positions it as a key player in the global defense industry. With a focus on providing state-of-the-art technology, Meteksan Defence is committed to supporting the security and defense needs of its clients around the world.

Mission

Our mission is to contribute to Bilkent University's target of becoming one of the leading educational institutions in the world, under the mutual values of Bilkent Holding, to which we are bound, with sustainable income sources we obtain in the defence industry in which we operate.

Vision

Our vision is to become the world brand by developing advanced technology and genuine products in line with the target of achieving the best in our fields of activity; to adopt respect for the environment and people as indispensable principles and thus to provide unconditional trust of our stakeholders and to continuously develop with our employees.

Values

We, as Meteksan Defence Industry, Inc., undertake and declare, as our values guiding and inspiring us in our activities;

- To minimize international dependence of our Turkish Armed Forces and security authorities and thus to serve for national dominance and independence of our country;
- To adopt all kinds of contribution to education as a duty in the light of science and reality as a security for our future generations;
- That respect for the environment and humans is indispensable to create a sustainable world;
- To act within the limits of equity and merit in all our initiatives;
- To be bound to the laws and universal ethical rules all the time and under all conditions;
- Give trust and trust others in cooperation;
- To offer the most positive contribution to our domestic and foreign stakeholders;
- Develop ourselves in professional and personal terms continuously;
- To act with the desire of achieving the best and excellent work in our activity.

One of the Fastest Growing Defence Companies of Türkiye

> 1 Billion USD	TOTAL CONTRACT VALUE OF COMPLETED PROJECTS
> 250	TOTAL NUMBER OF PROJECTS COMPLETED
350	NUMBER OF EMPLOYEES
> 20.000 m^2	DESIGN AND PRODUCTION AREA
> 25	NUMBER OF COUNTRIES USING METEKSAN PRODUCTS
%100	PRIVATELY OWNED TURKISH COMPANY

About Bilkent Holding

BİLKENT HOLDİNG

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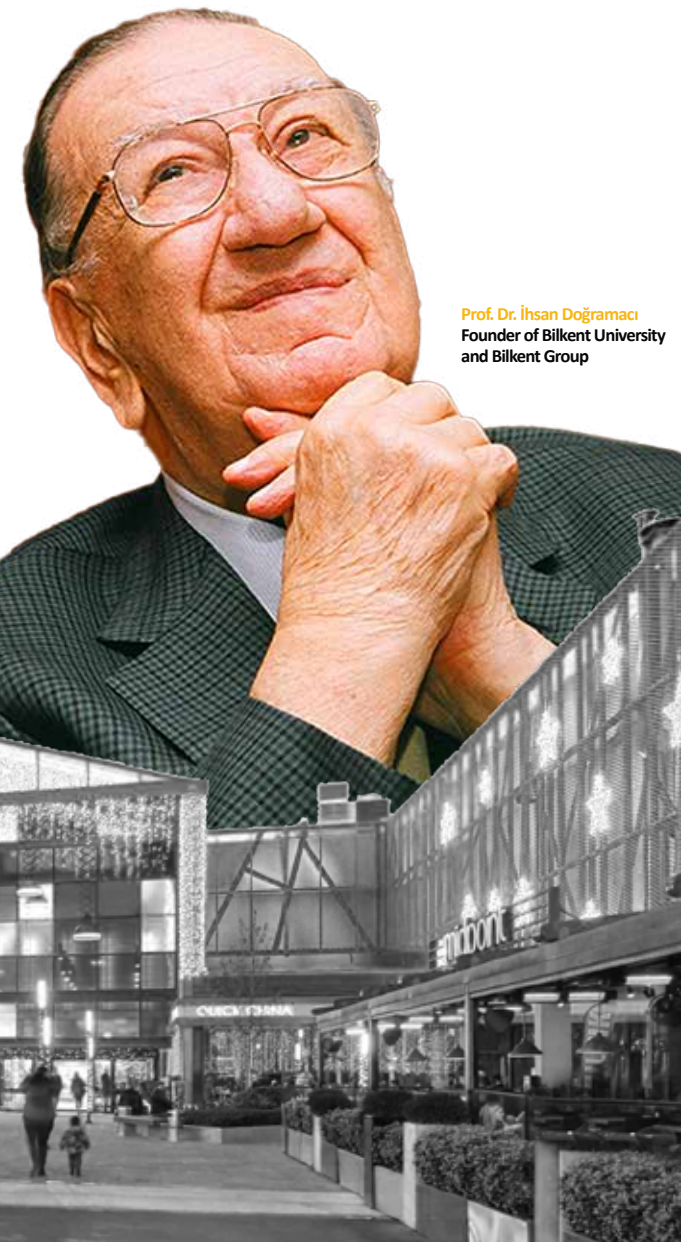
Bilkent Holding; committed to contribute to the development of the Turkish economy and Türkiye's ultimate goal to be one of the top economies in the world.

The roots of Bilkent Holding stretch back to 1968 when our founder established Dilek İnşaat to operate in the construction industry. It was then followed by Tepe Ağaç Metal ve Makina Sanayi (Timber, Metal and Machinery) and Meteksan in 1969. After a restructuring process in 1986, the companies were gathered under the one roof of Bilkent Holding. Since its inception, the main goal of Bilkent Holding and its subsidiaries has been to create consistent, sustainable and long-term value for its partners. Consequently, Bilkent Holding strives for high quality, profitability and maximum customer satisfaction in all its endeavors across numerous industries.

Having expanded the scope of its activities significantly over the past 50 years, Bilkent Holding is now a major player in construction and construction materials industries, furniture production and retail, the printing house industry, defence and security, fitness, insurance, tourism, energy, real estate, service industries. It has also been actively involved in airport and maritime transport operations through its subsidiaries. The expertise Bilkent Holding acquired domestically through its numerous industries, spread overseas to Africa, Europe, Middle East, Russia, Turkic Republics and the USA.

Having successfully grown its geographical areas of operation and expanded its fields of activity, Bilkent Holding is now listed among the top 50 Turkish Holdings.

Contracting and Project Companies	Corporate Service Companies	Individual Service Companies	Industry and Trade Companies	Real Estate Management Companies	Subsidiaries
Meteksan Defence	Tepe Health and Safety	Sports International	Meteksan Printing	Bilkent Cyberpark	TAV Airports
Tepe Construction	Tepe Defence	Bilkent Hotel & Conference Center	Tepe	Tepe Real Estate Investment	TAV Investments
Bilbak	Tepe Service Card	Bilkent Insurance and Reinsurance Brokerage	Betopan		İstanbul Sea Buses
Tepe Prefabricated Construction	Tepe Service & Facility Management		Bilkent		Travelex Türkiye
	Bilintur Catering Centre (BCC)		Energy Production		
	Adonis		Tepe Home Furniture and Decoration		



Prof. Dr. İhsan Doğramacı
Founder of Bilkent University and Bilkent Group

Our Activity Areas

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Radar and Electronic Warfare Systems

