SANmilitary Presentation
July 2015
SANmilitary Area of Operation

Main areas of operation
- Defence Sector
- Sales and Marketing
- Project Management/Support
- Technical Support
- After sales support
- Logistic support

Main areas of expertise and marketing
- Armoured vehicles
- Subsystems for Land, Air & Maritime
- Surveillance & security systems
- Force Protection
- Sensor Systems
- Air Reconnaissance Targeting Systems
- Command and Control systems
- Maintenance, training courses and documentation
SANmilitary contribution to SMART DEFENCE

Smart Defence initiative:
- We take the responsibility of integrating our sub-systems to whatever main system the customer might have.

This ensures for the customer:
- Limited casework for the customer & use of resources.
- Delivery of complete system in accordance with, documentation spare parts & other activities relating to the complete system.

Subsystems

- Companies (sub-systems) -> SANmilitary
- SANmilitary -> Sub-systems
- Sub-systems -> Main system suppliers in EU
- Sub-systems -> Government Defence org. Scandinavia
- Possibility to take on a coordinating role on behalf of Defence Organisations

- Companies (sub-systems) -> SANmilitary
- SANmilitary -> Sub-systems
- Sub-systems -> Main system suppliers to Government Defence org. Scandinavia
Overall marketing Strategy

Market strength
- Area 1 - Strong and knowledge in Denmark, Norway, Sweden, Finland & Germany
- Area 2 - Strong and knowledge in Turkey, Middle East (through contacts in Turkey)

Strategy for marketing:
- Our main partners are located in Turkey
- Our primary market is Northern Europe & Scandinavia (& EU)
- Our secondary partners are located Northern Europe & Scandinavia
- Our secondary market is Turkey & Middle East
- We work both ways and have strong knowledge & presence in both market sectors

Strategy 1
- Turkish Companies
- SANmilitary
- EU bid
- National bid
- Direct Sale

Market 1
Northern Europe & Scandinavia

Strategy 2
- EU Companies
- SANmilitary
- National bid
- Direct Sale
- Joint venture/Cooperation. with local industry

Market 2
EU

Market 3
Turkey & Mid. East
Our Partners & Companies
we are agents for:

- Nurol Makina ve Sanayi A.S.
- SDT Space & Defence Technologies
- T-Kalip
- Ozteck
- Aselsan
- TTAF
- Baris
- Forum Industries Ltd.
- TDU Savunma Sistemleri A.S.
- Savronik
- ATEL Teknoloji
SANmilitary Product portfolio Products

- **Vehicles.** Armoured Vehicles (4x4, 6x6), Riot Control Vehicles and Commercial Trucks
- **Subsystems & Software.** Variety of control box & software solutions within Electronic Systems, Image Processing, Radar & EW, Simulation, Satellite Technologies
- **Security & Surveillance Systems.** Border surveillance systems, Vehicular Reconnaissance & Surveillance System Solutions Thermal imagers & Day cameras
- **Communications systems.** MANPACK Multiband Multimode Radio, VEHICULAR / BASE STATION Multiband Multimode Radio, HANDHELD Multiband Multimode Radio
- **Radar Systems**
- **Mine Protected Seats & weapon rails**
- **Fire Suppression System**
- **High level Leopard II & M113 upgrade**
- **Cables.** Aerospace Cable Assemblies, Wire Harnesses, Fibre Optic, Cable Assemblies, RF/ BNC Cable Assemblies & Electro-Mechanical Assemblies
- **Defence systems,** Fire Control System, Air Data links, Power Distribution box, Live Weapon Simulation & Railroad Systems
- **Zeppelin/Balloon Based – Surveillance & Electro Optic Systems**
- **Add-On Armour.** Armour for any type of Vehicles (Armoured Vehicles & Helicopters) from composite materiel, Personal Protection (Helmet & Body Armour)
- **Shelter System.** Transportable Shelter systems
- **Mobile Field Hospital**
- **Control Systems.** Intervalometer, control unit, remote control unit, control navigation system
- **Camouflage Systems.** Multispectral camo. Net, Mobile camo system, shelter camo. System
- **UAV (Unmanned Aerial Vehicle)**
- **High quality military & security boots**
- **Man-Borne ECM**

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Surveillance Systems

Electro Optic Systems

* Laser Range Finder and Designator,
* Multi Pulse Laser Range Finder (MPLRF) designed to provide target range data to anti-aircraft gun and missile systems. With its capabilities of 20 km measurement range
* Third Generation Night Vision Equipment,

**Thermal imagers both for land based applications and airborne platforms.**
* Hand-Held Thermal Imager
* Thermal Weapon Sight
* BOA Thermal Weapon Sight, providing situational awareness, enables the user to detect threats in the battlefield
* PYTHON Thermal Weapon Sights, an innovative design, provides high performance thermal image. Optimized field of view enables user to perform threat detection extensively beyond the weapon’s effective range

**Systems**
* Hand-Held Integrated Electro-Optical Sensor System
* SCOUT integrated electro-optical sensor system incorporating Thermal Camera, Laser Range Finder, Digital Magnetic Compass, GPS Receiver, Laser Pointer.
* FALCONEYE Electro-Optical Sensor System which comprises an advanced Thermal Imaging System and a high performance Day TV Sensor. Discrimination of threats, by using detection, recognition and identification criteria, is the major function attained by this surveillance systems. Eagle eye: is an infrared fire control sighting system which provides the marksman and commander with target detection, recognition and firing ability even the platform is on the move under adverse battlefield conditions such as dust, smoke, mist, fire and camouflage.
Surveillance Systems

Electro Optic Sensor System (ATS-60)

Features

* Multi-Sensor Capability
* High Resolution Cooled Thermal Camera
* Continuous Zoom Lens (CCD and Thermal)
* Eye-Safe Laser Range Finder
* Compact, Rugged, Military Hardened
* Integrated GPS and DMC (optional)
* Freezing Capability (Thermal)
* Polarity Change (Thermal)
* Automatic Contrast and Brightness Adjustment (Day-TV/Thermal)
* Manuel Contrast and Brightness Adjustment (Thermal)
* Focus Adjustment
* Reticle Brightness Adjustment
* Target Range Measurement Capability
* Laser Reflection Selection
* RS-422 Communication Interface
* Compliant to EMI/EMC according to MILSTD-461E Table-V
* External Software Update

Application

* Fire Control
* Armoured vehicles
* Remote Weapon Stations
* Main Battle Tanks
* Target Acquisition

Environmental Conditions

* Operating Temperature : -40°C to +55°C
* Storage Temperature : -40°C to +65°C
* Standard : MIL-STD-810 G

Optional Accessories

* Control and Display Unit (optional)

Technical Specifications:

Thermal Camera

* 3 Preset Field of Views
  * Narrow FOV : 2oX1.6o (±%10)
  * Medium FOV : 6oX4.8o (±%10)
  * Wide FOV : 16.8oX13.5o (±%10)
* Continuous Zoom: from WFOV to NFOV
* Digital Zoom : x2
* Detector Type : Cooled, 3-5 μm,
* Detector Format : 640X512
* Cool Down Time : Less than 7 minutes

Day TV Camera

* 3 Preset Field of Views:
  * Wide FOV : 16.8oX12.6o (±%10)
  * Middle FOV : 6oX4.5o (±%10)
  * Narrow FOV : 2oX1.5o (±%10)
* Continuous Zoom: from NFOV to WFOV
* Digital Zoom : Continuous to 12X
* Sensor type : " Color CCD

Laser Range Finder

* Type : Class 1, eye-safe laser
* Wavelength: 1.54 μm
* Range : From 100m to 20000m
* (changes according to target and environmental conditions)
* Accuracy: ± 5m

Physical

* Dimensions : 260mm x 225mm x 131mm
* Weight :< 6.5 kg
Surveillance Systems

Electro Optic Sensor System (ATS-40)

Features
* Freezing Capability (Thermal)
* Polarity Change (Thermal)
* Automatic Contrast and Brightness Adjustment (Day-TV/Thermal)
* Manuel Contrast and Brightness Adjustment (Thermal)
* Focus Adjustment
* Reticle Brightness Adjustment
* Target Range Measurement Capability
* Laser Reflection Selection
* External Software Update

Technical Specifications

Thermal Camera
* Operating Band: 8-12 μm
* Detector: Uncooled Type
* Detector Format: 384x288 or 640x480
* Field of View (HxV):
  * 384x288 version
    * Narrow: 4°x3.2°
    * Wide: 12°x8°
  * 640x480 version
    * Narrow: 4.6°x3.5°
    * Wide: 13.75°x10.3°
* Video Output: CCIR
* Electrical Interface: RS422
* Input Voltage: 12V±0.5V
* Weight: <3.5kg
* Focus Distance:
  * Narrow: 50m – ∞
  * Wide: 5m - ∞

CCD Camera
* Field of View (H):
  * Narrow FOV: 1,7°
  * Wide FOV: 57,8°
* Continuous Zoom from NFOV to WFOV
* Video Output: PAL
* x12 Electronic Zoom
* x36 Optical Zoom

Laser Range Finder
* Laser Type: Eye Safe Laser Class 1
* Range: 50m-5500m
* Resolution: ±5 m

Environmental Conditions
* Operating Temperature: -40°C to +55°C
* Storage Temperature: -40°C to +65°C
* Standard: MIL-STD-810 G

Power Requirement
* Input Voltage: 18V-33V
* Nominal ≤30W
* Maximum ≤100W
* Compliant with MIL-STD-1275D
* Reverse Input Current Protection

Communication Interface
* RS-422
Surveillance Systems

Ground Surveillance Radar

Ground Surveillance Radar is designed and developed for detecting, classifying and tracking Targets moving on or close to ground or sea and artillery fire adjustment purposes at day and night in all weather conditions.

