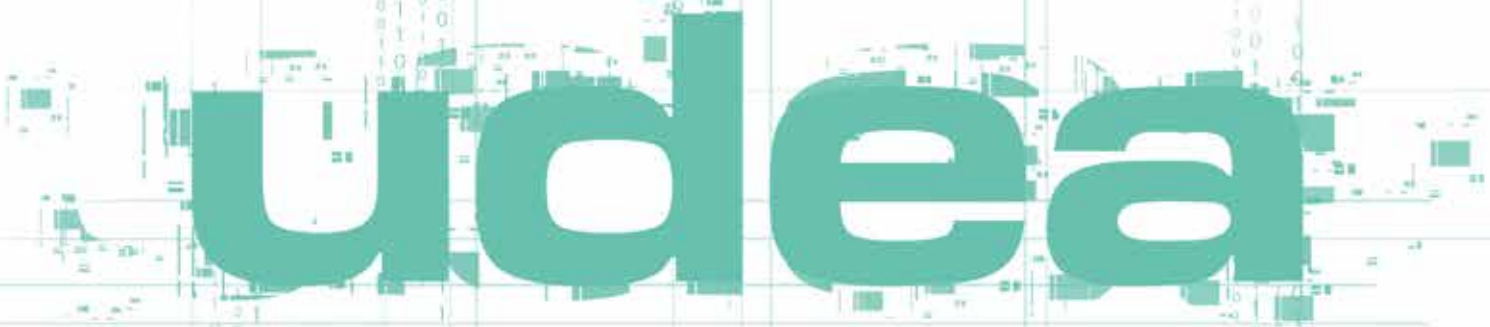


DEFENCE

LAND PLATFORMS

- Platform - Specific Electronic Products (Custom Solutions)
- Interior/Exterior Vehicle Lighting Systems
- Video Recording Systems (DVRs, NVRs)
- Interior Vehicle Consoles (Dashboards)
- Command and Control Systems
- Power Distribution Units
- Video Transfer Systems
- Displays

WIRELESS TECHNOLOGIES

- Vibration, Shock, Temperature Measurement and Logging Systems
- Product RFID Tags and Tracking Systems
- Data Recording and Telemetry Systems

AMMUNITION

- Wireless Communication and Control Electronics
- Ammunition Specific Products (Custom Design)
- Artillery Rocket and Missile Electronics
  Mutli-Option / Proximity / Time Fuzes
- Wired / Wireless Fuze Setting Units

WEAPON SYSTEMS

- Data Logging and Telemetry Systems
- Command and Control Systems
- Sensor Networks