Sonar Systems

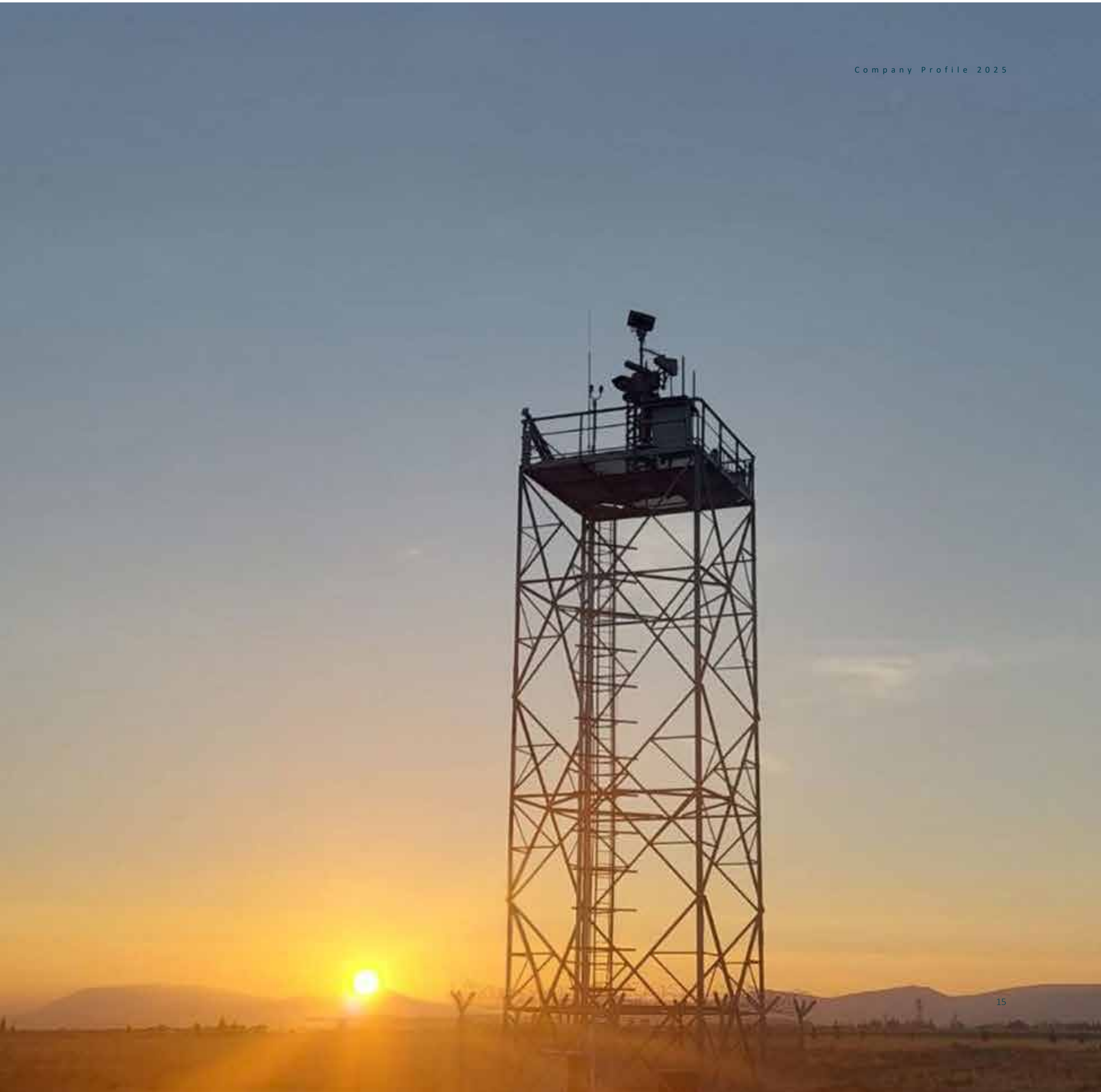
Platform Subsystems

Training Simulators

METEKSAN DEFENCE

Radar and Electronic Warfare Systems

Meteksan Defence design and produce advanced solutions including portable, fixed or vehicle integrated state-of-the-art sensor systems against land and air threats for border, military base and critical facility security requirements, and man-packable, vehicle-mounted or fixed-site electronic warfare applications to detect and protect against a range of signal threats.



Retinar PTR Ground Surveillance Radar

Secure Zone with Portable Radar Technology

MAN-PORTABLE RADAR SYSTEM

Retinar PTR is a perimeter and ground surveillance radar system, designed for border security. Retinar PTR features advanced technological capabilities, including human/animal detectiontarget classification,compact size, low weight, low power consumption, high mobility and rapid deployment.

The system is designed to be carried by two people and easily operated by single person thanks to its user-friendly interface. Retinar PTR automatically scans large areas, eliminating the need for security personnel to continuously scan with cameras or binoculars. It can be integrated with camera systems and various other sensors and enables the creation of designated “Safe Zones” with the monitored area.

Retinar PTR can detect humans and animals at distances up to 4 km and vehicles at distances up to 8-10 km, depending on the size of the target, to ensure perimeter security. Due to its high-frequency emission capability, it can detect very low-speed moving objects such as crawling or creeping individuals. Retinar PTR is currently used by the Turkish Armed Forces, the Gendarmerie and the armed forces of other Friendly Countries.

USER-FRIENDLY SOFTWARE

The Retinar PTR user interface is designed to minimize operator training requirements and enables personnel without prior radar experience to operate the system effectively. It provides both audible and visual warnings to notify the operators of potential threats. In addition, the users can easily divide the area of interest into friend and alarm zones without any limitations.

The digital map infrastructure enhances situational awareness through its polar screen display. System health is continuously monitored via advanced Built-In Test (BIT) capabilities. Additionally, with the implemented recording and playback functions, previous system status analysis can be performed.

Alongside the ruggedized laptop-based user interface, the system also supports wireless communication with smartphones or tablets. This mobile mode enables operators to receive plots, tracks and alerts even when they are not actively engaged with the system interface.

Parameter	Specification
Operating Frequency	Ka-Band
System Architecture	Pulse Doppler
Detection Range	Human: up to 4 km Small Vehicle: up to 7 km Large Vehicle: up to 9 km
Instrumented Range	12 km
Weight	<20 kg (Radar Sensor and Pan-Tilt Units)
Scanning	360° or Sector (Selectable)
Transmit Power	<140 Watt
Power Consumption	<120 Watt

Retinar GSR Ground Surveillance Radar

Longe Range Radar for Border Security

HUMAN AND VEHICLE DETECTION WITH RETINAR GSR

Retinar GSR is a new generation ground surveillance radar designed for border and critical infrastructure security. With its SWaP design, Retinar GSR has advanced technological features such as human/vehicle detection and target classification, low size, low weight, low power consumption, and rapid deployment.

The system is designed to be easily operated by a single personnel thanks to its user-friendly interface. Retinar GSR automatically scans large areas, eliminating the need for security personnel to constantly and inefficiently monitor the environment using cameras or binoculars. In applications where visual identification is required, Retinar GSR can be easily integrated with camera systems and various other sensors and create “Safe Zones” in the area of interest.

Retinar GSR can detect humans and animals up to 12 km, vehicles up to 20 km, large vehicles and convoys up to 40 km depending on the size of the targets to enable secure areas. Retinar GSR can detect very low-speed moving targets (such as crawling or creeping humans) and high-speed targets (such as vehicles) simultaneously.

Parameter	Specification
Operating Frequency	Ku-Band
System Architecture	Pulse Doppler
Detection Range	Human: up to 12 km Vehicle : up to 20 km Large Vehicle & Convoy: up to 40 km
Instrumented Range	up to 40 km
Weight	<40 kg
Scanning	360° or Sector (Selectable)
Max. number of tracks	> 100
Max. number of Blanking Sector s	8
Max. number of Alarm and Friend zones	8
Beam width	2°x 10° (az x el)
Tilt Range	±25°
Operating Temperature	-30°C / +55°C
Environmental Specifications	MIL-STD-810
Power Consumption	<400 Watt

Retinar FAR-AD Drone Detection Radar

Superior Drone Detection Performance with Radar Technology

EFFECTIVE PROTECTION AGAINST LOW ALTITUDE MINI/MICRO UAV'S

Visual detection of drones can be difficult because the dimensions of the threat are very small and sometimes visual contact is not possible due to weather conditions. On the other hand, due to the very short visual detection distance of the drones, it is too late to prevent the danger. For this reason, radar systems stand out as the most critical system for the detection of drones in the long range.

Retinar FAR-AD Drone Detection Radar, developed by Meteksan Defence, is a radar system to enable security against mini/micro unmanned aerial vehicles. Retinar FAR-AD can automatically scan large areas and low altitude air space as the primary sensor of the security forces against drones. Retinar FAR-AD provides effective protection against low altitude drones, with it is 40-degree elevation angle. The targets followed by Retinar FAR-AD user interface software provide the location, distance, speed, and direction information to the operator. Target Analysis Mode, enables the classification of targets.

ADVANCED TECHNOLOGY AND DIGITAL RADAR ARCHITECTURE

Retinar FAR-AD Drone Detection Radar operates on Ku band frequency with low RF output. It has an advanced technology solid-state radio frequency design and digital radar architecture. Retinar FAR-AD uses a customized pulse-compression Doppler waveform and offers effective modes of operation through various waveforms and angular rotation speeds with its digital radar architecture. Retinar FAR-AD has 10/100Mbps Ethernet data interface and 220 VAC power interface, communicates with GUI on a laptop or RIU software via Ethernet.

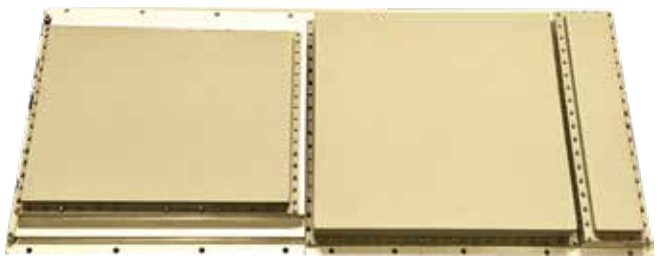
Retinar FAR-AD incorporates special algorithms and waveforms for Low-Slow-Small (LSS) target detection and can detect, track, and classify moving objects. Micro-Doppler signature analysis capability is used for target identification which provides crucial information during low visible weather conditions such as foggy environment.

Parameter	Specification
Operating Frequency	Ku-Band
System Architecture	3D Pulse Doppler with Pulse Compression
Scan Speed	4, 8, 16, 32 rpm (selectable)
Detection Range	Drone (DJI Phantom-4): 3 km (30 rpm) / 4.4 km (4 rpm) Drone (Talon): 3.25 km (30 rpm) / 4.75 km (4 rpm)
Minimum Range	<100 meters
Highest Tracking Target Speed	240 km/hour
Beamwidth	Azimuth: 2° Elevation: 40°
Scanning	360° or Sector (Selectable)
Power Consumption	<400 Watt

Retinar AESA Multi-Mission Radar

New Generation Radar with AESA / MIMO Structure

Retinar AESA is a cutting edge, software defined multi-mission radar designed for anti-drone systems, point air defense weapon systems, and surveillance applications. It can simultaneously detect slow targets such as humans or mini/micro UAVs and fast targets such as loitering munitions or tactical UAVs, thanks to its MIMO structure. With its advanced detection and tracking capabilities, it can be used to precisely cue other systems—such as cameras, weapons, and jammers—toward the target.



LONG-RANGE DETECTION OF UAV THREATS

Retinar AESA is an advanced radar system designed to eliminate blind zones in security systems through its high update rate, precise positioning capabilities, superior tracking and classification performance, on-the-move operation, and dome-shaped hemispherical coverage. Thanks to its compact design and low power consumption, this advanced radar system can be integrated onto vehicles for on-the-move operations, as well as deployed in fixed installations for the protection of critical facilities and borders. With its on-the-move operational capability, Retinar AESA can also serve as a critical security system for convoy and VIP protection missions.