Features

- Border Surveillance
- Coastal Surveillance
- Battlefield Surveillance
- Mobile Applications
- Fully Solid State
- Advanced Digital Signal Processing (DSP)

Techniques

- Ku-band Pulsed Doppler Radar with Pulse Compression
- Track-While-Scan (TWS) in Surveillance Mode
- Multi-target Tracking
- Automatic Track Classification
- Low Output Power for Low Probability of Intercept (LPI)
- B-SCOPE or PPI Display,
- Digital Map Overlay,
- Remote Control,
- High Accuracy and Resolution,
- PC-Based Hand-Held Operator Unit,
- Selectable Antenna Rotation Speed,
- 360° Continuous or Sector Scanning,
- Adjustable Sector Width,
- Selectable Range Scales,
- User Defined Alarm and Friendly Zone Selection,
- Built In Test (BITE)

Operation Modes

- Surveillance Mode and Multi – Target Tracking Mode
- Acquisition and Classification Mode
- Fire Adjustment Mode
- Clutter Map Mode
- Track-While-Scan (TWS)

System Units and Accessories

- Main Units
- Sensor Unit
- Antenna Unit
- Control Display Unit
- Accessories
- Tripod
- Headphones
- Optical Sight for Calibration
- Peripheral Units
- AC / DC Converter
- Battery Pack
- Re-usable Storage Container

Technical Specifications

- Operating Frequency : Ku-Band
- Instrumented Range : 40 km
- Pedestrian Detection Range : Up to 12km
- Selectable Azimuth Scan Width : 10° - 360°
- Elevation Positioning :±24°
- Storage Temperature : - 40°C to + 70°C,
- Operating Temperature : - 32°C to + 50°C,
- Compliance with MIL-STD-810G and MIL-STD-461F
Surveillance Systems

Thermal Camera Unit

Features
- LWIR Uncooled Thermal Camera
- Dual-FOV
- 640x480 Detector Option
- Light and Compact Structure
- Rugged
- X2 Electronic Zoom
- Freezing Capability
- Polarity Change
- Automatic Contrast and Brightness Adjustment
- Manuel Contrast and Brightness Adjustment
- Motorized Focus Adjustment
- Automatic Image Processing Algorithms
- Reticle Adjustment
- External Software Update

Technical Specifications
- Operating Band : 8-12 μm
- Detector : Uncooled Type
- Detector Format : 384x288 or 640x480
- Field of View (HxV) :
  - 384x288 version
    * Narrow : 4°x3.2°
    * Wide : 12°x8°
  - 640x480 version
    * Narrow : 4.6°x3.5°
    * Wide : 13.75°x10.3°
- Video Output : CCIR
- Electrical Interface: RS422
- Input Voltage : 12V±0.5V
- Weight : <3.5kg
- Focus Distance :
  * Narrow : 50m – ∞
  * Wide : 5m - ∞

Environmental Conditions
- Operating Temperature : -40°C to +55°C
- Storage Temperature : -40°C to +65°C
- Standard : MIL-STD-810 G
SANmilitary  Product portfolio

Surveillance Systems

Vehicular Reconnaissance & Surveillance System Solutions

Stabilized E/O and Radar System

Stabilized E/O and Radar System provides the system target detection/recognition, target classification, target locating, multi / single target traction and situational awareness. Stabilized E/O and Radar System primarily designed for use on wheeled or tracked armored vehicles providing effective reconnaissance, surveillance and intrusion detection capabilities at day and night. Stabilized E/O and Radar System is ready to operate under harsh battlefield conditions with advanced stabilization and motion detection algorithms.

Modules:

Ground Surveillance Radar

Ground Surveillance Radar detects, tracks and classifies moving targets on the ground, as well as low flying airborne targets. The Ground Surveillance Radar is also used for artillery fire adjustment, providing feedback on the fall of shot with respect to the intended target. The compact and lightweight system built on solid-state design, employs a versatile interface that allows for convenient integration on vehicles and elevated masts or towers. The radar may also be operated as a stand-alone system on its tripod.

E/O Unit

E/O Unit is composed of Thermal Camera, CCD Camera and Laser Range Finder and it provides effective target detection under severe weather and harsh battlefield conditions. E/O Unit’s Thermal Camera includes cooled thermal imager in order to satisfy the higher range observation requirements.

Mast

HSY, Radar, E/O unit, INS (optional) package can be mounted on a motor driven mast.
Vehicular Reconnaissance & Surveillance System Solutions

Stabilized E/O and Radar System

Modules:

High Accuracy Stabilized Gimbal (HSY) and Leveling Unit
HSY is a high accuracy direction and stabilization unit that radar, E/O unit and INS (optional) are installed on. HSY includes hardware and software for main functions such as automatic target detection/tracking, mechanical and electronic image stabilization, mechanical and electronic image leveling, video streaming. Leveling unit is a mechanism that levels the components/units (E/O Unit, Radar, INS, HSY) which are fixed on it up to ten degrees.

Displays and Joystick Control Units
ASELSAN provides Joystick Control Unit for remote control of the Radar and E/O Units and LGU 120 12” LCD Display Unit that is designed and ruggedized for military applications. LGU 120 is used as display unit in many communication, control and gun systems with its special mechanical structure, wide operating temperature range, MIL-STD-810G compliant shock and vibration specifications and EMI protection features.

With their modular structure, The Reconnaissance and Surveillance system solutions can be adapted to any type of Armored Vehicle in accordance with the requirements of the end user.
Aerostat Unmanned Air Vehicle

Aerostat system is a tethered unmanned air vehicle. Size can be modified according to user's minimum altitude and payload capacity requirements. The system, can carry out missions that endure for weeks with lighter than air technology. There are alternatives for tether systems which can be used for data and power transmission. There are different models available which has the capacity to carry payloads of 30+ kg payload and operate at 300 – 1000m altitude (AGL). It is an easy to use system and has low operation cost. With the winch system it has vertical take off and landing (VTOL) capability. The system has portable and stationary ground control station solutions which include mooring station, Winch system, command and control unit. With the modular gondola design, it can operate with multi-purpose payloads (EO, LIDAR, Multi Spectral Camera, Communication Relay, Thermal Camera Radar)

Features

* 1+ week endurance
* 300 – 1000m altitude (AGL)
* 30+ kg payload capacity
* Low operation cost
* Vertical take off and landing with winch system
* Modular gondola design for different payload capability

Areas Of Use

* Surveillance
* Mobile Communications
* Precision Agriculture
* Disaster and Emergency Management
* Airborne Early Warning
* TV and Radio Broadcasting
* Maritime and Road Traffic Management
* Critical Infrastructure Security

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Surveillance Systems

Aerostat System
Compact aerostat system which decreases logistic needs with its spherical hull shape. It has 35 m³ volume which leads to maximum payload capacity of 20+ kg at 0°C.

The aerostat system can reach 500m altitude from 1500m MSL.

It can carry out missions that endure for 1 week without any helium addition. It is an easy to use system and has low operation cost. With its modular gondola design, it can operate with multipurpose payloads (EO, LIDAR, Multi Spectral Camera, Communication Relay, Thermal Camera Radar).

Features
* 1+ week endurance
* 500m altitude (AGL)
* 20+ kg payload capacity
* Low operation cost
* Vertical take off and landing with winch system
* Modular gondola design for different payload capability
* Has portable, and compact ground control station solution which can be operated by 2 person.
* Ground control station contains tether, helium storage tubes, landing connections, energy system, winch system that is used for vertical take off and landing (VTOL).

Areas Of Use
* Surveillance
* Mobile Communications
* Precision Agriculture
* Disaster and Emergency Management
* Airborne Early Warning
* TV and Radio Broadcasting
* Maritime and Road Traffic Management
* Critical Infrastructure Security
**Solar Powered, Unmanned Airship**

The system can carry out long missions of weeks with the help of solar power and its lighter than air (LTA) technology. With its zero-emission propeller system, it operates silent and environment friendly. Portable, mobile and stationary ground control solutions are available.

With the modular gondola design, it can operate with different payloads. (EO, LIDAR, Multi Spectral Camera, Communication Relay, Thermal Camera, Radar)

**Features**
- Solar Powered
- Autonomous Navigation
- Vertical Take Off And Landing
- 1+ Week Mission Time
- MTOW: <150 kg
- Payload Capacity: 30kg, 65+ kg
- Wind Resistance: 40 km/hour
- Maximum Operational Altitude (AMSL): 3000m, 5000m

**Areas Of Use**
- Surveillance
- Mobile Communications
- TV and Radio Broadcasting
- Disaster and Emergency Management
- Search and Rescue
- Airborne Early Warning
- 3D Mapping
- Precision Agriculture
- Maritime and Road Traffic Management
- Critical Infrastructure Security
Communication Systems

HANDHELD Multiband Multimode Radio

Stabilized E/O and Radar System

Features:
- Multiband Multimode
- AM/FM/QPSK
- 5W Power Output
- Software Programmable Architecture
- Easy Man Machine Interface
- Built-in-Test (BITE)
- Remote Control Interface
- Emergency Erase
- Full duplex voice and data
- Simultaneous voice and data
- Advanced Electronic Protection Measure (EPM)

Techniques:
- Frequency Hopping (full band 30-512 MHz)
- Direct Sequence Spread Spectrum (DSSS)
- High data rate up to 64 kbps
- IP packet data service (variable 64 kbps full-duplex)
- ITU-T V.24/V.28 and Ethernet interface
- 14.4V Li-Ion (Rechargeable) Battery
- 1300 preset channels
Communication Systems

MANPACK Multiband Multimode Radio

Features:
- Multiband Radio: 30-512 MHz Transceiver (V/UHF)
- AM/FM/QPSK
- Software Programmable Architecture
- Remote Control Interface
- Emergency Erase
- Full duplex voice and data
- Simultaneous voice and data
- Advanced Electronic Protection Measure (EPM)

Techniques:
- Frequency Hopping (full band 30-512 MHz)
- Direct Sequence Spread Spectrum (DSSS)
- High data rate up to 64 kbps
- Easy Man Machine Interface
- 10W Power Output
- Supports 25 kHz, 12.5 kHz and 8.33 kHz Channel Spacing
- Reliable Ad-Hoc Radio Networking
- Frequency hopping net scan (Up to 3 nets)
- Built-in-Test (BITE)
- Tactical Internet
- Li-Ion rechargeable Battery
- External GPS Connection
SANmilitary  Product portfolio