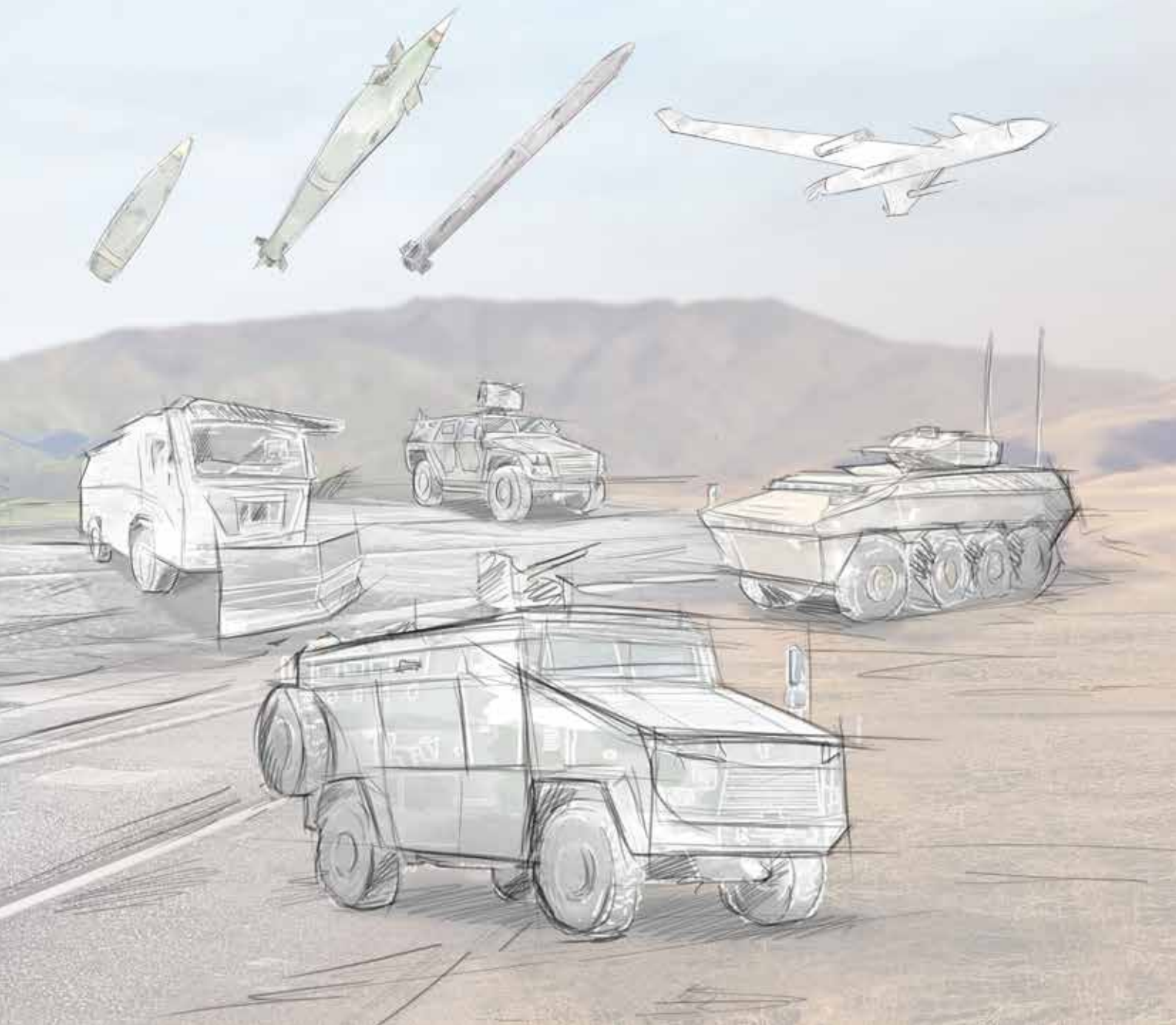
Company Overview

UDEA is a private company headquartered in Ankara and established in 1999 to design and manufacture electronic hardware for a worldwide customer portfolio. UDEA's mission is to produce high-tech and quality products and services. UDEA offers analog-digital electronics design and RF technological know-how at every stage from system design and platform design to installation especially for defense industry needs. UDEA's qualification certificates includes ISO 16949 and ISO 9001.

UDEA is capable of offering services in the following titles.

- Concept creation / Technical support
- Project Plan Preparation
- Hardware / Software / Mechanical Design and Development
- Production
- Test / Approval Studies

The long-term costs of major projects are largely accrued through research and development, operational and maintenance costs. UDEA has a proven track record for advising consumer and military systems manufacturers on best practices related to hardware development. UDEA strives to deliver high quality and cost-effectiveness in every aspect of our products and consulting services.