3D TARGET DETECTION & CLASSIFICATION

Retinar AESA precisely determines the three-dimensional position of targets (range, azimuth and elevation) and classifies targets using micro-Doppler–based AI algorithms. Classified targets are presented to the user on a background map. User situational awareness is enhanced by marking friendly and alarm zones on the map. The health status of the radar can be continuously monitored and recorded via the user interface. More than one Retinar AESA can be used within the same network, and radar outputs are fused together. Even if the same target is detected by different radars, it is presented to the user as a single track throughout its entire movement.

Parameter	Specification
Operating Frequency	S-Band
Coverage	Single Radar: 90° (azimuth) x 90° (elevation) Four Radars: 360° (azimuth) x 90° (elevation)
Detection Range	Drone (0.01 m2): 4 km Tactical UAV, Human (1 m2): 10 km Helicopter, Small Vehicle (7 m2): 20 km Large Vehicle (20 m2): 24 km
Update Period	Update rate 1 Hz
Weight	< 35 kg
Interface	100/1000 Mbps Ethernet
Power Consumption	< 600 Watt
Environmental	MIL-STD-810
EMC	MIL-STD-461

KAPAN Counter Drone System

Complete Security System Against Drone Threats

DRONE THREATS ARE INCREASING RAPIDLY

The use of drones for intelligence or assault by enemies or terrorists is spreading rapidly and it is very difficult to detect them by traditional security measures. A small drone can harass a target or even drop an explosive payload that can make catastrophic damages to critical facilities or military bases. Therefore, a complete and reliable protection solution is a necessity against drone threats.

Meteksan Defence developed KAPAN Counter Drone System for military and security officers to help them fight with drone threats. KAPAN offers a superior drone detection, tracking and neutralization performance for border and critical infrastructure security with its high technology drone detection radar, electro-optic and jammer sub-systems.

SITUATIONAL AWARENESS FOR DRONE THREATS

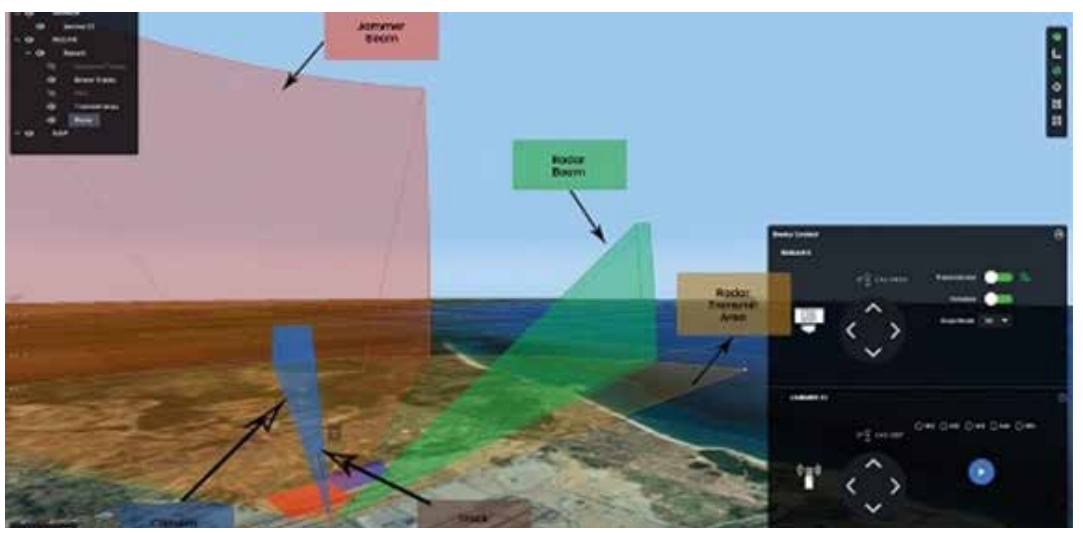
KAPAN Counter Drone System offers precise drone detection and tracking performance with Radar and Electro-Optic system combinations and its artificial intelligence integrated algorithms. Besides its detection and tracking capability, KAPAN allows the neutralization of drones with RF Jammer.

The target drone, which is detected and started to track, is identified with the thermal / day cameras and afterward, more precise positioning and tracking are performed. More than one system can be used depending on the characteristics of the area to be protected. In this case, by the command and control software, the targets can be fused and viewed as a single track on a common operational picture. The direction and position information of the target drone provided by sensors can be assigned to the RF jammer for neutralization.

NEW GENERATION COUNTER DRONE COMMAND AND CONTROL SOFTWARE

KAPAN Command and Control (C2) Software is capable of controlling all of the sub-systems from one control center. C2 Software of KAPAN does not just provide to command and control radar, electro-optic systems and RF jammer from one unit but it can also perform fusion and observation of target information received from multiple radars.

Parameter	Specification
Radar	Retinar FAR-AD Drone Detection Radar
Electro-Optic	High Resolution and Long Range Cameras Cooled MWIR Thermal Camera (640x512) Full HD Daylight Camera (1920x1080) Automatic Drone Classification and Tracking
RF Jammer	Telemetery Communication & Control Bands, Video Transmitting Bands, WiFi / ISM Bands, GNSS Bands Directional / Omnidirectional Antennas



MERTER Man-Pack Portable Electronic Attack System

Man-Pack Tactical Field Electronic Warfare System

INTELLIGENT REACTIVE JAMMING

MERTER Man-Pack Portable Electronic Attack System is a modern EW system used for jamming the target communication systems from long distances by using new generation electronic attack techniques in VHF frequency bands.

MERTER can meet different operational needs. The system can be used both for the protection of patrols against RCIED threats and to generate extended coverage protection area via the portable mast and directional antenna usage. Also, cooperated electronic warfare operation is possible by using multiple systems.

The system contains the new generation channelized wideband RF receiver; in this way, MERTER can detect RF emissions simultaneously in the entire operating frequency band. Also, reactive jamming and barrage jamming techniques can be used at the same time for different targets. MERTER can be controlled via PCs and smart tablets. System health situation, spectrum data, adjustment of the jamming bands and techniques and map usage can be performed by smart tablet. The system can power up from their own rechargeable batteries and AC line input.

MODERN MAN-PACK COMMUNICATION ELECTRONIC ATTACK SYSTEM

The system is designed in accordance with tactical field conditions. MERTER has been developed to include the necessary infrastructure to meet the comprehensive requirements for next-generation cognitive electronic warfare. The system can detect multiple targets with different features via a wideband RF receiver. After target detection, an electronic attack is applied to targets in dynamic scenarios with software-based electronic attack techniques in a reactive way.

Parameter	Specification
Total weight	18kg for Man-Pack Configuration
Dimensions	350x300x150 mm
Power Output (W)	40W (RF)
Frequency Range	100-500MHz
Jamming Type	Reactive Jamming, Barrage Jamming, Hybrit Jamming

MERT Portable Electronic Attack System

Portable Tactical Field EW System

INTELLIGENT REACTIVE JAMMING AND COOPERATED EW

MERT Portable Electronic Attack System is a modern EW system used for jamming the target communication systems from long distances by using new generation electronic attack techniques in V / UHF frequency bands.

MERT Portable Electronic Attack System can meet different operational needs. System, which covers the entire V/UHF frequency band, can be used to protect fixed facilities and moving vehicles, patrol/convoy from radio controlled IEDs. In addition, MERT can be used as a tactical RF communication jamming system to protect friendly forces.

System contains the new generation channelized wideband RF receiver; in this way the system can detect RF emissions simultaneously in the entire operating frequency band. In MERT Portable Electronic Attack System, reactive jamming and barrage jamming is possible at the same time for different targets.

MERT can be controlled via PCs and smart tablets. Moreover, the system contains Ethernet based communication channels such as M/W RL, tactical radio and F/O for remote controlled operations. MERT can power-up from their own rechargeable batteries, AC input and power generator.

MODERN COMMUNICATION ELECTRONIC ATTACK SYSTEM

MERT Portable Electronic Attack System is designed in accordance with tactical field conditions. System has been developed to include the necessary infrastructure to meet the comprehensive requirements for next generation cognitive electronic warfare. MERT can detect multiple targets with different features via wideband RF receiver. After target detection, electronic attack is applied to targets in dynamic scenarios with software-based electronic attack techniques in a reactive way.

Parameter	Specification
Total weight	Power Amplifier (PA) Unit: 50kg Signal Processing Unit: 50 kg
Dimensions	PA Unit: 600x600x400 mm Signal Processing Unit: 550x400x400 mm
Power Output (W)	>450W
Frequency Range	30-3000MHz | 30-6000Mhz (Optinonal)

SEYMEN Navigation Electronic Warfare System

Electronic Suppression of GNSS Dependent Systems

INTEGRATED SYSTEM ARCHITECTURE

SEYMEN Navigation Electronic Warfare System is a modern EW System that can perform Electronic Attacks and Electronic Deception to Global Navigation Satellite Systems (GNSS) used in land, air and sea-based target platforms.

SEYMEN Navigation Electronic Warfare System has a unique System-of-Systems type architecture; Radar, Electro-optics, RF Electronic Support and RF Electronic Attack elements are interoperable on a single shelter.

SEYMEN can perform electronic attack and deceive navigation messages of the targets in different directions, using multiple GNSS systems. The system contains a new generation AJ-GNSS (Anti-Jamming GNSS) Receiver unit; multiple electronic attack and deception signals emitting from the target systems can be prevented at the same time. Moreover, the direction-of-arrival angle of the target electronic attack systems can be estimated with the same unit. By using more than one Navigation EW System, the location estimation is performed for the target electronic attack systems.