Communication Systems

VEHICULAR / BASE STATION Multiband Multimode Radio

Features:
- Multiband Radio: 30-512 MHz Transceiver (V/UHF)
- AM/FM/QPSK
- Software Programmable Architecture
- Remote Control Interface
- Emergency Erase
- Full duplex voice and data
- Simultaneous voice and data
- Adjustable 50W Power Output
- Co-site Filtering
- Reliable Ad-Hoc Radio Networking
- Frequency hopping net scan (Up to 3 nets)
- Supports 25 kHz, 12.5 kHz and 8.33 kHz Channel Spacing
- Advanced EPM Techniques:
  - Frequency Hopping (full band 30-512 MHz)
  - Direct Sequence Spread Spectrum
- High data rate up to 64 kbps
- Easy Man Machine Interface
- 10.5 – 32 V DC power supply
- Built-in-Test (BITE)
- Tactical Internet
- External GPS Connection
- 1300 preset channels • 1300 preset channels
SANmilitary Product portfolio

Armoured Vehicles (4x4, 6x6), riot control vehicles and trucks

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Armoured Vehicles - Tactical Wheeled Armoured Vehicle (4x4)

- High level ballistic protection
- High level mine protection
- Improvised Explosive Device (IED) protection
- High degree of operational readiness
- Fully Independent Suspension System with lower and higher wishbones helical spring and shock absorber
- 3-speed gear box
- Compact suspension system design
- Power Assisted Steering
- Disc brake system and ABS for all wheels
- Secondary (emergency) steering pump (which operates incase of engine failure)

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<th>Base Vehicle Specifications</th>
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| **Engine**                  | Cummins (300 BG@2,100 Rpm) |
| **Acceleration 0-40 km/h**  | 6 sec                      |
| **Obstacle Climbing**       | 0.5 m                      |
| **Trench Crossing**         | 1.1 m                      |
| **Fording**                 | 0.7 m                      |
| **Gradient**                | 70%                        |
| **Side Slope**              | 30%                        |
| **Turning Radius**          | 7.5 m                      |
SANmilitary Product portfolio

Armoured Vehicles - Tactical Wheeled Armoured Vehicle (6x6)

Performance Specifications
- For rough and difficult terrain conditions of battlefield
- 0.5 m step climbing
- 1.1 m trench crossing
- 70% gradient
- 40% side slope
- 8 m Turning radius
- 4 km/h minimum operational speed
- High level ballistic protection
- High level mine protection
- Improvised Explosive Device (IED) protection

Transportation Options
- By Tactical Transport Airport (C-17, C-130, An-70 and A400M)
- By rail-ways in accordance with International Standards
- By Military and Civil Transportation Vehicles
- By Vessel

Operational Readiness
- Easy use
- High degree of operational readiness
- Easy maintenance
- Cost effectiveness for operations, maintenances and services

Satisfies “A2, A3, B1, B2, C0 and C1” climate categories according to Stanag 2895
SANmilitary Product portfolio

Armoured Vehicles - Armoured Interior Security Vehicle (4x4)

Features
- Ballistic protection
- Special body design against hand grenade explosions under belly
- Easy use gun port.
- Recovery Winch
- Manually Operated Weapon Station
- Smoke Grenade Launcher/ Grenade Launcher
- Day/Night Vision Systems
- Fire Suppression System

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Armoured Vehicles - Riot Control Vehicle (4x4)

Features

Water Cannon System

- Monitor system with computer interface
- 60 m water stream range
- 360° angular motion in azimuth
- Angular motion between -18° and +60° in elevation
- Angular velocity of 25° per second
- 3 different operational modes: short/long/continuous pulse
- Different combinations of water, dye, tear gas and foam mixtures

Vehicle Protection Systems

- High ballistic protection
- Cabin protection against tear gas
- Gas Spray System (creating a cloud of tears gas) to prevent approaching of rioters
- Ballistic-protected critical sub-systems
- Special vehicle design to prevent climbing of rioter on to vehicle
- Remote Controlled bulldozer to remove the barricades on road
- CCTV system, video recorder DVR system,
- Recording of the zoom camera coaxial with the water cannon Announce, siren and lighting system
- Cage Protection for equipments and ballistic glass against stones and impacts
- Fire extinguisher foam can be used with water cannon, in order to extinguish the fired roadblocks and other vehicles
- Fire extinguishing foam nozzles over and under the vehicle to prevent the vehicle against Molotov cocktails or flammable materials
Camouflage Systems

Static & Mobile Multispectral Camouflage Net

Applications
Provide protection against radar & thermal cameras while keeping mobility of vehicles

Features
Custom made fitting
Visual protection 380-760 nm
Near Infrared Protection 760nm-1200nm
Anti-radar Feature 3-5 μm & 8-12 μm
Low weight (composite materiel)
Camouflage Systems
Anti radar materials & Personal camo.

Applications
Provide protection against radar & thermal cameras while keeping mobility of vehicles

Features
Double-sided use  Different color and pattern on each side
Visual protection 380-760 nm
Near Infrared Protection 760nm-1200nm
Anti-radar Feature 3-5 μm & 8-12 μm
Low weight (composite materiel)
Weapon Systems

Remote Controlled Stabilized Naval Gun System - STOP

STOP is a new generation, cost-effective, medium caliber weapon system for naval platforms. The system provides lightweight, versatile and effective means of force protection for applications ranging from capital ships to patrol craft. STOP has exceptionally high hit and kill probability with an impressive firepower. Comprising of a two-axis stabilized turret containing an electro-optical sensor suite and fire-control software, STOP is capable of acquiring targets and engaging them autonomously either via the ship’s Combat Management System or by use of own sensors. The optical sensor suite of STOP provides enhanced situational awareness and the ability to identify and engage threats day or night, in all weather conditions.

Features

* High hit probability
* Dual ammunition feeding
* Remote gun control unit enabling gunner protection against counter fire
* Automatic target tracking
* Low radar cross-section
* Automatic slewing to targets assigned by the C3I system, radar and/or target designator
* Two-axis stabilized turret
* Automatic ballistic computation
* Long range and high sensitivity sight system composing of infrared, daylight TV cameras and laser range finder enabling detection and recognition of targets day/night under various weather and terrain conditions
* Manual back-up mode
* Video recording unit
* No platform penetration (except cable laying)
* Modular system structure enables flexibility in system configuration according to customer needs and facilitates easy maintenance.

Technical Data

* Gun : 25mm Gun (Dual-feed)
* Elevation Angle : -15°/+60°
* Traverse Angle : nx360° (with Slip Ring)
* Ready-to-Fire Rounds: 200 (std.)
* Power : 24 V DC

SANmilitary Product portfolio
Weapon Systems

GAU-19/A Gatling Gun Integrated STAMP (Stabilized Machine Gun Platform) - STAMP-G

STAMP-G is a stabilized and remotely operated weapon system, suitable

Features
- Applicable to a variety of guns with different calibers
  (12.7mm GAU-19/A Gatling Gun, 7.62mm/12.7mm Machine Gun, 40mm MK19 Grenade Launcher)
- Effective against asymmetric threats
- Easy to integrate
- Remote control
- Automatic target detection and tracking
- Two axis stabilized turret
- Automatic ballistic application
- High hit accuracy
- Day/night operation under various weather and terrain conditions
- Automatic slew to targets assigned from the radar, target designator
- Modular structure for upgrades and options
- Manual back-up mode
- No deck penetration (except cables)
- High reliability

Technical Data
- Weight (w/o Gun and ammunition)
  - Above Deck: 280 - 300 kg
  - Below Deck: 60 - 80 kg
- Gun Options (Interchangeable):
  - 12.7mm GAU-19/A Gatling Gun (3 Barrel)
  - (Rate of Fire: 1250 rpm),
  - 12.7 mm M2HB Machine Gun
  - 7.62 mm Minimi Machine Gun
  - 40 mm MK19 Grenade Launcher
- Elevation Angle: -150/+550
- Traverse Angle: n x 3600 (With Slip ring)
- Traverse and Elevation Speed (max.): 600/s
- Ammunition Stowage (12.7mm): 500 rounds
- Power Supply: 28 V DC

Sub-Units
- Turret
- Gun Control Unit
- Fire Control Computer
- Commander Control Unit
- Sight System
- Thermal Camera
- TV Camera
- Laser Range Finder
- Gun Re-cocking Unit
- Target Tracker
- Video Recording Unit
- Machine Gun Interface Unit
- Batteries and Charging Unit
- Slip ring
Weapon Systems

Stabilized Advanced Remote Weapon Platform RWS – 30MM SMASH, STAMP-L & STAMP

Depending on the operational requirements, SARP can be equipped with 12.7 mm machine gun, 40 mm automatic grenade launcher or 7.62 mm machine gun. Through its extensive surveillance and remote control capabilities.

**STAMP**
- 12.7mm M2 Machine Gun
- 7.62mm Machine Gun
- 40mm MK19 Mod 3 Automatic Grenade Launcher
  - Weight: < 250 kg (without gun and ammunition)
  - Weight (Under Deck): < 70 kg
  - Elevation: -15° / +55°
  - Azimuth: n x 360° (with Slip Ring)

**STAMP-L**
- 12.7mm M2 Machine Gun
- 7.62mm Machine Gun
- 40mm MK19 Mod 3 Automatic Grenade Launcher
  - Weight: < 215 kg (without gun and ammunition)
  - Weight (Under Deck): < 70 kg
  - Elevation: -15° / +55°
  - Azimuth: n x 360° (with Slip Ring)

**30mm SMASH**
- 30mm MK44 automatic cannon
  - Weight: < 1150 kg (with gun, without ammunition)
  - Elevation: -15° / +55°
  - Azimuth: n x 360° (with Slip Ring)

Fully qualified and compliant with multiple nations’ performance requirements, STAMP system is built for operation in marine environmental conditions. The fielded STAMP system provides exceptional capabilities against counter asymmetric threats. It is well suited for naval ships, fast boats and patrol crafts of all types and classes.

STAMP-L is the extension of the highly successful RCWS Family. The extended functionality includes the all-in-one EO unit (Thermal Camera, Day TV Camera, Laser Range Finder).