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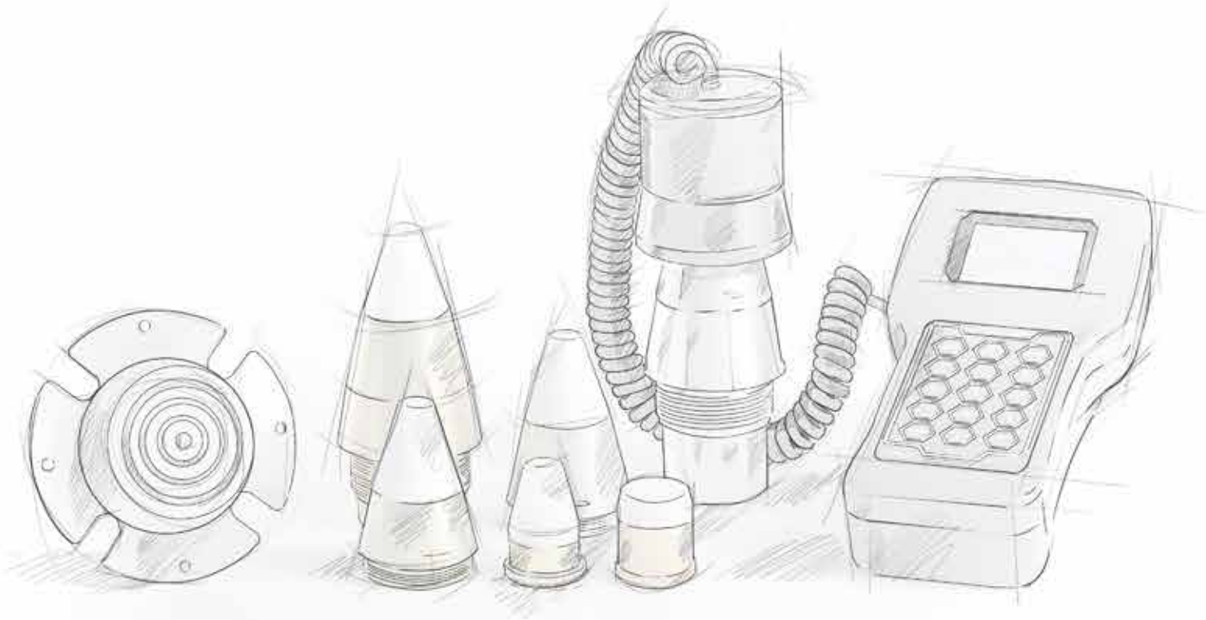
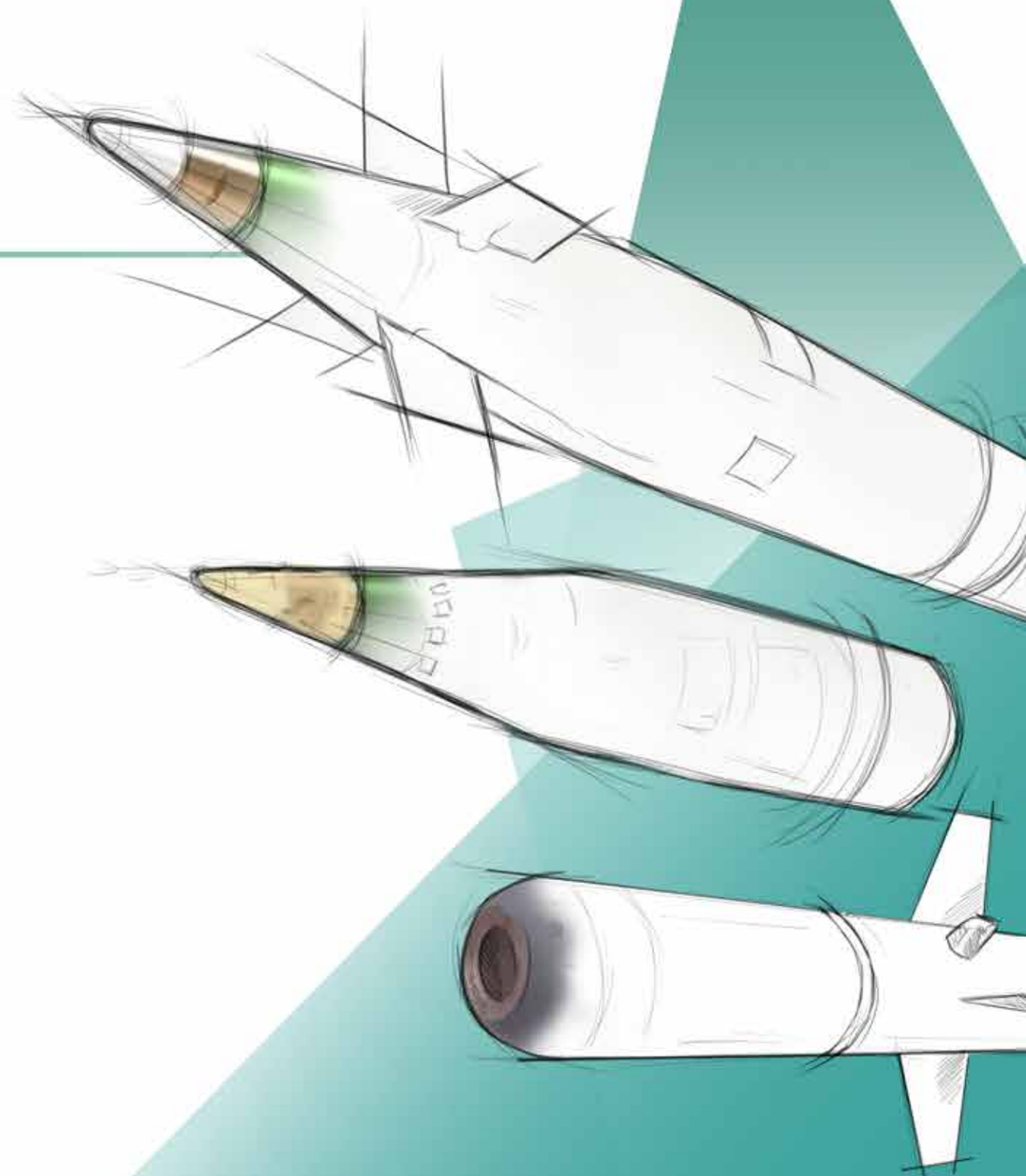
WIRELESS TECHNOLOGIES

FUZE
PRODUCTS

UDEA designs and develops fuze electronics for artillery munitions and guided missiles.
Proximity fuze, time fuze and multi-option fuze are main products of the product family.
These products conform military standards and can be configured according to customer needs.