The system also has wideband recording and analysis capabilities, which provide signal analyses of the GNSS frequency band and target EW systems. Navigation EW Systems can work synchronously and can perform coordinated tasks together. In this way, target systems that may contain threats can be kept away from friendly forces by using smart jamming and deception techniques.

MODERN ELECTRONIC WARFARE SYSTEM

Radar, Electro-Optic, RF Electronic Support, RF Electronic Attack systems are integrated on a single vehicle, the system components are designed in accordance with the tactical field environment. After target detection/tracking; software-based modern GNSS electronic attack techniques and intelligent next-generation signal synthesis-based GNSS deception techniques are applied to the targets in dynamic scenarios.

Parameter	Specification
Operational Frequency Range	All GNSS Bands
Power Input	3 Phase AC or Diesel Power Generator or 3x1 phase AC
Jamming-Deceive Antenna Type	Directional 20° or Omni-direction 360°
Direction Finding Capability	Direction Finding capability for opposing jammer systems.
Operational Jamming Range	>100km
Detection of Targets	Detection and geolocation of multiple targets with Radar System and Electro-optic Sensors.

METEKSAN DEFENCE

Sonar Systems

Meteksan Defence provides globally deployable sonar solutions tailored for diverse operational environments, including hull-mounted anti-submarine systems, integrated submarine sonar suites, and underwater vehicle detection systems that safeguard critical maritime assets.

YAKAMOS 2020 Hull Mounted Sonar

Innovation Blended with Experience

WE MOVED THE FLAG FORWARD

YAKAMOS 2020 Hull Mounted Sonar System, with its improved technology, is a new generation medium frequency, surface ship Anti-Submarine Warfare (ASW) and obstacle avoidance sonar, which is designed for the surveillance of the underwater environment to automatically detect and track underwater targets such as submarines, submersibles, torpedoes and mine-like objects.

Compared with YAKAMOS Hull Mounted Sonar System, YAKAMOS 2020 demonstrates greater adaptability to evolving technologies and changing acoustic environmental conditions, owing to its compact, high-performance, modular, and scalable hardware design, together with a configurable software architecture.

KEY FEATURES

- Medium frequency Hull Mounted Sonar System for Corvettes and Frigates
- Sea proven performance all over the World with MILGEM Class Corvettes
- Ruggedized design
- Mil-Spec compatibility
- Back compatibility with YAKAMOS
- Open architecture design
- Ready to Integrated Sonar Suite (ISS) structure
- Software-Defined Sonar (software configurable)
- Scalable & Configurable & Reliable & Maintainable
- User-friendly operator interface
- Integrated on-board training mode
- Interface with XBT (Expendable Bathythermograph) and Performance Prediction Function for Sonar Optimization
- Interfaces with UWT, CMS, TCMS and SDDS
- Safe operation for marine mammals with adjustable source level
- Omnidirectional, sectorial, rotational, mine like object and obstacle avoidance transmission modes
- Interoperability with towed arrays and sonobuoys

EXPERIENCE & SUPPORT

With the common use of configurable and scalable modules for the sonar systems designed for platform configurations of operationally different types and dimensions, it is targeted to save on integrated logistic support (ILS), lifetime management and spare part costs. Sonar operators will not give up their well-known, usual and familiar interfaces while using the advantages of new technologies. YAKAMOS 2020 is a user-friendly sonar blended with the experience of YAKAMOS sonar.

Submarine Sonar Suite

Reveal the Invisible

Submarine Integrated Sonar Systems perform the functions of high accuracy detection, positioning, classification, and tracking of threats from long distances with advanced and field-proven algorithms that detect with high sensitivity in a wide frequency band by means of fiber-optic and/or piezo-electric acoustic underwater sensor groups of various sonar systems on the submarine. It is a set of active/passive sonar systems that can use the torpedo acoustic head as a front-end sensor and work in an integrated architectural structure.

Operational Superiority with Suite Architecture

The underwater tactical picture is created by processing the acoustic data obtained from the cylindrical hydrophone array, passive ranging array, flank array sensors group, intercept detection and ranging hydrophone array in the distributed architecture and self-noise measurement hydrophone-accelerometer elements within the suite architecture with bistatic or multistatic methods, providing self-noise awareness. In addition, it has the opportunity to detect targets from long distances with its high source level active transducer array that can broadcast sectorally in different pulse types and waveforms depending on the operational needs, which is used in mandatory situations without harming the confidentiality of the submarine ship. The front-end electronic equipment can operate at high performance with the digital array structures of today's submarines with very low electrical noise, as well as being compatible with previous generation analog sensors. The system effectively manages the firing channel creation process from sensor to torpedo firing. In addition, by integrating with other combat management system components, it contributes to the realization of functions such as track management, target movement analysis, safe navigation, fire control, and network-centric warfare over communication/link systems.

Advanced Algorithms and Bistatic/Multistatic Signal Processing Capability

Acoustic data from sensor arrays are processed using advanced, field-proven algorithms integrated with beamforming and signal processing software, generating a comprehensive underwater tactical picture. This solution is designed to maximize situational awareness by enabling submarines to accurately identify targets and fully comprehend their surroundings. Tactical field advancements can be seamlessly and cost-effectively implemented through an open-architecture software infrastructure. By analyzing and integrating data from multiple sensors, including torpedo acoustic sensors, the system ensures exceptional accuracy and reliability in constructing the tactical picture.

SUVDES Submarine and Underwater Vehicle Detection System

Advanced Sonar Defence for Critical Maritime Assets

PORT AND STRAIT SECURITY

SUVDES is an advanced sonar-based underwater detection system designed to protect critical maritime facilities such as naval bases, commercial ports, offshore platforms, and coastal infrastructures. It detects submarines, underwater drones (UUVs), diver delivery vehicles, and other underwater threats with high accuracy — delivering real-time alerts and situational awareness.

With its AI-powered detection, classification, and tracking algorithms, and integration capability with multiple sensors such as radar, camera, and AIS, SUVDES offers a reliable and scalable solution for both military and civilian applications.

Key Capabilities

- Real-time detection of submarines, UUVs, and divers
- Advanced sonar detection technology
- Multi-target tracking and threat assessment
- Full integration with WAIS/AIS, radar, cameras, and night vision systems
- Scalable and modular system architecture
- Multi-sonar tracking on a unified tactical display

Performance Highlights

- Up to 3,000 m diameter protection zone with a single sonar
- Active & passive detection and tracking
- Simultaneous tracking of multiple threats
- Centralized tactical picture across multiple sonars
- Remote-access user interface
- Automatic or user-defined alarm triggering

Operational Advantages

- Intuitive, user-friendly interface
- Quick installation and activation
- Remote monitoring and control support
- Minimal training requirement
- AI-assisted automatic analysis and decision support

Applications

- Naval bases & military harbors
- Commercial ports
- Critical coastal facilities
- Offshore energy platforms
- Ship and submarine escort missions

ATU Multi-Channel Acoustic Test Unit

Lab-to-Platform Full Testing

SYNCHRONIZED ACCESS TO 96 SEPARATE CHANNELS

ATU is a unique and compact acoustic test device designed and developed by Meteksan Defence to test the front electronic units of structures with multiple hydrophone arrays end-to-end wherever needed.

ATU is a 96-channel test unit and can test end-to-end units with multichannel analog inputs. With the mobility and practical use it provides, it can produce solutions in any environment from lab to platform.

ATU has 3 modes: “Manual”, “Emulation” and “Simulation”. The emulation mode allows to reviewing old data by sending recordings from multiple hydrophone arrays to each channel. On the other hand, Simulation mode allows 96 channels to be fed with these raw data by creating the viewing environment by determining the features such as the environment, the number of targets, signal shape as desired.

ATU will be able to operate in the 0-100 kHz frequency band in all modes and give synchronous output up to 96 channels. By making a clock-synchronization connection of N Acoustic Test Units with each other, Nx96 channels will be tested. Since ATU has the ability to test itself, it does not need an additional test unit and can be used very practically thanks to its low noise level.

COMPACT & PRACTICAL

The Acoustic Test Unit consists of 1 motherboard and 6 DAC cards cards. It takes the necessary data for acoustic signal generation from the test computer. With its compact design and quick-easy installation, it is suitable for use in all areas from the Lab environment to platforms that are docked or in navigation.

TECHNICAL SPECIFICATIONS

With the ATU in-device test feature, the card temperature, supply voltages and elapsed time can be measured periodically. ATU produces continuous or pulsed signals in CW or FM types. It can adjust the amplitude and phase of each channel to different values in pulsed signal generation. ATU operates between 16 VDC and 50 VDC input voltage ranges. The phase error of the acoustic signals produced at ATU is less than 100 ns from channel to channel, and the noise level is lower than -140 dbV/Hz. ATU control is provided via the Ethernet interface.

Platform Subsystems

With the investments made and the expertise developed, we provide high technology and cost-effective communication, radar and GNSS solutions for military platforms including Unmanned Aerial Vehicles (UAV), missiles and helicopters.


J6-HAB
J1-RF1
J2-RF2
METEKSAN
SAVUNMA
J3-RF3
J4-RF4

MILSAR SAR/MTI Radar

Cloud Is Not Your Limit

COMPACT, MULTI-MODE AIRBORNE SURVEILLANCE RADAR

MILSAR SAR/MTI Radar is designed to be used on airborne platforms for intelligence, surveillance, reconnaissance, deterrence, and attack operations. It has versatile Moving Target Indication (MTI) for detection and tracking of potential targets and Synthetic Aperture Radar (SAR) modes for high resolution and all-weather radar imagery, target classification and ground mapping. MILSAR detects and tracks potential targets either low-speed small size or fast-moving objects even in adverse weather and low visibility conditions including cloud and fog.