SMASH is a remotely operated stabilized weapon station fitted with 30mm Mk44 Bushmaster-II Canon. High Accuracy Stabilized Gimbal (HASG) which can rotate in elevation and azimuth axes relative to turret is integrated to SMASH System. HASG gives the gunner independent surveillance capability and increases the engagement capability at long distances. The availability of having two ammunition types simultaneously gives the flexibility to configure the system to engage targets beyond 3,000 meters.
Weapon Systems

Stabilized Advanced Remote Weapon Platform RWS – SARP

Depending on the operational requirements, SARP can be equipped with 12.7 mm machine gun, 40 mm automatic grenade launcher or 7.62 mm machine gun. Through its extensive surveillance and remote control capabilities, SARP enhances situational awareness of the gunner in his proximity while the vulnerability to attacks is decreased drastically.

Features

- Shoot-on-the-move capability for stationary and moving targets
- Day and night imaging
- Automatic target tracking
- Gyro aided stabilization
- Laser Range Finder for accurate ballistics
- Computer based fire control functions
- Fired rounds counter
- Last ammunition warning
- Manuel operation and control
- 400 rounds for 12.7 mm ammunition
- 1000 rounds for 7.62 mm ammunition
- 96 rounds for 40 mm grenade launcher
- Operating temperature; -32°C to +55°C
- Complies with MIL-STD-461E for EMI/EMC
- Complies with MIL-STD-810F for environmental conditions

Mechanical and environmental:

- Outer platform : < 165 kg (without ammunition, gun and armor)
- Inner units : < 50 kg
- Turret height : < 75 cm
- 360° rotation in azimuth axis (with slip ring) and -30° to +60° in elevation axis

Weapon Options

- 12.7 mm M2HB Machine Gun - NSV Machine Gun
- 40 mm MK19 Mod3 Automatic Grenade Launcher
Stabilized Advanced Remote Weapon Platform RWS – DUAL SARP, SARP-NSV & CLAW

Depending on the operational requirements, SARP can be equipped with 12.7 mm machine gun, 40 mm automatic grenade launcher or 7.62 mm machine gun. Through its extensive surveillance and remote control capabilities, SARP enhances situational awareness of the gunner in his proximity drastically.

SARP-NSV
- 12.7mm NSV Machine Gun
- Weight: < 165 kg (without armor, gun and ammunition)
- Weight (Under Deck): < 50 kg
- Height: < 75 cm
- Width: < 110 cm
- Elevation: -30° / +60°
- Azimuth: n x 360° (with Slip Ring)

DUAL SARP
- Primary Weapon Options:
  - 12.7mm M2/M3 Machine Guns
  - 40mm MK19 Mod 3 Automatic Grenade Launcher
- Coaxial Weapon Options:
  - 7.62mm M240 Machine Gun
  - 7.62mm FN MAG 58 Machine Gun
  - 7.62mm MG3 Machine Gun
- Weight: < 175 kg (without armor, gun and ammunition)
- Weight (Under Deck): < 50 kg
- Height: < 80 cm
- Width: < 120 cm
- Elevation: -30° / +60°
- Azimuth: n x 360° (with Slip Ring)

CLAW
- Primary Weapon Options:
  - 25mm KBA Automatic Cannon
- Coaxial Weapon Options:
  - 7.62mm M240 Machine Gun
  - 7.62mm FN MAG 58 Machine Gun
- Weight: < 1.700 kg (with armor, gun and ammunition)
- Height: < 60 cm
- Width: < 155 cm
- Elevation: -10° / +50°
- Azimuth: n x 360° (with Slip Ring)

SARP-NSV is a remotely operated stabilized weapon platform which can be fitted with 12.7mm NSV machine gun. In addition to the existing features of SARP, SARP-NSV provides the opportunity to integrate 12.7mm NSV machine gun onto a remote weapon station platform.

The DUAL SARP is an extension of the existing Remote Weapon Station Family which includes the use of two weapons. Depending on the operational requirements, DUAL SARP can be equipped with 12.7mm machine gun or 40mm automatic grenade launcher as the primary weapon, and 7.62mm machine gun as the coaxial weapon.

CLAW is a remotely operated stabilized turret for 25mm automatic cannons. The platform combines high-precision reconnaissance and engagement capabilities with effective firepower while keeping the operator and system under armor away from counter fire. In addition to the main armament, coaxial 7.62mm machine gun has been integrated to the turret.
SANmilitary Product portfolio

Cables
* Aerospace Cable Assemblies
* Wire Harnesses
* Fibre Optic Cable Assemblies
* RF/ BNC Cable Assemblies
* Electro-Mechanical Assemblies

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Shelter Systems

designed and manufactured for the intended use of both military and civilian applications. Shelter geometry is formed by riveting of the special panels which are manufactured with its own design and advanced technology. In accordance with the user requirements, the panels can be fabricated as armoured. In accordance with the user requirements, electromagnetic shielding is the result of the special design and manufacturing processes. Shelter peripheral units can be designed according to user needs (including electronic solutions) and can be integrated to the system. Interior design of the shelter is completed according to user needs (including electronic solutions) and can be integrated to the system. Required system-level qualification tests are performed according to international or military standards and certification of the system is completed before the delivery of the systems.

Features

- Satisfies NATO "6516/SCHPE/86-88" standards
- Compatible with EMI (Electro Magnetic Interference), EMC (Electro Magnetic Compatibility) requirements
- Compatible with RFI (Radio Frequency Interference) requirements
- Compatible with EMP (Electro Magnetic Pulse) requirements
- Compatible with TEMPEST requirements
- Compatible with CBRN (Chemical-Biological-Radiological-Nuclear) Protection requirements
- Standard or Customized design, fabrication and integration
- Increased user safety with mechanical and electrical component designs
- Operation under any environmental conditions
- Naval, air and land transportability according to Military Standards
- Replaceable corners
- Uninterruptible power supply
- Blackout Lamps

Specifications & Types available

- NATO-I, NATO-II, NATO-III
- ACE-I, ACE-II, ACE-III
- ISO 20
- ISO 1161 - Freight Container Corner Fittings- Specifications

Shelter configurations;
- Expandable Shelter
- Customized Shelter
Mine Protected Seats

- Mine protected seats to be used in armoured vehicles

SEATING FEATURES:
- The seats meet the standard MIL-STD-1472G
- Easy assembly and disassembly from the vehicle
- Low weight
- Cushions can be made custom design
- Seats can be easily adapted to various vehicles and its variants

SEATING OPTIONS:
- Safety belt, Static 5 point or retractable 5 point
- Fire retardant cushion cover
- Foldable seating pan
- Foldable back rest
- Removable head rest
- Foldable arm rest
Mine Protected Seats

- Tested on drop tower tests with Hybrid III Test dummies.
- Very high repeatability in attenuating performance during the tests
- Our seats are subjected to vehicle mine blast tests at STANAG 4569 protection levels based on requirements in NATO AEP-55 Vol. 2 standard.

The results were successful for all protection levels and our DRI (Dynamic Response Index) values remained below 17.7

- Tested in mine blast tests with Hybrid III Test dummies.
- Unfortunately, we are not allowed to share mine blast test data since such data treated classified or confidential by the armor vehicle manufacturers.
SANmilitary Product portfolio

Add-on armour

* Autoclave Moulding
* Vacuum Infusion
* Light RTM
* Vacuum Bagging

- AS 9100 RevC
- ISO 9001:2008

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SANmilitary Product portfolio

Add-on armour

* Application on:
  * Vehicle Armouring
  * Anti-Radar materials integration
  * Military Land Vehicles
  * Unmanned Aerial Vehicles
  * Helicopters

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Fire suppression system

- Detection and Suppression Fires and Explosions
- on board Armored Vehicles, Ships and Airplanes
- Optical Infrared and UV Fire and Explosion Detection
- Fire and Explosion Suppression fast enough to save human lives
- Multi-zone Electronics Controllers
- Molotov Protection
- OUTSIDE-ENGINE- WHEELS
- Special Aluminum 100 Bar & 8.5 lt. cylinders
- Special suppression agent Special nozzles
- Multi Zone Electronic Control
Weapon Systems

Anti-Tank - Missile Launching System
Anti-Tank Missile Launching System is a versatile defensive and offensive weapon system that provides high effectiveness against ground targets in day/night and adverse weather conditions thanks to its computer controlled fire control subsystem designed to limit the operator’s task. It is a remotely controlled and stabilized Weapon Platform carrying 4 Anti-Tank Guided Missiles (HELLFIRE, JAVELIN, KORNET-E, OMTAS etc.).

Features
* 2/4/8 ready-to-fire missiles
* Dual axis gyro stabilized totally sealed turret for target surveillance,
* acquisition and shoot-on-the-move capability
* Computer controlled passive surveillance, acquisition and tracking sensors
* featuring Infra Red (IR) and Video imagers
* Fire control computer providing automated system functions such as:
  * Automatic slewing of turret to the target coordinates pre-assigned
  * by Command and Control System if exists
  * Automatic target tracking
  * Automatic target-in-range warning if the target is within the missile firing range
  * Remote Weapon Control Unit enabling the operator protection
  * and allowing the system to be operated from inside the vehicle nx360°
  * Capability to be integrated to Command and Control System

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Next Generation Main Battle Tank Upgrade Solutions

Next Generation MBT Upgrade Solution: for heavy MBTs including Leopard 2 and M60; which meets all mid-life upgrade requirements while bringing the combat performance of the MBTs beyond all of the existing MBTs.

Upgrade Features
- Fire Control System
- Fire Control Computer
- Automatic Target Tracker
- Gun/Turret Stabilization
- Advanced Coincidence Algorithms
- Language Support
- Gunner’s Periscope
- Thermal Sight Unit
- Day Sight Unit (Direct Optics + CCD)
- Laser Range Finder
- Stabilized Head Mirror
- Commander’s Panoramic Periscope
- Thermal Sight Unit
- Day Sight Unit (CCD)
- Laser Range Finder
- Stabilized Head Mirror
- Electrical Gun & Turret Drive Units
- Remote Weapon Station

Improved Fire Power
- Next Generation Fire Control System
- Electrical Gun and Turret Drives
- Remote Weapon Station

Improved Protection with
- Add-on Ballistic Protection Modules
- Add-on Mine Protection Modules

Improved Survivability with
- Battlefield Management System
- Laser Warning Receiver System
- Driver’s Sight System
- Fire Suppression System
Weapon Systems
IGLA - Missile Launching System
IGLA-Missile Launching System is a fully automated very short range air defense weapon system using IGLA(S) missiles against fixed and rotary wing aircrafts, remotely piloted vehicles, unmanned aerial vehicles and cruise missiles based on qualified Pedestal Mounted Air Defense System.