MULTI OPTION FUZE

Multi-Option fuze provides different modes which can be settable via integrated missile control line or external connection (with wire or wireless interface).

This type of fuze provides;

- High resolution proximity sensing with FMCW radar technology
- Height of Burst setting
- Blocking time setting
- Burst of Time setting (Time Fuze Mode)
- Jamming Signal Sensing
- Speed Calculation Algorithm
- RS485 / RS422 Telemeter interface for test mode

TIME FUZE

Time Fuze electronics generates detonation signal after a set of period time which is set before firing. This product is mainly developed for munitions like 105mm, 122mm and 155mm artillery projectiles.

This type of fuze provides;

- Dimensions and geometry conforms Stanag 2916
- Inductively settable according to AOP 22 and Stanag 4369
- Safety and Sustainability of Service conforms Stanag 4157 and Stanag 4187
- Microprocessor based electronics
- 15 years battery service life

FUZE SETTING UNIT

UDEA also have solutions for fuze setting units. In addition to inductive setting equipment, UDEA has handheld or launcher integrated setting units.

Inductive setting units characteristics

- Handheld
- Battery Operated
- Supports Read Back

Launcher integrated setting units characteristics

- Adaptable to system requirements
- Serial interface for launcher control computer

LASER PROXIMITY SENSOR & RANGE FINDER

UDEA's uYAS-L can be used as both proximity sensor and range finder. uYAS-L is designed for air platforms and tested according to military standarts.

- Measures distances up to 70 meters for natural targets
- Outputs up to 1665 readings per second for quick data refresh
- Accuracy is less than 10cm.
- Multiple hardware interfaces for easy connection to different types of controllers or other embedded systems
- Integrated hardware to control input or output signals (proximity limit signal or lasing starter)

uYAS-L Operates at:

- -40 °C / +85 °C temperature,
- %95 relative humidity,
- 17.000ft altitude,
- Fixed wing random vibration

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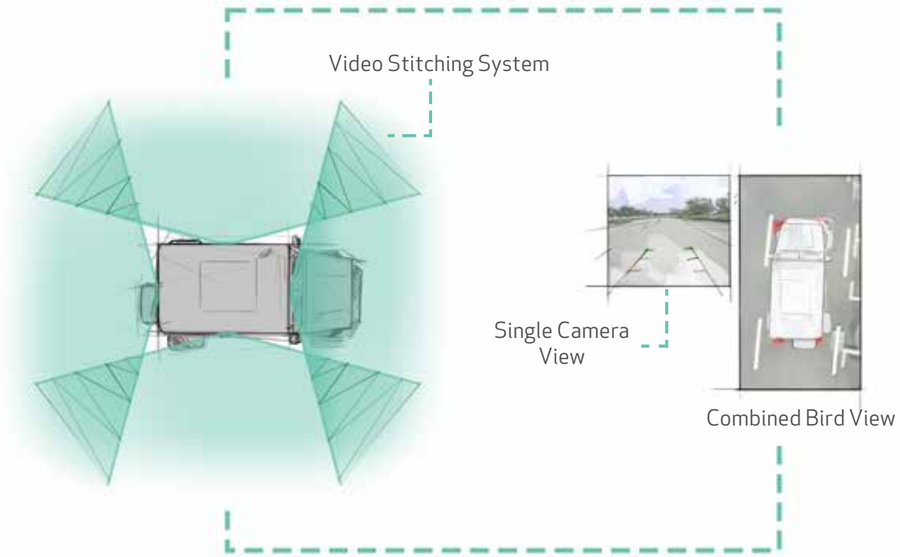
WIRELESS TECHNOLOGIES

VIDEO RECORDING & SURVEILLANCE PRODUCTS

UDEA has a wide range of solutions for surveillance, 360° bird view systems and video recording needs on military vehicles. UDEA has a base Hybrid system which can be adapted to any project, independent from requested camera and monitor types and numbers. The system features up to 16 cameras which can be IP, Analog or Thermal with a flexible and convertible software which supports video streaming and remote system control via 4G and Wi-Fi. As a leading company in video surveillance products, UDEA is also able to do customized designs (mechanical or electronics) of all systems in accordance with customer requirements.