EASY INSTALLATION FEATURE

This high technology radar system has the same form-fit mechanical interfaces as the standard 15" EO/IR sensor turret to be readily replaced with an EO/IR sensor. In this way, either EO/IR sensor or MILSAR SAR/MTI Radar system can be used according to mission requirements for tactical UAVs which cannot carry both of them together. In addition, operating MILSAR together with an EO/IR sensor in a "slew-to-cue" mode improves the effectiveness of the UAV-UCAV joint operations through maximizing wide-area surveillance of UAV and increasing UCAV's attack capability.

WIDE AREA AND HIGH-RESOLUTION FOCUSED IMAGING

SAR features come with Stripmap and Spotlight sub-modes which enable high resolution, long-range imaging even in low visibility, over-the-cloud surveillance operations day or night. Radar plots and tracks are displayed on a geo-referenced plan-position display or can be overlaid on a digital map. The selected target's range-bearing and course-speed parameters are instantly displayed on the operator's console. Stripmap mode provides real-time, accurate ground mapping and radar imaging in sub-metric spatial resolution, and is used for wide-area surveillance. The Spotlight mode is specialized for change detection, feature detection, identification, and classification.

Parameter	Specification
Azimuth Coverage	360°
Elevation Coverage	+10°/-55°
Max.Slant Range (MTI/SAR)	166 km / 33 km
Min.Slant Range (MTI/SAR)	4 km / 4 km
SAR Resolutions	3m x 3m, 1m x 1m, 30cm x 30cm
Weight	<30 kg
Dimension (Diameter x Height)	370mm x 445mm

HELRAD MSWR-Maritime Search and Weather Radar

An Eye on the Coasts

HELRAD, designed to strengthen the security of coasts, stands out with its advanced radar technology and user-friendly features. It plays an effective role in ensuring maritime security through its automatic contact tracking and suspicious detection capabilities. So, features a weather mode that helps pilots anticipate and prepare for adverse weather conditions.

AN IMPORTANT FORCE MULTIPLIER IN ENSURING COASTAL SECURITY

HELRAD, which is completely designed by Meteksan Defence engineers, utilizing advanced radar technology to operate reliably and effectively in challenging maritime conditions. Thanks to OTS integration, it can track surface elements identified as suspicious, providing the most up-to-date and accurate information. In doing so, it serves as a crucial force multiplier for the Armed Forces and the Coast Guard in search and rescue operations, as well as in combating smuggling and irregular migration.

HELRAD establishes contacts by correlating detections on the surface with information from the OTS (Automatic Identification System- AIS) and can automatically track up to 200 contacts along with their course and speed information. HELRAD filters contacts displayed on the operator console that lack OTS information and identifies them as suspicious, thus enabling the rapid and effective detection of all kinds of threats at sea. Additionally, HELRAD includes various usage options to effectively meet end-user needs.

- Small Target Detection: Detecting small targets at sea
- Short Range: Detailed monitoring at short distances
- Long Range: Wide-scale surveillance covering a large area
- Weather Detection: Monitoring weather conditions and precipitation

THE MOST INNOVATIVE RADAR TECHNOLOGY

Operating in the Ku Band and utilizing a high-power output Solid State Transmitter, HELRAD can be produced at significantly lower costs compared to similar systems worldwide, thanks to its advanced technology. Additionally, the high reliability provided by this technology reduces the failure rates of HELRAD, allowing for long-term effective maintenance at low costs. HELRAD's three main Line Replaceable Units (LRUs) are robustly designed to withstand the challenging weather and environmental conditions at sea. All LRUs have been tested and qualified according to the environmental conditions standards of MIL-STD 810G and DO-160.

VARIOUS INSTALLATION OPTIONS

HELRAD can be customized for integration either under the rotor blades or beneath the fuselage, depending on the user's needs and the platform's constraints. With a detection range of 65 nautical miles and the capability to detect targets small boats and wreckage from a distance of 10 nautical miles, HELRAD will be a significant force multiplier in its missions. HELRAD provides an advantage over its competitors with its weight less than 45 kg (without radome) and average power consumption of 750 W.

AKSON C/S Band Data Link

High Resolution Video and Control Data Link

Meteksan's AKSON C/S-Band Data Link solutions provide high-performance, real-time bi-directional communication for unmanned systems across air and sea. The C-Band version offers a Line-of-Sight, air-to-ground link for UAVs, transmitting command and control data while receiving telemetry and H.264 compressed high-rate video with robust Electronic Warfare (EW) protection. Simultaneously, the AKSON S-Band version is optimized for Unmanned Surface Vehicles (USV), enabling seamless data exchange between Coastal Control Centers and naval platforms by transmitting payload data, telemetry, and platform health status while delivering critical command and control orders in real-time.

INNOVATIVE AND MODULAR

AKSON C-Band Data Link is designed to be competitive in the market with easy adaptation for various platforms and cost-effectiveness in procurement and maintenance. All subunits (modem, RF front-end, video and signal processing unit, carbon fiber composite antennas, radome and control units) are developed and produced by Meteksan Defence. Reflector antenna surface is manufactured with carbon fiber composite so significantly decreasing the antenna weight. Air vehicle antenna radome is developed for resistance to airborne environmental conditions.

REMOTE VIDEO TERMINAL (RVT)

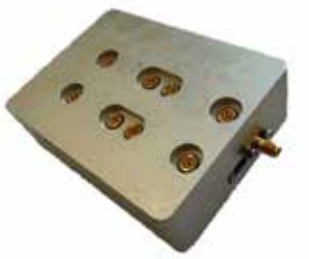
The Remote Video Terminal (RVT) enables field operators to achieve instant situational awareness in land and sea operations via live HD video streaming on durable, portable units. Its lightweight, compact, and easy-to-deploy backpack design ensures effortless transport by personnel. The system allows users to monitor HD footage from aerial vehicles with a range of 30 km for the standard model and 70 km for the long-range variant.

Distinguishing Features	
Data Rate	>10 Mbps (user data)
Data Range	>200 km
Electronic Warfare (EW) protection	FHSS & DSSS techniques
Video Compression/Decompression	H.264

- SWAP, modular and highly reliable design
- Compliant to MALE/HALE airborne environmental conditions
- Full Duplex Communication
- Remote Video Transfer to Mobile Terminals
- Multi-Antenna Support
- Point-To-Point, Ethernet IP Based Communication
- Embedded GPS Support
- Automatic Tracking Antenna System
- AES-256 Encryption
- MIL-STD-810, MIL-STD-461

AGNOSIS Anti-Jamming GNSS

Protect Your Platforms From Jamming Threats



VITAL SOLUTION IN COMBAT MISSIONS

Today, most military platforms depend on Global Navigation Satellite Systems (GNSS). Jamming GNSS signals may cause many platforms to fail their mission. For this reason, development of GNSS anti-jamming systems and sustaining the performance of the military platforms in jamming environments is a crucial task.

AGNOSIS Anti-Jamming GNSS includes CRPA antenna with antenna array configuration and signal processing unit. Signals acquired by CRPA are digitized with high dynamic range receivers and processed by a signal processing unit. Jamming signals are filtered by using signal processing techniques, and the original signal without the jamming signal is reconstructed again for delivering to standard GNSS receivers.

Meteksan Defence has developed the AGNOSIS which consists of a jamming/deception sensitive antenna and signal processing unit to be used in aircraft and munitions, with experience on developing munition data links, avionic subsystems and antenna designs.

The AGNOSIS Product Family is able support multi - frequency bands and multiple satellite systems simultaneously which makes the system most effective and reliable jam-resistant global positioning system.

Parameter	AJ-430-X	AJ-431-R	AJ-850-R	AJ-851-R
Frequency	All simultaneous 3 frequency bands • GPS L1&GALILEO E1&QZSS&BEIDOU B1C&S-BAS • GLONASS L1 • BEIDOU B1I Independent beam nulling at each frequency band	All simultaneous 3 frequency bands • GPS L1&GALILEO E1&QZSS&BEIDOU B1C&S-BAS • GLONASS L1 • BEIDOU B1I Independent beam nulling at each frequency band	All simultaneous 5 frequency bands • GPS L1, GALILEO E1, QZSS L1, BEIDOU B1C, SBAS • GLONASS L1 • BEIDOU B1I • GPS L2 • GLONASS L2 Independent beam nulling at each frequency band Optional support for • GPS L5, GALILEO E5a, QZSS L5, BEIDOU B2A • GALILEO E5b, GLONASS G3, BEIDOU B2	All simultaneous 5 frequency bands • GPS L1, GALILEO E1, QZSS L1, BEIDOU B1C, SBAS • GLONASS L1 • BEIDOU B1I • GPS L2 • GLONASS L2 Independent beam nulling at each frequency band Optional support for • GPS L5, GALILEO E5a, QZSS L5, BEIDOU B2A • GALILEO E5b, GLONASS G3, BEIDOU B2
Receive Channels	4	4	8	8
Anti-jamming Techniques	Beam Nulling, Pulse Blanking, Frequency Notch	Beam Nulling, Pulse Blanking, Frequency Notch	Beam Nulling, Pulse Blanking, Frequency Notch	Beam Nulling, Pulse Blanking, Frequency Notch
Jamming Suppression	> 40 dB (Wideband)	> 40 dB (Wideband)	> 50 dB (Wideband)	> 50 dB (Wideband)
GNSS Receiver	External GNSS Receiver Support	• Embedded Meteksan Multiband GNSS Receiver with anti-spoofing capabilities • GPS L1CA, GLONASS L1, BEIDOU B1I, GALILEO E1	Internal Receiver Option GPS L1&GALILEO E1&QZSS&BEIDOU B1C&S-BAS, GLONASS L1, BEIDOU B1I, GPS L2, GLONASS L2	• Embedded Meteksan Multiband GNSS Receiver with anti-spoofing capabilities • GPS L1CA, GLONASS L1, BEIDOU B1I, GPS L2, GLONASS L2
Communication	RS 232 – 485, Ethernet	RS 232 – 485, Ethernet	RS 232 – 485, Ethernet	RS 232 – 485, Ethernet
Size (W x L x H)	135 x 90 x 16 mm	135 x 90 x 16 mm	148 x 70.5 x 29.5 mm	148 x 70.5 x 29.5 mm
Weight	300 ± 50 gr	300 ± 50 gr	600 gr ± 50	600 gr ± 50
Power	28 V, < 12 W	28 V, < 12 W	28 V, < 33 W	28 V, < 33 W