Features
* Fully autonomous Weapon System
* Simultaneous firing of two missiles to one target (Salvo Firing)
* High performance against physically small targets
* Fast reaction time
* Shoot-on-the-move capability
* Operation in day/night or adverse weather conditions
* Infra-red and TV Cameras
* Laser Range Finder
* Fire control computer providing automated system functions such as:
  * Turret slewing to the target coordinates
  * assigned by air defense C3I System
  * Automatic target tracking
  * Target type recognition
  * “Target in Range” information
  * IFF sub-system interface
  * Detachable System Control Unit enabling the control of the system 50 meters away from the vehicle
  * Light-weight, modular, autonomous turret which can be integrated on various types of carrier
  * vehicles

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Video Multiplexing Unit (VMU)

Video Multiplexing Unit (VMU) is a custom designed product for Land Vehicles which can multiplex video coming from 8 different cameras to 3 analog monitors in several configurations.

**Features**
- Control Interface: MIL-STD-1553 / CAN BUS / Ethernet
- Video Multiplexing and Video Output: Up To 12 channels PAL/NTSC video input, 3 channel Composite video output.
- Disk Capacity: 2GB

Remote Control Unit

Remote Control Unit, the user interface of Altay tank’s Battlefield Identification Friend and Foe (BIFF) system, has a modular architecture enabling seamless integration with any other system that can be remotely controlled via Ethernet, CAN or RS-422 interfaces thanks to its OLED screen with 64x128 px resolution and input units. The system has 8W power consumption even under the condition that all panel illuminations are on and satisfies all the qualification requirements for ground vehicles.

**Features**
- 64x128 OLED Display
- Ethernet (10/100)
- RS422/RS232
- MIL-STD-1472
- MIL-STD-810
- MIL-STD-461

Weight: 2.5 Kg
Size: 190mm / 170mm / 60mm
## Fire Control Systems

Fire Control Systems for Self Propelled/Towed Howitzers, Mortars and Multiple Launch Rocket Systems combine fire direction, fire control and communication systems, which provide the capability for rapid deployment, relocation, accurate gun laying and integration into the fire SANmilitary Product portfolio.

### Technical Specifications
- Fire planning and fire mission execution in digital environment
- Continuous location and gun heading measurement by means of Inertial Navigation System
- Rapid deployment and relocation
- Fast & accurate ballistic calculation
- Automated and precise launcher laying
- Selective firing of the rockets
- Data communication with Fire Support C4I Systems via Digital Radios
- Integration with Artillery Meteorological Systems
- Display of battlefield information on a digital map
- Mission oriented, menu driven graphical user interface
- Automated leveling

### System Units
- Fire Direction and Fire Control Computer
- Firing Unit
- Manual Launcher Control Unit
- Inertial Navigation System
- Leveling System
- Power System
- Digital Radio
- Servo Motors and Driver Unit
- Ground Meteorological System
Handheld Fire Control Computer
Portable computer designed for standalone ballistic calculation for any field artillery system including mortars. Conducting three fire missions simultaneously Calculating firing data up to 9 units for each mission NATO Armaments Ballistic Kernel (NABK) used for ballistic calculations.

Features
* Intel ATOM E660T/1.3GHz processor
* 1GB DDRAM
* >16GB uSATA flash disk (SSD)
* 5.0” 800x480 TFT LCD, LED Backlight,
* Resistive Touch Screen
* 2xUSB 2.0.
* 1x10/100Mbs Ethernet
* 1xRS232/RS422
* 1xCAN Bus and Audio Interface
* Internal GPS and Internal Wi-Fi (Optional)
* Numeric keyboard, bezel keys, micro joystick
* Windows 7 Embedded Operating System
* 2xHigh capacity, heater integrated Li-Ion battery block
* (Hot Swap)
* 10-32Vdc power input (MIL-STD-1275D protected)
Launcher Remote Control System

Launcher Remote Control System is designed to facilitate integration of Missile Launcher pod’s to target platforms without requiring a software/hardware modification on platform/mission management computer. With its fault protected user interface for pilot/gunner and RS422/CAN/Ethernet data channels, LRCS can directly communicate with Launcher Electronic Units. With these specifications, it is very cost and time effective solution for launcher integration programs.

Features

* 128x64 pixel resolution OLED Display
* 4-way joystick
* 2 toggle switches for power line control
* Power status LEDs
* FPGA & DSP based architecture
* MIL-STD-810F
* MIL-STD-461E

Weight: 3 Kg
Size: 120mm/150mm/220mm

Missile Data Acquisition and Recording Unit

The system is developed for the missile platforms to acquire and record the digital data provided by the platform’s avionics and analog data provided by the measurement sensors and transmits the data via platform’s datalink. MIDASU is adaptable to the platforms requiring new interfaces by means of it’s modular structure seamlessly and cost effectively. MIDASU has a rugged Data Storage Unit which collects valuable data for further engineering studies without being damaged by hit impact.

Features

* Reliable data acquisition/transmission capability during the flight tests and design verification activities of the missiles and other similar airborne platforms on field and in laboratory
* Digital data acquisition and recording capability for various channels
* Capable to pack and record the partition of DVI video 640x480
* “Field Programmable Gate Array” (FPGA) based design
* PC software capable for configuration loading, data analyzing and real time data monitoring
Missile Interface Unit
Having free scale PPC P2041 architectural design, Missile Interface Unit (MIU) exhibits a device profile that is eligible to be the integral part of all missile integration projects with its MIL-STD-1553 BC/BM/RT, GEthernet, discrete I/O, current sources and serial ports.

Features
- Controlling missiles via communication bus and discrete I/Os
- Providing operational and firing voltages of the missiles
- Low power consumption
- Internal MIL-STD-1553 Bus Network
- Environmental conditioning in accordance with MIL-STD-810F/G
- EMI/EMC Characteristics in accordance with MIL-STD-461E
- Power Characteristics in accordance with MIL-STD-704F and MIL-STD-1275D
- MIL-HDBK454B compliant manufacturing
- Built in Test (BIT) Capability

Power Characteristics
- Power Consumption: 50 W (MIU Only)
- Input: 28 V DC
- Output: 1000 Watt

Interface
- 11 x RS-485 /232 /422 selectable UART
- 32 x Discrete Input
- 20 x Discrete Output
- 4 x MIL-STD 1553 Interface
- 6 x 1 Gbps Ethernet Interface
- 2 x 10/100 Mbps Ethernet Interface

Processor
- Freescale Qor IQ Processor
- 800 MHz dual core
- Flash Memory
- RAM

Operating System
- Linux – QNX
Missile Video Decoding/Encoding Unit

Missile Video Encoding/Decoding consists of two units. The first unit is Video Encoding Unit (VEU) which compresses video coming from source (seeker etc.) and transmits via data link or umbilical cable to the Video Decoding Unit (VDU). VDU is on the missile launcher control unit and/or launching system. The second unit VDU is on the Launcher Control Unit and/or Launching System. This unit receives the compressed video sent by VEU and provides the video data to the MFD. ACMI System is mounted on F-16 and similar airborne platforms in external pod form and provides efficiency in A/A and A/G training of pilots and rehearsals.

Features
- Packs various video data supplied by the missiles to fit in limited data transfer budget
- RS-485 digital video output on VDU (JPEG2000 format)
- Digital video input on VEU on DVI format
- RS-485 digital video input and RS-170 video output on VEU
- Capability to select the data source on VEU
- RS-485 interface for configuration and software/firmware uploading to VEU and VDU
- Short delays during the data transfer operations
- “Field Programmable Gate Array” (FPGA) based design
- Low power consumption
- Compatibility with military standards

Video Input
- Grayscale DVI video, configurable resolution
- 720p 30Hz DVI video, configurable resolution

Video Output
- RS – 170

Serial Interfaces
- VEU : Data link, RS-485
- Umbilical cable / Launching system : RS-485
- Configuration : RS-485 input
- VDU : Missiles and data link : RS-485
- Configuration : RS-485 input

Power Characteristics
- 4-32 V DC and less than 5W power consumption
- Military Standards
- (Assembled With The Upper Unit/System)
- Environmental conditioning in accordance with MIL-STD-810F
- EMI/EMC characteristics in accordance with MILSTD-461F

Physical Specifications
Dimensions
- PC/104 form factor
- VEU: less than 120 x 100 x 15mm
- VDU: less than 125 x 100 x 20mm

Weight
- VEU: less than 100 g
- VDU: less than 100 g
Digital Data Recorder

DDR has the capability of recording digital control data, video and audio signals at various platforms. MIL-STD-1553B, ARINC429, CAN and Ethernet data buses can be given as examples of the digital control data types. Video interfaces can be PAL, NTSC, RS170, RS343, DVI, SDI or Display Port. The digital control data can be accessed via direct communication with data buses or it could be by means of a central control computer. The video and audio data received by DDR is recorded after processing high efficiency compression algorithms.

Features

- High Resolution video and audio recording (PAL/NTSC/RS170)
- Avionic data bus recording over MIL-STD-1553 and ARINC-429
- High speed data recording over Ethernet
- Simultaneous playback of recorded data
- Control over MIL-STD-1553, Ethernet, serial interfaces and Discrete I/O
- Event Marking
- Secure data erase interface
- Removable SSD (512 GB)
- Ground support computer for maintenance
- Ground debriefing station
- Up to 512 GB SSD Based Removable Disk
- Up to 4 Channels MIL-STD-1553
- Up to 4 Channels PAL/NTSC/RS170 Video recorder interface
- Up to 3 Channels DisplayPort Video recorder interface
- Up to 2 Channels HDMI Video recorder interface
- Up to 2 Channels SDI Video recorder interface
Digital Data Recorder (DDR) Debriefing Software

Digital Data Recorder (DDR) Debriefing Software is a PC based software application, utilized for archiving, querying according to certain criteria and playing back the data recorded by Digital Data Recorder (DDR).