MOBILE VIDEO RECORDING and SURVEILLANCE SYSTEM

In the main Hybrid system, the cameras on the vehicle can be displayed on Driver's, Commander's and Operator's Monitor simultaneously. The System consists of up to 16 cameras, up to 4 displays with touchscreen, a keyboard, a ruggedized main recording and control unit and a harness set. Users can easily control the system by the help of a keyboard or touchscreen. Camera and monitor quantities are depended on the project needs.

Features

- 16 Analog Camera or 12 Analog + 4 IP Camera Input
- 9-36 VDC Voltage Input (Can be used on both 12V or 24V Vehicles)
- Mil-Std-1275 Transient Voltage Protection
- Mil-Std-461 Compatible (Shock and Vibration)
- Mil-Spec Connectors
- 4G Video Transfer Option
- Car Battery Low, Backup Battery Low Alarms
- Optional Electrical Mast Control

DISPLAYS

Over the years UDEA has designed and manufactured various types of displays with different configurations for military vehicles. Vast amount of systems of UDEA are being used in Turkey and Middle East countries. UDEA's standalone display units are used for observation and control purposes of the commander, weapon platform operator, driver, and the other crews within the military vehicles.

Compatibility

Mil-STD-1275, Mil-STD-810F Shock and Vibration

Available Connection Types

Analog Video, VGA, HDMI

Available Monitor Sizes

5", 7", 8", 9.7", 10.1", 10.4", 12", 13.3", 15", 17"

GENERAL PURPOSE VIDEO RECORDING SYSTEMS with 4G VIDEO TRANSFER

UDEA also designed various other products with different configurations such as 4 channel NVR, 4 channel DVR, 4 Channel Hybrid NVR with 4G video transfer options. In addition, 360° bird view systems, rear view systems are also a part of UDEA's Video Surveillance Systems Family. To satisfy the market pricing, technical and dimensional requirements, UDEA has a variety of solutions in Video Surveillance Application.

Features

- 4 Channel Video and Audio Recording (8 channel optional)
- 9-36 VDC Voltage Input
- Low Power Consumption
- 3G, 4G, GPS and Wi-Fi Option
- Hard disk drawer with direct USB3.0 connection
- Ignition, Reverse Gear Inputs

E-Mark APPROVED

CAMERAS

UDEA provides several types of cameras with different resolution and night vision options. IR leds and laser units are used for night view illumination which can be adjusted in a range of 10 meters to 1 kilometers.

Features

- Full HD IP PTZ with Laser
- Full HD Mini IP PTZ
- Analog PTZ
- Wide angle rear view cameras
- Ultra wide angle side view cameras
- VNIR Camera
- Thermal Camera