SEDEN GNSS Antenna and Receivers

High Dynamic High Precised Positioning Solutions

SEDEN GNSS RECEIVER

Meteksan Defence GNSS Receivers offer highly accurate and precise positioning GNSS technology to platforms. Our GNSS receiver solutions offer multi-constellation, multi-frequency tracking and features flexibility, low power consumption, field upgradeable software and data logging. The products are rugged designs for harsh environments. Customers benefit from alternative options for fast data transfer, as well as receiver configuration via standard and custom interfaces. GNSS receivers are designed for easy integration into multi-platforms.

Technical Specifications / Product Type	MS.GNSS.R-330	MS.GNSS.R-470
GNSS Signals	GPS L1 CA GLONASS L1 BEIDOU B1	GPS L1 CA GPS L2C, GLONASS L1 GLONASS L2 BEIDOU B1 GALILEO E1 SBAS GPS L5
Tracker Channels	32	72
ECCM Precautions	Frequency Filtering, Pulse Blanking, Wideband Interference Mitigation	Frequency Filtering, Pulse Blanking, Wideband Interference Mitigation
Anti-spoof	Yes	Yes
Heading	No	No
Position Accuracy	< 5 m RMS	< 5 m RMS
Speed Accuracy	< 0.3 m/s RMS	< 0.3 m/s RMS
Time Accuracy	< 30 ns	< 30 ns
Cold Start Time	~45 sec	~45 sec
Hot Start Time	6 sec	6 sec
Re-acquisition Time	3 sec	3 sec
Power Consumption	< 10 W	< 12 W
Size	127.4x77.4x23.8 mm	127.4x77.4x23.8 mm
Weight	<350 gr	< 150 gr <350 gr
Environmental Conditions	MIL-STD-810G	MIL-STD-810G

ACTIVE GNSS ANTENNA

Meteksan Defence GNSS Antennas have been designed to support high accuracy air, land, marine and munition applications. Antennas are high-performance multi-band GNSS antennas that are built with weather-resistant materials to allow operation in the harshest environments. Maximize your GNSS receiver's positioning performance with the optimal GNSS antenna for your application. Meteksan Defence provides an extensive range of single-band and multi-band GNSS (GPS, GLONASS, Galileo, BeiDou) antennas in the L1 and L1/L2.

Parameter	Specification
Frequency	L1 / L1&L2
Polarization	RHCP
Impedance	50 ohms
Noise Figure	≤ 3 dB
LNA Gain	32 ±2 dB
Voltage	3.5-5.5 VDC
Power Consumption	≤ 0.6W & ≤ 1.2W
Weight	≤ 200gr
Sizes	70mm x 23mm

CRA Radar Altimeters

Accurate Altitude

MINIATURE DESIGN, LOW POWER CONSUMPTION

A radar altimeter is a low-power radar system that measures the distance between the platform and the terrain and provides AGL (Above Ground Level) height information to the platform. Like other radar devices, they transmit electromagnetic waves and measure the round-trip time delay to the earth's surface to determine the distance (i.e. height) from the air or spaceborne sensor.

With its miniature design and low power consumption features, CRA Radar Altimeter Family of Meteksan provides an efficient workload planning opportunity in any air platform. CRA Radar Altimeters which can measure precise altitude up to 2500/5000 feet, provide sensitive data even on platforms with high speed and high maneuverability and can be used in operations such as take-off/landing, low flight, and ground-referenced navigation on different earth structures, including offshore operations.

FULLY COMPATIBLE WITH MILITARY STANDARDS

CRA Radar Altimeters with low output power and low probability of Intercept (LPI) with power control mechanism are operable in a wide frequency band. They are automatically adjusted according to altitude, offers high availability with in-unit test features that operates during the opening, periodically on duty and depending on the operator's request.

CRA Radar Altimeters are designed, developed and produced as fully compatible with military standards; have been successfully passed and qualified according to environmental conditions (MIL-STD-810F), EMI/EMC (MIL-STD-461E) and flight tests.

Our company is the only national supplier for the Turkish Armed Forces and supplier for several platforms in the international market.

Parameter	CRA-201	CRA-503
Minimum Altitude	6.5 ft	
Maximum Altitude	2500 ft	5000 ft
Altitude Accuracy	±2 ft / 2%	
Platform Horizontal Velocity	300 m/s	
Update Rate	50Hz	
Power Consumption	<13 Watt	
Weight	450 g (Radar Unit) / 700 g (All System)	
Size	171x118x18 mm	

Missile Data Links

Improve Effectiveness of Your Missile Platforms

HIGH SECURE COMMUNICATION FOR MISSILES

For improving the effectiveness of the missile systems, data links developed by Meteksan provide permanent and highly secure communication between the controller platform and the missile by supporting the execution of operator-controlled missions via target detection, engagement, target update and transmission of missile telemetry data & real-time imagery to operators for battle damage assessment.

Missile Data Links transmit the video data generated by the missile seeker to the user and the user commands such as target marking/locking and target update back to the missile in near-real time. Our high technology solutions are optimized for the high performance, low cost and custom needs of our customers who are using launcher and controller platforms in the tactical areas (air, land, sea).

Our company as a provider of the data link solutions for the Turkish Armed Forces is also the sole designer and producer of all missile data links in Türkiye. Our missile data links are currently operational with missile platforms such as OMTAS Middle Range Anti-Tank Missile, UMTAS Long Range Anti-Tank Missile and HISAR Air Defence Missile System. All these data links are designed and manufactured according to the specifications of the platforms and we have the capability to support data link requirements of different missiles such as Air to Air Missile (AAM), Air to Surface Missile (ASM), Surface to Air Missile (SAM) and Surface to Surface Missile (SSM).

TECHNICAL SPECIFICATIONS

- Simplex or Duplex Data Transfer
- Secure communication with FHSS / DSSS and custom crypto
- High-Speed Digital Data Transfer with point-to-point or point-to-multi point communication,
- SWAP, modular and highly reliable design for harsh environments
- Electronic Warfare Resistant Waveform
- Conformal Antenna Design Capability for optimum performance
- Phased Array Antenna Design Capability
- MIL-STD-810G, MIL-STD-461F Compatible
- Extendable Design with alternative interface support for Various Platforms

KEMENT TDL (Tactical Data Link) System

Tactical Data Link System with Network Enabled Capability (NEC) and Network Enabled Weapon (NEW) Support

FIRST INDIGENOUS TACTICAL DATALINK OF TÜRKİYE

In order to improve battlespace awareness, we design and produce tactical data links, which provide high speed, reliable and secure communication among network elements in tactical areas. We developed the first Turkish indigenous tactical data link for cruise missiles, fighter jets and corvettes, which is called KEMENT TDL.

KEMENT TDL is a TDMA-based, secured (encrypted), jamming resistant, high-speed digital communication system with relay capability for near-real time transmission of complex data sets. KEMENT TDL enables NEC (network-enabled capability) and NEW (Network Enabled Weapon) among Command Control (C2) Systems, land, sea and air platforms, ammunition (cruise missiles, etc.), weapons and mission systems on the battlefield.

KEMENT TDL System performance tests were completed in 2019 and Türkiye has become one of the prominent countries that own Network Enabled Capability.

TECHNICAL SPECIFICATIONS

- Command & Control TDL System optimized for operations in extended ranges
- Secure communication with FHSS / DSSS and national/custom crypto
- TDMA network operations with standard messaging capability
- Electronic Warfare Resistant Waveform
- SWAP, modular and highly reliable design for harsh environments
- MIL-STD-810G, MIL-STD-461F Compatible
- Network Enabled Weapon Capability
    - Increased Situational Awareness
    - Status Updates
    - In-flightTarget Update
    - In-flight Retargeting
    - Mission Abort
    - Loiter
    - Handover
    - Battle Damage Assessment
    - Embedded or external DLP (Data Link Processor) support
- Embedded or external crypto support
- Custom waveform support with software defined radio architecture

METEKSAN DEFENCE

Training Simulators

Our SIMETRAN Simulation and Training Systems Family which includes damage control, fire fighting and helicopter escape training, and other simulator solutions for Armed Forces and civilian industries, are developed with advanced technology hardware and software systems to ensure realistic training environment.