**Features**
- Fully integrated with DDR
- Archiving fleet records
- Querying according to pilot’s name, date of flight and flight parameters
- Playing back recorded video and audio
- Playing back recorded 1553 bus data
- 3-Dimensional depiction of flight over terrain
- Displaying 2-Dimensional flight path on map
- Synchronized display of all recorded data
- Customization for target platform
- Displaying wingman flight

Precise Position Determination Computer

Precise Position Determination Computer is designed to determine the position of the air vehicle by running a fusion algorithm on DTED-2 map, Altimeter and INS data. By evaluating the land pattern seen below, PPDC can calculate the direction and position of the platform even if GPS signal is unreachable or invalid.

**Features**
- Intel i7 3517UE Processor
- MIL-STD-1553 BC,BM,RT
- ARINC 429 Rx/Tx
- CAN/R422/RS232
- RS343,RS170,VGA and DVI Video Out
- Gig Ethernet, USB
- 1 second power hold-up
- MIL-STD-810
- MIL-STD-461
- MIL-STD-704

Weight: 4.25Kg  
Size: 230mm/150mm/120mm DZUS Compatible
ACMI System

ACMI System is mounted on F-16 and similar airborne platforms in external pod form and provides efficiency in A/A and A/G training of pilots and rehearsals.

Features

- Long range and high throughput RF data link
- High number of participant support
- Encrypted communications and data recording
- High fidelity weapons and CM/ECM simulations
- Airborne data bus integration (MILSTD-1553)
- Autonomous TSPI generation
- Real-Time Kill Notifications (RTKN)
- Safety warnings
- Post Mission Interoperability
- 2D/3D mission planning, live monitoring and post mission analysis
Airborne Computer System

Airborne Computer System (ACS) is a high processing and video performance mission computer hardware that operates under military conditions having MIL-STD-1553, ARINC 429 and RS343 avionics data interfaces. Airborne Computer System can be used for 3D visual applications such as moving map software. ACS also has data, video and audio recording capabilities. Adaptations to various air, sea and land platforms are possible.

Features
* Capable to operate 3D applications such as moving map
* Video/Audio recording and playback capability in MPEG4 format
* Recording and playback capability for FLIR videos
* Control and recording capabilities for avionics data buses (1553 and ARINC)
* Built in test capability (BIT)
* High performance processor background
* Low power consumption
* Compatibility with military standards Processor
* Board : PC / 104 Express
* Processor Chipset : Intel Core 2 Duo SP9300
* Speed : 2.26 GHz
* RAM : 2 GB DDR3
* Graphics Chipset : Up to 256 MB
* CRT : Analog VGA
* LVDS : Dual Channel
* USB : 8X USB 2.0
* Ethernet : 1000 BaseT
* Serial : 2X RS-232 or RS-485 port
* SATA : 2X SATA port
* Audio : 5+1 input, output, mic Solid State Disk (SDD)
* 4 GB internal Solid State SATA disk
* AVIONICS BUSES
* 2X MIL-STD-1553
* 3X TX and 6 RX ARINC 426 Video / Audio Input And Record
* X NTSC 720x430 30 fps or PAL 720x576 25 record capability
* Audio input interface for audio overlapping with recorded video

Options
* Linux operating system (Real Time)
* 128GB / 256GB Solid State SATA disk
* 2/4/8/32 GB military grade removable flash memory
* RS-170 video output interface
* Mission Slew Controller operated using with RS-232 interface
* Platform mounting table

Video Output
* 3X STANAG 3350 Class A RGsB Removable Memory
* Military grade 16 GB removable flash memory

Maintenance Interface
* 1X VGA
* 3X USB 2.0
* 1X Gigabit Ether

Other Interfaces
* 2X independent RS232 serial interface to be used for left and right hand mission slew controllers (trackball)

Power Characteristics
* Capable to operates with 16-32VDC broad range feeder voltage without any performance loss
Geospatial Intelligence Management System (GIMS)

Airborne and space based surveillance and reconnaissance are essential for successful military missions. Such capabilities are critical for troop protection, situational awareness, mission planning, damage assessment, and others. Geospatial Intelligence Management System is a modular, end-to-end, comprehensive solution for Intelligence, Surveillance and Reconnaissance (ISR) requirements, from imagery and video acquisition to Geospatial Intelligence (GEOINT) dissemination.

**Features**

- Service request and task management
- Image and video ingestion
- Archive, manage and serve image and live video stream
- Real time and offline image analysis and exploitation
- Ability to create annotations on streaming video
- Fusing image and video with other intelligence sources

The system is designed to produce Geospatial Intelligence by real-time processing and integration of the images delivered by a variety of space, airborne and ground based sensors such as Electro-Optics (E/O), Infra-Red (IR), Video. The exploitation and dissemination process employ a variety of automatic and semi-automatic tools essential for quick detection, identification and acquisition of time-critical targets. Unmanned Aerial Vehicles (UAVs) gather huge amounts of video data but it is extremely labor-intensive for operators to analyze hours and hours of received data. Data collected from UAVs must be reviewed quickly to support real-time operations in the field, whereas it is analyzed in more depth and over longer time frames to support mission planning and intelligence gathering.
**Wideband Microwave Receiver**

Wideband Microwave Receiver is a high performance, super-heterodyne, RF front-end unit that converts the incoming RF signals with frequencies between 0.1 GHz to 18 GHz to signals with fixed IF frequency of 1800 MHz with 1GHz bandwidth for wide-band channel and 160MHz with 10/20/40/80 MHz selectable bandwidth for narrow-band channel. Frequency coverage can be extended up to 40 GHz using optional external down-converter unit.

**Features**
- 0.1 - 18 GHz Input Frequency Range
- 1 GHz Bandwidth Wide-Band IF Output
- 10/20/40/80 MHz Bandwidth Selectable Narrow-Band IF Output
- High dynamic range
- Low spurious & phase noise response
- Sweep and Scan Tuning Modes
- Manual Gain Control
- Built-In-Test & Self-Calibration Capability
- Ethernet 1000 Base-T
- 6U, 19" Rack

**Application Areas**
- Electronic Intelligence (ELINT)
- Communication Intelligence (COMINT)
- Radar Warning Receivers (RWR)

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**Wideband Digital Receiver**

Wideband Digital Receiver measures parameters of radar signals with high precision and accuracy. The receiver accepts IF inputs centered at 1800 MHz with 1GHz bandwidth for wide-band channel, at 160MHz with 10/20/40/80 MHz selectable bandwidth for narrow-band channel and generates digital Pulse Descriptor Words (PDW) for radar signal analysis and identification. This unit can be synchronized with Wide Band Microwave Receiver the RF front-end provided. Number of concurrently processed narrow-band channels can be optionally increased up to three.

**Features**
- Concurrent PDW Generation from Wide-Band & Narrow-Band channels
- Accepts Wide-band Channel IF Input at 1800 MHz
- 1000 MHz Processed Instantaneous Bandwidth at Wide-Band
- Accepts Narrow-Band Channel IF Inputs at 160MHz
- Up to 80 MHz Processed Instantaneous Bandwidth at Narrow-Band
- Automatic & Manual Detection Threshold Control
- Sweep and Scan Tuning Modes – with RF Front-End Synchronization
- Built-In-Test Capability
- Ethernet 1000 Base-T
- 6U, 19" Rack

**Application Areas**
- Electronic Intelligence (ELINT)
- Communication Intelligence (COMINT)
- Radar Warning Receivers (RWR)
SANmilitary  Product portfolio

Sensor and Environment Simulator (SENSIM)
• Physics-based sensor simulation infrastructure for research and engineering studies (sensor development, test, ATR/ tracking algorithms development, etc.)
• Simulation suit for sensor (EO, IR, Radar, etc.) development environments
• Scene generation tools for synthetic sensor image/video output for sensor applications development and test
• HWIL engineering support environment for IR missile seekers, SAR, and other sensors

Features
Sensors
* EO
* Infra-red (SWIR, MWIR, LWIR)
* Radar (basic, MMW, SAR)
Environments
* Atmosphere
* Sea Surface
* Terrain
Sensor Platforms
* Missiles
* Aircraft
* Ground Vehicles
* Surface Vessels
* Satellites

Targets and Countermeasures
* Aerial targets
* Missiles
* Ships
* Ground targets
* Chaff/Flare, ECM

Products include
* 3D Content (targets, terrains)
* Built-in material database
* Material mapping tool
* Scenario planning tool
* Sensor modules
* Raw data (reflections) generation tool
* Image/scene generation tool (+real-time option)
* Signal generation system (radar)
Electronic Warfare Environment Simulator (EWES)

EWES is a PC based simulator software, utilized for creating Pulse Descriptor Words (PDW), I/Q Data and/or IF data of emitters according to their defined parameters, creating scenarios by using these emitters, modelling the effect of environment and achieving the emitters and scenarios.

Features

- User interface utilized for defining the emitter parameters and creating scenarios with these emitters
- Defining the PDW format
- Constant, Jitter, Stagger, Dwell Switch and Periodic PRI types
- Constant, Agile, Hopping(Pulse to Pulse), Hopping(Pulse Group to Pulse Group) and Periodic frequency types
- Circular, Sector, Raster and Conical antenna scan types
- Antenna beam shape definition
- Clutter modelling
- Atmospheric loss modelling
- Two dimensional plots scenarios and/or emitter's parameters
Shooter Training Simulators

Shooter training of military and law enforcement personnel. Training simulators include systems from basic training for rifle, gun, machine gun and sniper to joint and special operations training. Simulators are offered for both classroom training and outdoor training (portable systems).

Features

- Scenario preparation, execution and monitoring
- High performance image generators
- Projection systems
- Virtual reality goggles
- Human animations and crowd simulation
- 3D visual models
- Scenario terrains and in-door training area models
- 3D surround sound simulation
- Shooting simulation
- Binocular/monocular simulations
- Recording and re-play
- Performance evaluations and reporting
**SANmilitary**

**Product portfolio**

**Ground Data Terminal System yvt-100**

Data Link System includes real time data transfer between air vehicle and ground control systems. DLS includes two main parts; Air Data Terminal (ADT) and Ground Data Terminal (GDT). The Data Link System transmits all useful load data from Air Data Terminal to Ground Data Terminal and command and control features.