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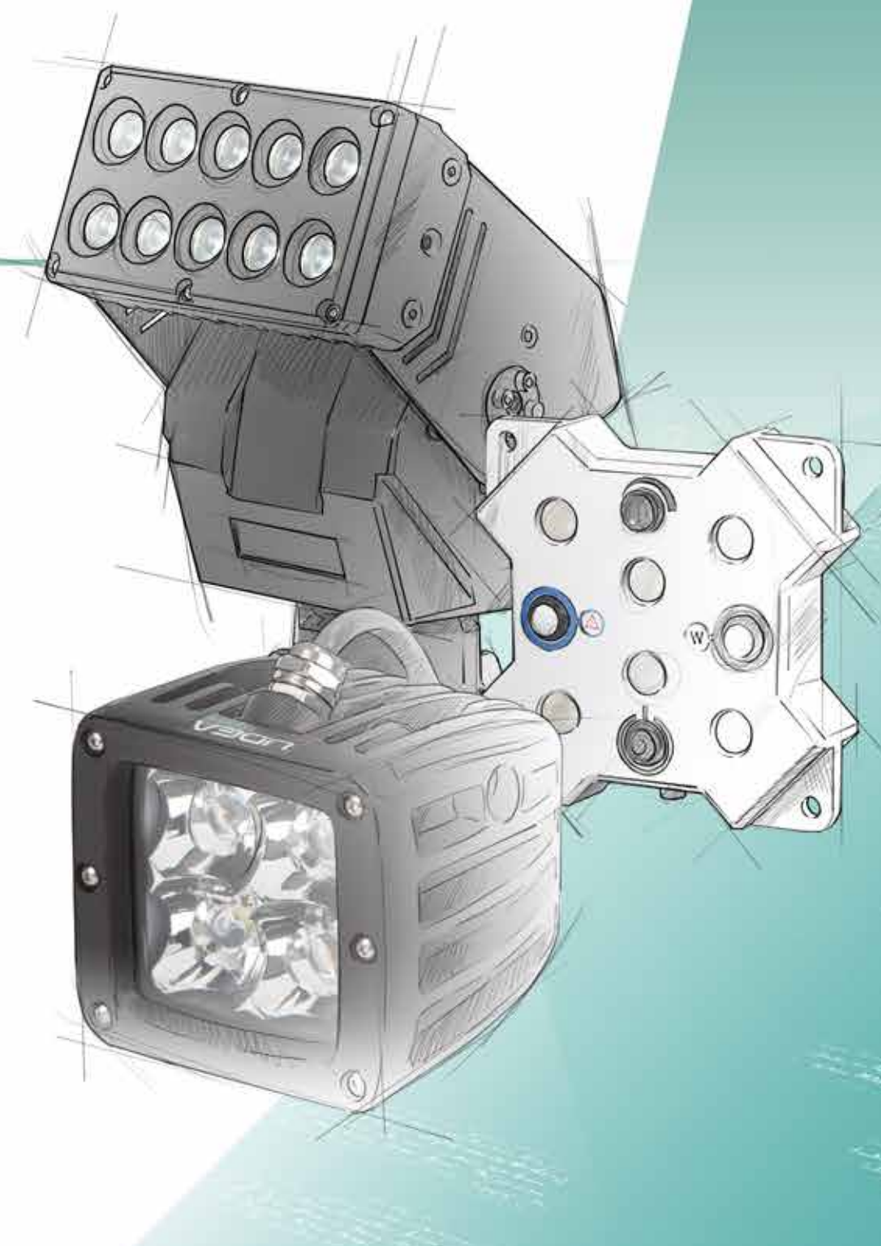
WIRELESS TECHNOLOGIES

UDEA
Lighting

UDEA has a sub-branch, named UDEA-Lighting, working on lighting products.

With deep knowledge from automotive and general lighting industry, UDEA-Lighting designs and produces LED lighting solutions for air, land and sea platforms. LED-based lighting systems provide low cost, low weight , energy saving, improved reliability and long life.

For aviation lighting, there are Night Vision Imaging System (NVIS) compatible products, which can be used with Night Vision Goggles (NVG)



Auxillary Head Lamps

Applications
- Work Light
- Auxilary Lamp

Features
- High Power LEDs
- Various light beam angle option
- IP68 protection
- Customized design solutions for different applications

Search Light

Applications
- Vehicles
- Ships
- Area Lighting

Features
- All bodies are aluminum
- Above 5.000lm output
- Spot light beam
- Programmable smart PTZ mechanism
- Continous rotation in azimuth axis
- Mechanical stops on elevation axis
- Light case is IP67, PTZ case in IP65

Interior Lights

Applications
- Vehicles
- Ships
- Shelters
- Cabins

Features
- Emergency (Black-Out) Mode
- TIR Acrylic lens with narrow beam
- Dimmable light output
- Electrical connection options:
  MIL- 38999 - Automative Grade - Free Cable