SIMETRAN-DCS Damage Control Simulator

Get Ready Before It's Too Late

REALISTIC TRAINING

Naval Damage Control (DC) capability is a critical effect for preserving the integrity, stability and maneuverability of vessels. The key to enable these capacities is a realistic training environment for the ship's crew to develop and conduct damage control exercises. Consistent and realistic training produces an optimal level of readiness that prepares repair party teams to react more efficiently and effectively to actual casualties.

Damage Control Simulator (DCS) provides a realistic training environment to develop and conduct damage control exercises to provide the shipboard personnel as part of damage control readiness and the internationally recognized commercial and naval standards. DCS has unique features these are increasing the effectiveness of the training, operational efficiency and maintainability. The system provides standardized means to train the crew from basic up to advanced level with proper and comparable evaluation reports.

SAFE AND STANDARDIZED DAMAGE CONTROL TRAINING

Thanks to the state of the art and fail-safe design of the system, DCS provides a safe training environment with adjustable and controllable difficulty levels. The design of the interfaces allows command and control of the simulator and the training in a user-friendly manner, which prevents failures by operators. The software and the safety systems operate in a full compliance to provide a safe environment for damage control training. DCS is built in accordance with the current international safety directives, the Regulations for Prevention of Accidents.

It is possible to configure the number of damages and their types. One of the important properties of our system is the rolling effect. Damage Control Simulator has roll capability with its hydraulic feet to provide sea effect.

WORLD #1 DAMAGE CONTROL SIMULATOR

DCS has unique features that are increasing the effectiveness of the training, operational efficiency and maintainability such as additional training capability apart from damage training, like material condition training, communications, de-smoking, causality cable laying training, adjustable water level, adjustable hull motion for speed and angle, usage of specific lighting and sound effects, preventive maintenance by recording the usage time of critical components through the automation system and timely warning the user for the related maintenance, easy fault finding system that enables pinpointing the faulty components. foolproof and fail-safe design where DCS is not affected from the improper usage of the trainees and DCS is always guaranteeing the safety of the trainees even if some fault happens during the execution, like electricity breakdown.

DCS has been selected by 5 different country's naval forces, and all are currently successfully operational.

SIMETRAN-FTS Fire Fighting Training Simulator

Be Prepared for Fires

REALISTIC TRAINING

The Fire Training Simulators are used for the purpose of reinforcing the theoretical fire fighting training and actual training. These will be carried out at a fire training simulator increasing the affinity of the repair party or the fire team members who will participate in fighting the fires in relation to the issue of fire fighting for different locations and types of fires.

Firefighting Training Simulator (FTS) provides effective and safe training in a realistic environment where members of the fire fighting team can take the role of a firefighter, practice tactics and procedures through interaction with fixed and portable fire extinguishing equipment in simulated conditions without risking lives or property. The more you learn, the more you will be able to contribute to the safety of your ship effectively.

INTERNATIONALLY RECOGNIZED STANDARDS

Thanks to state of art and fail-safe design of the system, the Firefighting Training Simulator (FTS) provides a safe training environment with adjustable and controllable difficulty levels. The system provides standardized means to train the crew from basic up to advanced level with proper and comparable evaluation reports.

FTS is built in accordance with the current international Directives, and the Regulations for Prevention of Accidents. NFPA/DIN regulations and procedures are the basis for the design and installation of the simulator enabling the proper operation of the training facility for firefighters and first responders.

SAFE AND EFFECTIVE

Firefighting Training Simulator (FTS) has unique features that are increasing the effectiveness of the training, operational efficiency and maintainability enabling how to identify the different classes of fires, how to extinguish them, and how to use and maintain firefighting systems and equipment; prepares the crew in dealing with an emergency situation that may arise because of a fire. It makes each and every crew familiar with the task he or she has to perform in case of an actual emergency.

It is extremely important that the fire drill is carried out in a realistic manner as possible in order to make the crew aware of the situations that might arise during the fire. Consistent and realistic training produces an optimal level of readiness that prepares members of teams to react more efficiently and effectively to actual casualties. The more you train and learn, the more you will be able to contribute to the safety of your platform/facility and assets effectively.

SIMETRAN-HUET Helicopter Escape Training Simulator

New Technology for Helicopter Escape Trainings

COMPLETE HUET FACILITY

The HUET Facility is designed based on the international standards & OPITO criterion for the personnel who regularly travel by helicopter to provide/ensure the skills and knowledge of what to do in an emergency situation where there is a need to exit a ditched helicopter and survive at sea.For the purpose built, contemporary facility includes various distinct training capabilities to enable discrete training including the components:

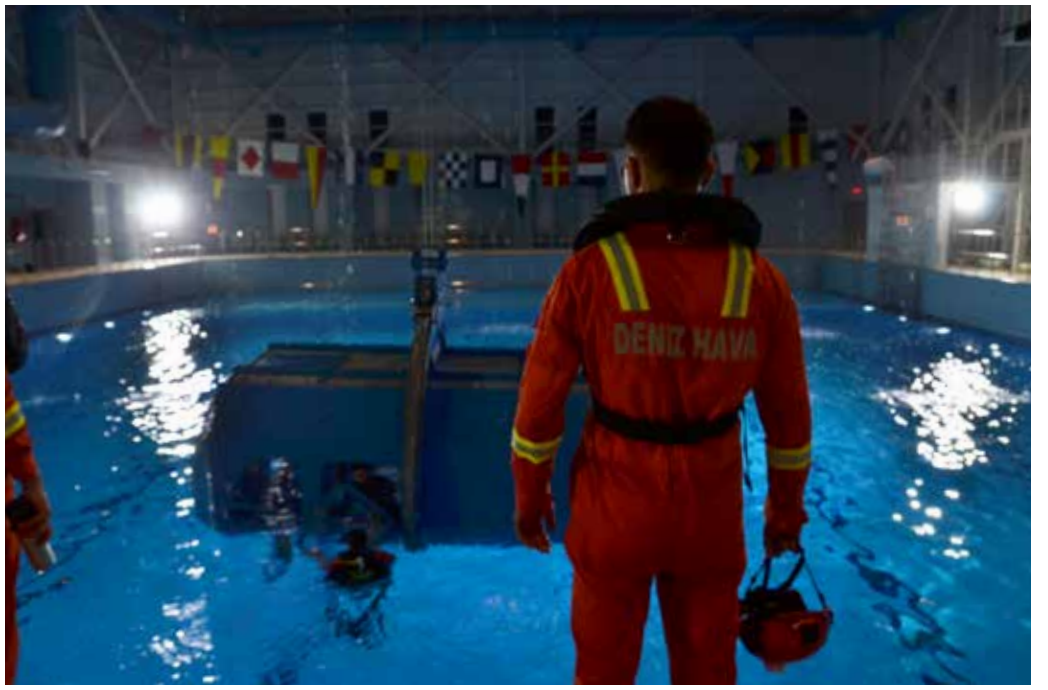
- Helicopter Underwater Escape Trainer,
- Portable SWET chairs for Shallow Water Egress Training (SWET),
- Simulated Rescue Helicopter to enable rescue activity,
- Simulated Landing with Parachute.

REALISTIC TRAINING CAPABILITY

For the execution of realistic training, the environmental conditions like weather, sea-state, day/night time, and sound are simulated. The platforms for the simulation of rescue from the helicopter, landing with a parachute, and ship's deck are providing a complete training capability.

INTERNATIONAL STANDARDS

The Trainer consists of a helicopter mock-up with movable exits/windows, that can be controllable ditched into the pool and able to rotate in both directions up to 180 degrees. The trainees are expected to exit from the ditched mock-up making use of the Emergency Breathing System (EBS), and be rescued from the helicopter's cabin simulated platform above the pool. In the facility including the pool, there are systems to simulate real environments like wave generators, daytime/night differentiation, wind and sea state effects. It provides the required means for the OPITO certified training of the crew.



PELIKAN RF Missile Seeker Simulator

Innovative System for Electronic Warfare Tests

SYSTEM CAPABILITIES

PELIKAN Missile Seeker Simulator (MSS) is a Naval EW test and evaluation asset designed to evaluate Onboard Electronic Defence and Electronic Attack Systems' effectiveness. PELIKAN MSS, can be used for evaluating the effectiveness of a ship's electronic warfare techniques (ESM, ECM, RF Chaffs/ decoys, etc.), simulation for Radar ECM development and evaluation, radar ECM testing & verification and electronic warfare equipment testing and evaluation. Once the emulated attack commences, real-time information is available regarding the emulated missile's behavior so that live evaluation of the effectiveness of the countermeasures employed by the target ship can be assessed. In addition, PELIKAN Missile Seeker Simulator records all relevant data to enable a further analysis to be undertaken once the simulation phase of the trial is complete.

REALISTIC SIMULATION

PELIKAN Missile Seeker Simulator provides ship personnel to be trained in the use of EW equipment and in the development of avoidance and distraction tactics against simulated threats. PELIKAN can accurately emulate the behavior of a specific anti-ship missile's RF seeker so that the system appears to be a real example of the missile in question from the target's (ship's) perspective.

In addition, PELIKAN also reacts to electronic warfare counter measures that are carried out by the target ship. The system can be configurable so it can be programmed to emulate a wide variety of anti-ship missile's RF seekers across a range of guidance techniques. PELIKAN can simulate a number of different missile types by varying parameters such as frequency, pulse width, pulse repetition frequency, gate size, pulse modulation, polarization, and detection criteria.

REAL-TIME OPERATION

PELIKAN Missile Seeker Simulator is largely autonomous in terms of its operation as once programmed and started, it operates exactly as the intended missile's RF seeker would. The system consists of a master controller and up to three remote emitters. It contains three RF missile seekers integrated into a single transportable shelter. System control is provided by consoles inside the shelter, which enable operators to configure different seeker parameters.