**Features**

- Interoperability: STANAG 7085
- Operation Principle: Line of Sight (LOS)
- Environmental Compatibility: MIL-STD-810F
- Software Compatibility: RICA/DO-178B Level C
- Built in Test (BIT) Functions
- Redundancy Upon Request

**Specifications**

- Ground Data Terminal Antenna
  - Reflector: 1.2 Meter Carbon-Fiber
  - Movement: Azimuth 360° Continuous, Elevation 90°
  - Auto Tracking
  - Omni Directional Antenna
  - GPS, Digital Compass
- Operating Frequency: Ku Band
- Data Rate:
  - Uplink: 200 Kbit/s
  - Downlink: up to 44.73 Mbit/s
- Modulation Type: BPSK (SS), BPSK, QPSK
- Link Security
- Direct Sequence Spread
  - Spectrum (DSSS)
- Range: 200km LOS
- Interfaces: RS-232, RS-422, Gigabit Ethernet
- Bit Error Rate: 1E-06
  - GDT: Trailer-mount or Integrated with Ground Control Station (GCS)
  - Power Distribution System for GDT
  - Uninterruptible Power Supply (UPS) for GDT
Data Link System

Data Link System includes real-time data transfer between Air Vehicle and Ground Systems (Ground Control Station and Transportable Image Exploitation System). Data Link System transfers data, which are, added up by systems on air vehicle to ground station and transfer control data from ground station to systems on air vehicle. Data Link System (DLS) includes two main parts: Air Data Terminal (ADT) and Ground Data Terminal (GDT).

Air Data Terminal (ADT) transfers data addend from Avionic Systems on Air Vehicle and from useful data (camera, radar etc.) to Ground Systems and transfer ground control command data from Ground Control Station to Avionic System in specific bandwidth as real time.

Ground Data Terminal transfers data from Air Data Terminal (ADT) to Ground Control Station (GCS) and Transportable Image Exploitation System (TIES) and transfers data from Ground Control Station to Air Data Terminal on Air Vehicle. Moreover, Data Link System (DLS) shall transmit its own states and modes to relevant units for monitoring from Ground Control Station (GCS).
Flight Test Instrumentation and Measurement System

Flight Test is a measurement process taken under flying conditions from various air vehicles (i.e. aircraft, helicopter, UAV, missile etc.) to collect data needed for flight performance checks, system certification and intermittent failure analysis. Flight Test has a broad application in aviation field during production, upgrading, or major modification phases and diagnosing of intermittent failures, which occur only in flight.

Flight Test requires mainly three sub systems:

• 0/B System (mounted on air vehicle)
• Data Link
• Ground Station (Flight Test Center - FTC)

0/B system collects data from parameters to be measured by using various sensors and data acquisition system located on the air vehicle. Then this data is transmitted to the ground station via a telemetry transmitter. Ground station continuously receives and converts the RF signals to a proper data format. Formatted data is recorded and analyzed at the same time by the FTC.

FTC CAPABILITIES

• Customer oriented telemetry system design & integration
• Establishment of telemetry systems and ground stations
• 0/B instrumentation, measurement and calibration
• Definition proper transducers and design interface requirements
• Design the entire system & definition HW-SW requirements
• Production/procurement of HW and SW needed
• System integration on various platforms
• Design and implementation support to costumer during ground & flight tests
• Documentation
• Training
• Long term logistic support
Air Data Terminal HVT-100

Data Link System includes real time data transfer between air vehicle and ground control systems. DLS includes two main parts; Air Data Terminal (ADT) and Ground Data Terminal (GDT). The Data Link System transmits all useful load data from Air Data Terminal to Ground Data Terminal and command and control data from Ground Data Terminal to Air Data Terminal full-duplex digital in Line of Sight (LOS).

Features
- Interoperability: STANAG 7085
- Operation Principle: Line of Sight (LOS)
- Electromagnetic Compatibility:
  - MIL-STD-461E
  - MIL-STD-464
- Environmental Compatibility:
  - MIL-STD-810F
- Operating Frequency: Ku Band
- Data Rate:
  - Uplink 200kbit/s
  - Downlink up to 44.73Mbit/s
- Modulation BPSK (SS), BPSK, OPSK
- Link Security Direct Sequence Spread Spectrum (DSSS)
- Range 200km LOS
- Interfaces RS-232, RS-422, Gigabit Ethernet
- Bit Error Rate 1E06
- Redundancy Upon Request

Antenna Specifications
- Airborne Directional Antenna
- Movement Azimuth 306° Continues Elevation 20°
- Software Compatibility - RTCA/DO-178B Level C
- Built In Test (BIT) Functions

B-013T CONTROL UNIT

The Control Unit initializes all sub systems and manage communications with them and neighbour systems for Airborne (UAV, aircraft, helicopter), Naval and Land based Platforms. The Control Unit has the ability of sensitive target tracking in 3D space. It has the capabilities of listening to the external messages from Serial and Ethernet interfaces, capturing, executing and switching them to different interfaces based on pre-defined configurable filters.

Features
- Configurable Software
- Extendable, Flexible Architecture
- Linux OS
- Layer-3 Ethernet Switching and filter based forwarding
- Visual Analysis of Packet Traffic
- 3D Target Tracking Simulation
- Configuration and monitoring via GUI
- Built In Test Capabilities
- DO-178B, Level C Certifiable Interfaces
- 6 x Ethernet (10/100 Base-T)
- 32 x Discrete I/O
- 5 x RS-422 Serial Interface
- 1 x RS-232 Serial Interface
- 8-16 Channel ADC Module

Applications
- Airborne Platforms: UAV, Helicopter, Aircraft
- Land Platforms: Tracked Vehicles, Firing Control Systems
- Naval Platforms: UNV, Ship

Low Pressure (Altitude) — MIL—STD-810F Section 500.4
High Temperature - Storage— Operation— MIL—STD-810F Section 501.4,..
Low Temperature - Storage— Operation— MIL—STD-810F Section 502.4
Rain— MIL—STD-810F Section 506.4
Humidity— MIL—STD-810F Section 507.4
Salt Fog— MIL—STD-810F Section 509.4
Sand and Dust— MIL—STD-810F Section 510.4
Acceleration - Structural & Operational— MIL—STD-810F Section 513.5
Vibration— MIL—STD-810F Section 514.5
Shock - Functional Shock— Transit Drop— MIL—STD-810F Section 516.5
As the first military ship built on a national shipyard, the construction of A-595 (Yarbay Kudret Gungor) Surface Supply and Combat Support Ship has capable of 14,000 DWT and 16 knots. Yarbay Kudret Gungor, constructed by SEDEF Shipyard, started in service for Turkish Navy in 1996. Since she has her own external communication and combat management systems, she is capable of being a flagship.

Features

External Communication System
- UHF Transceivers
- HF Transceivers
- Military and Civilian VHF Transceivers
- Magnetic Loop Antenna System
- Navigation VHF Transceivers
- SATCOM System
- Emergency Communication Equipment
- User Stations

Data Communication Systems
- Message Handling System - MHS
- Teletype Equipment
- SATCOM

Encryption Systems
- Voice Encryption Systems
- Data Encryptions Systems

Internal Communication System
- Telephone System, Talk-Back System, SP-Telephone System
- Public Address System, Radio/TV System
- Navigation Systems
- S-Band and X-Band Radar
- IFF
- Gyro, Speed Log, Depth Sensor, GPS, Autopilot
- Fire, The man over board, Gas, Crypto etc. alarm systems.

Firing Control Systems

Capabilities
- Electrical and electronic system descriptions in accord with ship construction class
- System to system interface specifications
- System to ship interface specifications
- Antenna arrangement specifications
- Communication security
- Communication room and encryption room establishment
- Cabling and installation
- Consoles and rack design and manufacturing Fire Control System integration
- User requirement analysis and FAT and SAT
- EMI/EMC and RADHAZ Test Procedures and perform the tests
ITS-107 Intervalometer Test Set

ITS-107 Intervalometer Test Set is developed to test "SEI-2000 Electronic Intervalometers". It can also be used to test LAU-131/A & LAU-68B/A series electromechanical Intervalometers. ITS-107 simulates the single and ripple firing modes of above mentioned Intervalometers. It has BIT (Built in Test) function.

Its own battery and only one connection to the Intervalometer give mobility to test engineer.

**Features**

* SEI-2000, LAU-131/A, LAU-68B/A can be tested with ITS-107.
* Ripple/single firing simulation
* LED displays for simulation of firing.
* BIT (Built-In Test) function.
* Internal battery powered
* Also it can be powered and charged by AC mains (115 or 220V AC)
* Battery charge indication LED's

**Capabilities**

**Physical Features**

* Dimensions : 406x330x174 mm
* Weight : 6.5 kg
* Resistance to Environmental Conditions Operation Temperature : -20°C / +70°C
* Sealing Resistivity : "Splash proof"

**Electrical Requirements**

* Voltage Supply : Internal 28V battery powered.
* Operable & Chargeable with AC mains (115 or 220V AC)
SANmilitary
Product portfolio

Power Distribution and Control Units Land Rover Type Vehicles

Power Distribution and Control Units designed and produced for Land Rover. The System consists of a Power Distribution Unit and a Remote Control Unit.

Units are micro processor controlled and communicate through a CAN Bus.

Features
* Remote control up to 1 kilometer
* Situation tracking through RS232 or RS422
* 2 PT100 based temperature detection feature
* 6 different choices of operating scenarios
* Voice and visual (LED) warnings for operator on alarm situations
* Operator alerted with coded voice and visual warnings
* Automatic protection on warnings
* Silencing option for voice warning signals
* Operating with AC power when DC is not available
* Manual control in case of system failure
* 1 grounding terminal
* Switching capability of 12 AC and DC Power outputs
* Voltage, current and frequency indicators for AC power.
* Voltage, current indicators for DC power

Power Distribution And Control Units 115 VAC

Power Distribution Units (PDU) are produced as a rack type (3U) for using 115 VAC Ship Platforms.