Gooseneck Utility Light

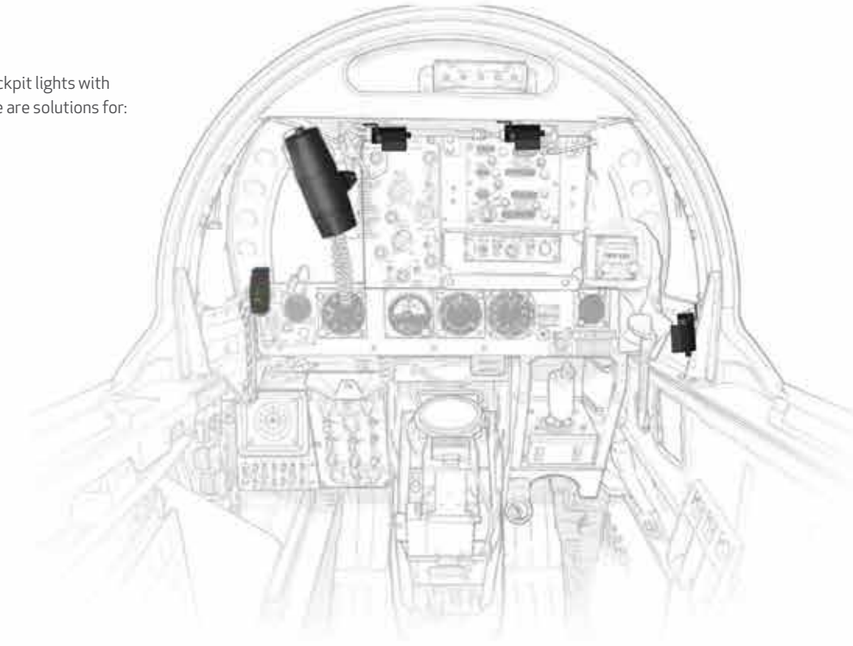
Applications
- Vehicles
- Ships

Features
- Flexible Hose
- Back-Up Battery Power
- Black-Out Mode
- Dimmable

Interior Lights for Aviation

UDEA-Lighting designs cockpit lights with NVIS friendly option. There are solutions for:

- Utility Lights
- Flood Lights
- Pen/Spot Lights
- Cabin Lights
- AoA Indexer



Exterior Lights for Aviation

- Wing-Tip Lights
- Taxi and Landing Lights
- Formation Lights
- Navigation Lights
- Strobe Lights
- Covert Lights
- NVIS Friendly option

ODM
PRODUCTS

UDEA is proud of being electronics equipment supplier to lots of companies in Turkey and Middle East Countries. With the experienced professionals, UDEA is able to design and manufacture different types of customized products which require hardware, software and mechanical design capabilities.

DASHBOARD

UDEA has designed several dashboard units according to the customer needs, for easy control and diagnostic purposes on military vehicles. Engine start/stop operations, exterior/interior lighting control, condition check of the equipment and diagnostic control can be done with the help of dashboard systems. Moreover, data logging is another function of these systems. Previous situations of the sensors, inputs and outputs are logged up to one year, and can be transferred into a flash memory to be analyzed on a PC program for diagnostic purposes.

Features

- User friendly control by touchscreen
- Designed according to human factors
- Engine Start / Stop Button
- Darkening Input
- Dimmable Screen and Warning LEDs
- Heater, illumination etc. Controls
- Analog or Thermal camera Inputs
- Diagnostic

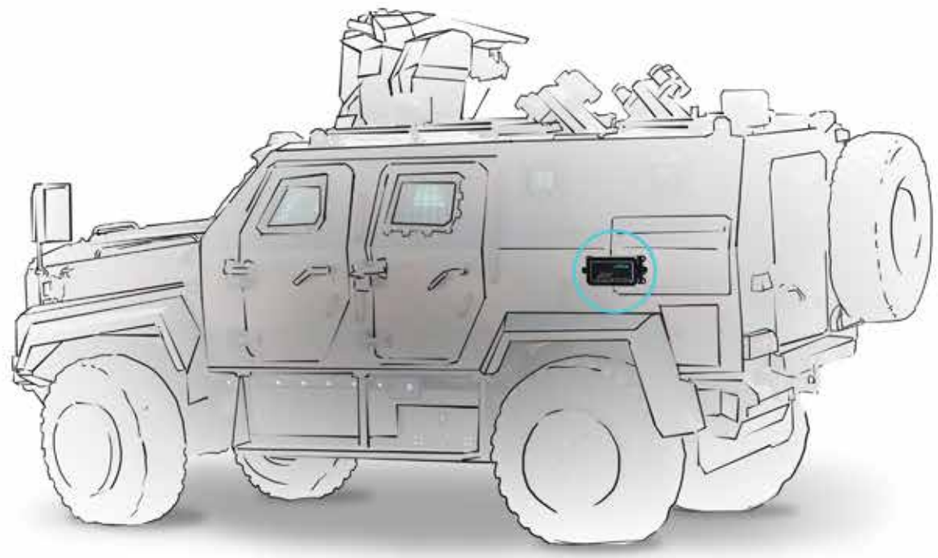
CAN LOGGER

General Specifications

- Record and monitor two CAN channels simultaneously using only one device.
- Log data to an expandable USB memory.
- Warning led lights such as data streams, data records, memory fullness, low battery, device status.
- Configurable operation time with battery power.
- Extended operating temperature range from -40 to 85 °C.
- Compatible with J1939, CANopen.
- D38999 military spec connection interface.
- IP67 compatibility.
- Crypric data record
- Decrption and data analysis with CanAnalyzer program.