PELIKAN has a multi-purposed GUI. It provides operator an interface, diagnostic interface and Own Ship Data interface to the user. PELIKAN can simulate a number of different missile types by varying parameters such as frequency, pulse width, pulse repetition frequency, gate size, and detection criteria. Real-time information is available regarding the emulated missile's behavior so that live evaluation of the effectiveness of the countermeasures employed by the target ship can be assessed. In addition, PELIKAN Missile Seeker Simulator records all relevant data to enable a further analysis to be undertaken once the simulation phase of the trial is complete.

PROGRAMMABLE SEEKER PARAMETERS

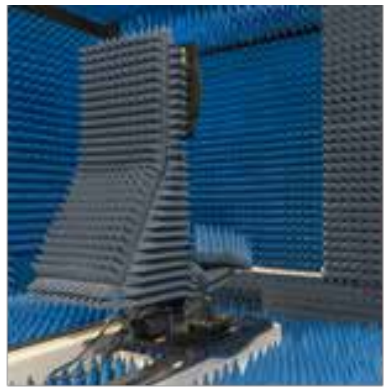
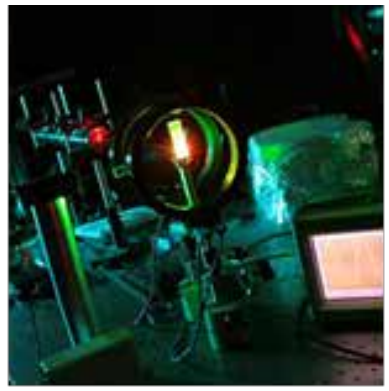
PELIKAN Missile Seeker Simulator simulates all phases of the seeker: Initial Search, Home On Target (HOT), Home on Jam (HOJ), Home on Decoy (HOD), and Reacquisition. All events (Turn On, Lock On, Break Lock and retrack) are displayed and recorded. PELIKAN not only simulates the transmitted signal but also simulates the receiving channel of the seeker with all its RF, IF receiving channels and signal processing capabilities. In short, PELIKAN is a software-defined radar that can be programmed according to the desired seeker parameters which cover all modes of a programmed seeker.

Our Infrastructure

6

Meteksan Defence has the necessary infrastructure to design, produce, integrate and test the systems that are being supplied to our customers, consists of;

- Electronic Design & Test Laboratory
- Mechanical Design Laboratory
- Automated Printed Circuit Assembly and Inspection Lines
- Electromechanical Assembly and Harness Assembly Lines
- Acoustic Sensor Production Line
- Antenna Production Line
- Prototype Printed Circuit Board Production Line
- Cleanroom (Class 10.000) Chip & Wire Production Line
- Functional Testing Laboratories
- System Integration and Test Hall
- EMI/EMC Test Chamber
- Near Field Antenna Measurement System
- Vibration Test Laboratory
- Environmental Stress Screening Cabinets
- Temperature, Humidity and Altitude Test Cabinets
- Underwater Acoustic Test and Calibration Pool
- Open Water Test and Calibration Facility
- Temperatured & Pressure Controlled Underwater Acoustic Performance Test Tanks






Quality Management

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Our quality management system, based on the ISO 9001, AS 9100, AQAP 2110 standards, includes sustainability, customer expectations and satisfaction at all stages for delivery and warranty period to the customer.

Meteksan Defence has a systematic and dynamic Quality Management System, certified with ISO 9001:2015 and AS 9100:2018 Quality Management System Certificate and AQAP2110 Quality Assurance System Certificate, Industrial Assessment and Support Project (EYDEP Plus) covering the procedures and processes in line with the relevant standards in its field, efficiency of which is constantly monitored and improved, to meet the customer expectations and satisfaction from the project proposal stage to the end of the warranty stage and maintain the corporate structure and sustainability in line with the Quality Policy.

- Perform system/software/hardware development, realization, production and logistics support activities in the fields of Border and Infrastructure Security, Electronic Warfare, Training Simulators, Platform Subsystems in a complete and timely manner to meet the needs and expectations of our customers,

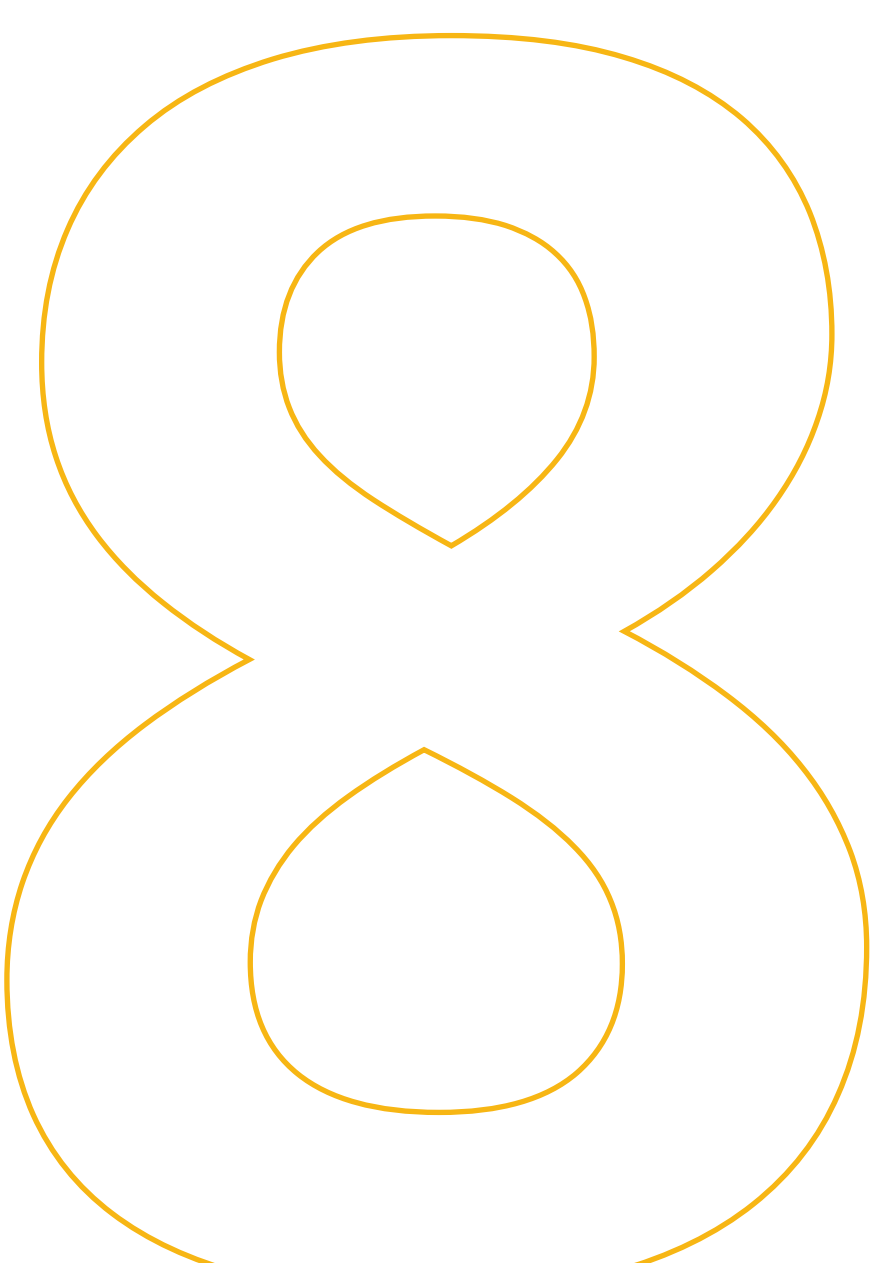
- Fulfill the applicable conditions (legislation, contract/orders, our Quality Management System), monitor/measure achievement of annual targets to evaluate the achievement of our Quality Management System goals,

- Ensure the training and continuous development of our employees,

- Increase and sustain customer satisfaction and trust in the brand and increase efficiency

- Continuously improve the efficiency of the Quality Management system and ensure that it is compliant with the conditions.

Social Responsibility



As Meteksan Defence, we aim at realizing projects and organizations providing benefit to the society, creating a solution for the community's problems with the common participation of all our employees. We include the contribution in the improvement of the life in our country with an approach considering comprehensive, environmental and social events in all our social responsibility projects that we implement in our responsibilities.

My Books for Journey to Hope

In parallel with Bilkent Group's mission to contribute to education; with the motivation given to us by creating resources that will enable Bilkent University to sustain its existence, we carry out social responsibility projects to help the future of students and create equality of opportunity before the university age.

With our project, which we started with the slogan "My Books for Journey to Hope", we aim to ensure that children studying at village schools can reach new books by establishing new libraries in schools.

Earthquake Volunteers

With our Earthquake Volunteers project created with the contributions of Meteksan Defence employees, we provide the necessary assistance in the areas needed after disasters in coordination with the Disaster and Emergency Management Directorate of the Ministry of Internal Affairs (AFAD) and ensure that required aid materials are delivered to the required regions.

Defend Your Water

We aim to create and increase awareness about water scarcity with our "Defend Your Water" project, which was initiated to prevent future generations from facing the danger of water scarcity by minimizing unnecessary clean water usage in the company, create a water management model and organizing conferences to teach our employees and their families.

METEKSAN DEFENCE

High Technologies For a

Safer World

BİLKENT HOLDİNG

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