Features
* AC Power Input : 115 VAC 6.5 kVA
* Working Voltage : 115 V AC
* Working Frequency : 60 Hz-400 Hz
* Working Temperature : 0°C +45°C Storing Temperature : -40°C / +70°C Application Type :19” Rack Type (3U)
* Humidity
* MIL-STD-810F Method 507.4 Shock
* MIL-STD-810F Method 516.5 Vibration
* MIL-STD-810F, Method 514.5 Noise
* MIL-STD-1474D
* 115 VAC 6.5 kVA Power Input
* Switching capability of 9 AC Power outputs 2 Push to Reset type circuit breaker
* 7 Two Pole Hydraulic circuit breaker
* 2 Two Pole Push to Reset type circuit breaker
* Emergency Stop Button
* Voice on alarm situations
* Assembling capability compatible with 19 ” standard
* 3U Height
* Grounding Terminal
DC Power Distribution Units (PDU) are power distribution units that have electrical power and serial channel communication inlet on it and distribute the electrical power needs of units, to be connected to the outlet, in a controlled and protected way.

Power Distribution Units are microprocessor controlled and communicate through a CAN bus. They are produced for various vehicles such as Shelters and tire wheels.

**Features**

- Low Temperature
- Storage : MIL-STD-810F Method 502.4
- Burning : MIL-STD-810F Method 502.4, Procedure-II
- Humidity
- MIL-STD-810F Method 507.4 Shock
- MIL-STD-810F Method 516.5 Vibration
- MIL-STD-810F, Method 514.5
- DC Power Input : 28 VDC 5.6 kW
- Working Voltage (DC) : 18-33 V
- Working Altitude : 0-3000 m
- Protection Class : IP 40
- MIL-STD-810F Method 501.4
- MIL-STD-810F Method 502.4
- MIL-STD-810F Method 507.4
- MIL-STD-810F Method 514.5

**POWER DISTRIBUTION AND CONTROL UNITS 220 VAC**

220 VAC Power Distribution Units (PDU) are designed and produced for using fixed and mobile platforms. The system consists of a Power distribution Unit and a Remote Control Unit. Power Distribution Units are micro processor controlled and their feed power and situations of fuse can be monitored in real time. The system is fulfilled switching output, following up of situation and transferring of occurrence record operation via Ethernet, RS232, RS422, CAN data buses.

**Features**

- AC Power Input : 220 VAC 13 kVA
- DC Power Input : 28 VDC 2.5 kW
- Working Voltage (DC) : 18-33 V
- Working Voltage (AC) : 176-265 V Working Frequency : 45-55 Hz
- Environmental Tests
- 220 VAC 13 kVA Power Input
- 28 VDC, 2.5 kW Power Input
- Switching capability of AC and DC Power outputs Voltage, current and frequency indicators for AC power Voltage and frequency indicators for DC power Real time tracking feed power
- Tracking capability of situation of fuses
- Storing capability of occurrence record
- Electromagnetic Compatibility MIL-STD-461E, CE101, CE102, RE101, RE102
- High Temperature : MIL-STD-810F Method 501.4 Low Temperature
- Storage : MIL-STD-810F Method 502.4
- Burning
- MIL-STD-810F Method 502.4, Procedure-II, Humidity
- MIL-STD-810F Method 516.5 Vibration
- MIL-STD-810F, Method 514.5
SANmilitary  Product portfolio

Mobile Field Hospital
Great Mobility capabilities. Fast Setup up time. High readiness in a short time. Consist of independent units. Compatible with the International Standards. Communication (Tele-Medicine if required). Extensions (if required)

Features
Functionality
* Configuration of Tent/Container/Shelter
* Light weight
* Long lifetime up to 20 years
* "Emergency" and "Hospital" sections can be deployed individually & separately or can be integrated if required
* Operation under different environmental conditions
Mobility
* Fast and easy setup
* Tactical deployability in hard environmental and terrain conditions.
* Air transportable
Autonomy
* Automatic power management, (Equipped with external generator for central support functions which includes synchronization, start and stop for redundant power requirement issues)
* Continuously working capability (7/24)
Equipment
* Ventilation System for environmental controlling applications
* Uninterrupted Power Supply (UPS)
* High-tech Medical Devices
* Tent/Container/Shelter solutions for different units
Available Configurations
* Battlefield First Medical Attendance Unit
* Armored
* RFI Protected
* Deployable
* Clinic Modules
* Surgery Modules
* Intensive Care Unit
* Re-Animation Unit
* Pharmacy-I laboratory
* Blood Bank Units
* Radiological Units

Units
* Emergency;
* Consist of Independent Containers
* Mobile Surgical Unit (with a separate Patient Ward)
* Additional Units;
  * Intensive Care Unit
  * Laboratory Unit
  * X-Ray Unit
  * Sterilization Unit
* Water and Fuel Unit
* Medicine, Gas/Generator Support

Multiple Units for Hospital Configuration;
* Dentist Unit
* Optometrist Unit
* Otorhinolaryngology Unit
* Urology Unit, etc.

Auxiliary Systems
* Patient Reception, Classification and Placement Units
* Personnel Unit
* Use Supply (hot/cold) System
* Waste Water System
* Environmental Lightening System
* Decontamination Unit
* Critical Infrastructure Units
SANmilitary Employees

**Ali Bayram Güvercin**  
Business Development Manager & Partner – SANmilitary

- Global Business Engineer (B.Sc) - Technical University of Denmark
- Master in Management of Technology (M.Sc) - Aalborg university

**Experience**
- Norsoft – Logistic manager
- Danish Defence Acquisition and Logistics Organization – Project Manager
- Danish Defence Acquisition and Logistics Organization – Technical System Manager
- Rheinmetall Defence – Project Manager

**Languages we speak:**
- Danish
- Turkish
- English
- German
- Norwegian

**Sami Emren Kılıç**  
Business Development Manager & Partner – SANmilitary

- Electronic Engineer (B.Sc) - Technical University of Denmark
- Master in Management Engineering (M.Sc) - Technical University of Denmark

**Experience**
- Bang&Olufsen ICEpower – Project Engineer
- Atkins Denmark – Project Engineer / Project Manager
- Banedanmark BDK (Danish Ministry of Transport) – Project Manager / Chief Consultant
SANmilitary Employees

Semiha Yasar – Local representative of SANmilitary in Ankara/Turkey
Business Development Manager & Partner – SANmilitary

- University Education Scholarship - TÜBİTAK
- Graduate Education Scholarship - TÜBİTAK
- Graduate Education and Doctorate in USA Scholarship - Ministry of National Education
- Canada Doctorate Scholarship - University of McGill, Montreal

Experience
- FNSS Savunma Sistemleri A.Ş.- Director, Product Engineering and R&D
- FNSS Savunma Sistemleri A.Ş.- Director, Development Programs
- FNSS Savunma Sistemleri A.Ş.- Manager, Engineering and R&D Department
- FNSS Savunma Sistemleri A.Ş.- Project Manager
- Republic of Turkey, Ministry of State – Consultant
- Aselsan - Mechanical Design Engineer
About Us

- Our presence and base in Copenhagen, gives us the advantage to track local and regional defence industries and trends within the defence area.

- Our strength is providing communication between cultures, being able to understand customer needs.

- SANmilitary has more than 8 years of experience within the defence industry and from the defence ministries. We always aim to provide a consistent and sustainable solutions together with our customers.
SANmilitary experience

1. International experience in managing defence projects
2. Technical expertise

**International defence experience & expertise**

- Connection to the Scandinavian and European defence procurement departments
- Cooperation & Connection to Scandinavian and European Defence companies
- Coordination of equipment logistics and maintenance at NATO level
- Representation of country interests at NATO level
- Follower of competition and technical trends and evolvements
- Knowledge of technical and operational requirements of various NATO countries
- Knowledge of knowhow and experience adapted from operations and conflicts of various NATO countries
SAN Military's, areas of expertise

**Experience adapted from international project management**

- Project Management and coordination
- Cooperation between the departments and units attached to the Ministry of Defence
- Operational deployment
- Operations and Maintenance
- Logistic support (stock management, spare parts availability, maintenance procedures and maintenance concepts)
- Technical publication
- Training (maintenance, user and operational deployment/use)
- SAP
- EU & NATO procurement law, and German, Norwegian, Denmark national procurement laws
- Engaged in EU & National bids, offer writing, sales and marketing
- Armoured vehicles upgrade management
- NATO coordination (equipment maintenance and logistics)
SAN Military's, areas of expertise

Technical expertise & knowledge areas

- Antiterrorism equipment expertise and project management
- Containers, office containers, CBRN Containers
- Mobile traffic lights
- Military boats
- Weapon accessories and equipment
- Sonar
- Military Generators 7.5 kW, 12 kW & 24 kW
- Camp light systems
- Various Detection Systems
- Military helicopters
- Medico equipment, defibrillators, Oxygen Tanks and masks, surgical sets, dressing, stretcher systems, mobile medico kits
- Military ambulances and weapons for ambulances
- ECM and Jammer systems (Electronic Counter Measure)
- Radio systems (HF, Tetra radios, HARRIS 152 and VHF)
- Antitank protection equipment and systems
- Vehicle roll-over simulators
SAN Military's, areas of expertise

**Technical expertise & knowledge areas**

- **Military Vehicles and project management expertise**
  - MAN HX trucks
  - Armoured ambulance vehicles (tracked and wheeled)
  - Leopard 1 & 2 tracked main battle tanks
  - Various American MRAP type vehicles (COUGAR, JERRV, Buffalo, RG-33, Caiman, ‘Dingo’ etc.) including British MRAPs Mastiff and Ridgeback
  - Armoured personnel carriers and mid-range vehicles (M113, Piranha, PARS 8x8, Eagle 6x6 and 4x4, CV-90)

- **General Military experience**
  - Military deployment in Afghanistan
  - Military deployment in Kosovo
  - Tactics - Military deployment
  - Military Movement and formations
  - Exorcist, Marches
  - Brigade, Battalion and Company exercises
  - Platoon and team exercises, foreign unit exercises, special units and special forces exercises.
  - Urban warfare
  - Patrolling
  - Reconnaissance and Surveillance

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