Technical Specifications

Input Voltage	9-36 Volts
Power Consumption	Up to 3 Watts
Memory	64GB
CAN Bit Rate	Up to 1 Mbit/s
Reverse Voltage Protection	Yes
Over Voltage Protection	Yes
Operation Temperature	-32°C / +85°C
Storage Temperature	-20°C / +95°C
Channel	2
ESD Protection	30kV
PC Interface	USB2.0
OS	Win 10, Win 8, Win 7, Win XP, Linux
Dimensions	160*77*49
Assembly Hole Size	6mm

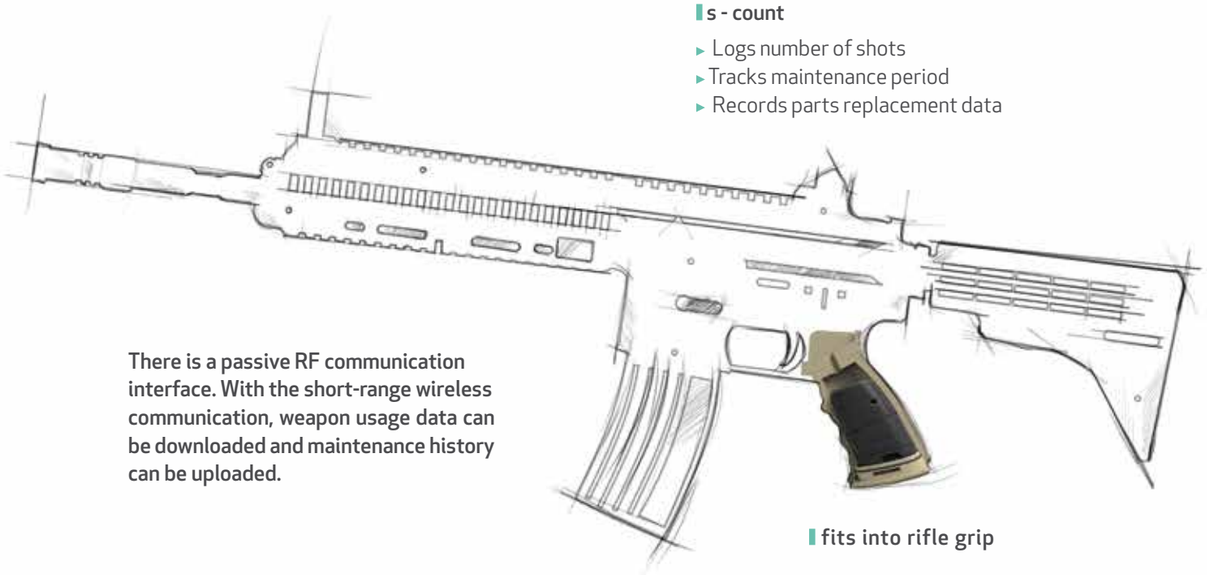


WEAPON HEALTH
& USAGE MONITORING SYSTEM

UDEA's s-count module is used to track the usage of the attached weapons. Battery operated system analyzes and records the conditions of use of the weapon in order to reduce its life cycle cost, optimize its operational availability. Records and communicates operational, administrative and logistical data.

s - count

- Logs number of shots
- Tracks maintenance period
- Records parts replacement data



There is a passive RF communication interface. With the short-range wireless communication, weapon usage data can be downloaded and maintenance history can be uploaded.

fits into rifle grip

udea **readers**

udea **weapon health & usage monitoring system**

Data is transferred via wireless communication

VEHICLE EQUIPMENTS

UDEA has comprehensive experience in the design of electrical and electronic systems for military vehicles. Most of the products below are initially designed according to customer demands.

Power Distribution & Filter Units

Isolated Mil-STD-1275 compatible products are designed in a range of 12W to 200W for supplying power for sensitive electronic equipments of a vehicle. Semiconductor based power switching units are used, which replaces the relay boards within the vehicles.

Seat Belt Warning System

This system is integrated with the seat and seat belt sensors to warn the driver and commander if there is any occupancy and unfixed belt. Designed especially for custom design military vehicles.

Video Line Isolator

Designed for filtering the image noises in the displays which is caused by ground noise in the vehicle.

Headquarters and Production Center

İvedik Osb Mah.2224 Cad.No:1
Ankara Teknopark B blok Kat 2 No:202
Yenimahalle / ANKARA

T: +90 (312) 395 68 75
F: +90 (312) 395 68 77

R&D Center

Odtü Teknokent Gümüş Bloklar
K1 - 3 Ofis Alanı
ODTÜ / Ankara

T: +90 (312) 210 19 82

udea
WIRELESS TECHNOLOGIES

www.udea.com.tr
info@udea.com.tr
sales@udea.com.tr

Y.T. : 05/2017 Rev. No: 01 Rev. T.: 04/2019