Opticoelectron Group JSCo is one of the most advanced companies specialized in optomechanical, optoelectronic and laser devices and systems for defense and security, medicine, device-building, machine-building. The company has more than 45 years old history and traditions, and it is considered as a leader of optical devices production in Bulgaria, as well as an international market leader.

It has a closed cycle of production starting from research and development going through production process to marketing, promoting and trading finished products. The company head office and its premises are in the town of Panagyurishte which is 90 km. south-east of capital city Sofia and 80 km. north-west of Plovdiv (the second largest city in Bulgaria). It is located in an Industrial Park of 260 000 sq.m. where 108 000 sq.m. of the total area are production plots.

Over 97% of total production goes on export to EU countries, North America and the Middle East. Opticoelectron Group JSC is ISO 9001:2008 certified since 2001. Our NATO Commercial and Governmental Entity code (NCAGE) is 000DU. Opticoelectron Group JSC has obtained a Certificate for Registry in the field of international relations “NATO-SECRET” and a Certificate for access to operate with state classified information. The company also has a statute of supplier for US Government - DUNS Registration.

Key defense products in our portfolio are as follow: anti-aircraft and ground artillery sights for firing in daytime and in nighttime; day, night and thermal optical sights, SWIR lenses, laser range finders, laser target designators, optical systems for armored vehicles, video observation and surveillance systems.
CERTIFICATES
ISO 9001, ISO 27001, ISO 18001, ISO 14001, AQAP 2110, NATO SECRET

NUMBERS & CODES
NATO MANUFACTURER CODE – NCAGE 000 DU
DUNS CODE – 65 456241
NATIONAL CLASSIFIED INFORMATION – B621209-001-05
NATO SECRET PERSONAL NUMBER – N621209-001-73

5 COMPANIES IN THE HOLDING
100% PRIVATE COMPANY
700 EMPLOYEES INCL.
150 HIGH-QUALIFIED ENGINEERS
95% VOLUME EXPORT
40 COUNTRIES EXPORT

14 MODEL INTELECTUAL PROTECTION
25 INDUSTRIAL DESIGN INTELECTUAL PROTECTION
26 TRADE MARKS INTELECTUAL PROTECTION
650K A4 DESIGN DOCUMENTATION
1,5M A4 TECHNOLOGICAL DOCUMENTATION
75 PRODUCT DOCUMENTATION
Optical Production

PRODUCTS:
1. Spherical Optics;
2. Rod Lenses / Stablinsen;
3. Plano & Parallel Plates;
4. Filters, Mirrors, Prisms;
5. Cylindrical Optics and Micro Optics
6. Optical Micrometer Scales;
7. Reflection & ANTI-Reflection Coating;

PRODUCTS FOR IR RANGE:
Opticoelectron has available excellent production facilities with modern equipment and technological know-how for manufacturing of precise IR optical components in various forms:
- IR materials : Ge, Si, ZnS, ZnSe, CaF2, GASIR, IG6, others
- Diamond turning of parts up to 250mm diameter by SPDT on Ultra-precision diamond turning lathe
- Surface machined by SPDT: plano, spherical, aspherical, aspheric-diffactive surfaces, free form
- Traditional polishing of IR lenses and protective windows with round and non-round shapes
- HEAR IR coatings for MWIR and LWIR ranges
- DLC coating on Ge and Si components for MWIR and LWIR ranges

METROLOGY
- Contact measurement and critical analysis of optical surface profile by Form Talysurf PGI Optics
- Measurement of flat and spherical surfaces by Fizeau interferometer XONOX VT 1200 PS with phase shifting fringe analyzing system, various f/number Transmissions Spheres 4+ are available
- Non-contact scanning of surface profile with sub-nanometer precision by white light interferometer ZeGage plus 3D Optical Profiler
- Precise and robust contact measurement of lens central thickness on ground, polished and coated optics in production as well as in quality inspection by measuring system XONOX CT 200 IV

OPTICAL RETICLES (3 TYPES):
- Non transparent chromium patterns on transparent background
- Transparent patterns on non transparent chromium background
- Edged and filled with TiO or ZrO patterns on transparent background

EQUIPMENT:
1. CNC & NC machines for generating, grinding, polishing, edging – 15 pcs
2. Conventions machines for cutting, drilling, generating, polishing, edging – over 80 pcs
3. CNC and NC machines for mechanical tools and metal parts – 10 pcs
4. Coating machines – 10 pcs
5. Interferometres – 5 pcs
6. MTF Test equipment – 1 pcs
7. Spectrophotometers – 3 pcs
8. Universal measuring tools – over 100 pcs
9. Photolithography equipment – 1 pcs
10. Ultra sonic cleaning machines – 2 pcs
11. Climatic chamber – 1 pcs
12. Laminar boxes – 20 ps.
Opticoelectron uses software for design of optical elements and coatings and has a library of its own Containing 20 000 test plates.
Opticoelectron manufactured parts and assemblies in the field of precision mechanics and optomechanical civil proceedings, and defense industry. The company has a programming workshop equipped with high-tech CNC Machines for the production of parts with complex geometric configuration and accuracy 0,002 mm.

**PRODUCTION:**
1. Prismatic hull and rotary parts;
2. Cylindrical and bevel gears from module 0,2 to the module 4 in series production, in single parts to module 6;
3. Rack - rails to module 1,25 a length of 400 mm;
4. Automatic details;
5. Galvanic and lacquer and paint coatings;
6. Standard equipment;
7. Mechanical units;
8. Tooling.
9. Powder coating
10. Welding
11. Laser cutting
Opticoelectron is specialized in assembly and testing of optomechanical and optoelectronic devices including day and night sights, magnifiers, microscopes. The Testing Laboratory performs tests according to NATO Standards.
- ORI Station
- Climate chambers
- Collimators
- Pressure Chambers
- Vibrations Stand
- Shooting Simulator
- Transport Simulation
ORI test station is a modular, quasi universal station for extensive testing of optical systems. This station enables measurement of a series of important parameters of optical modules: MTF (on axis, off axis), resolution, effective focal length, distortion, vignetting, and transmission. Both converging objectives and focal systems can be tested.

The ORI test station is an unique design that enables to test all types of optical systems in the optical spectral range from VIS to LWIR (VIS optics, VIS/NIR optics, SWIR optics, LWIR optics).

In addition systems can test thermal imagers > LWIR image projectors combined with computerized systems for analysis of image generated by tested thermal imager.

VIS/NIR/LWIR
Athermalized designs for military use: from -46 to +85 °C
Optimized lens and coatings for whole 400-1000nm band, well suited for new low light sensors, not only for image intensified tubes.
1. STATIONARY POST FOR BORDER SECURITY
2. SEMI STATIONARY POST FOR BORDER SECURITY
3. MOBILE SYSTEMS FOR BORDER SECURITY
- Cooled Thermal Cameras with identification range of human body to 25 km.

- Uncooled Thermal Cameras with identification range of human body between 4 - 7 km.

- Day HD Color Cameras with 32x magnification of the observed object.
Semi stationary post for border security

- Cooled Thermal Cameras with identification range of human body to 25 km.

- Uncooled Thermal Cameras with identification range of human body between 4 - 7 km.

- Day HD Color Cameras with 32x magnification of the observed object.
Mobile systems for border security

MUSON 12

Mobile system for observation and surveillance of:
- Borders
- Coasts
- Important infrastructures as petrol fields, nuclear plants etc.
Mobile systems for border security

MUSON 17

Mobile system for observation and surveillance of:
- Borders
- Coasts
- Important infrastructures as petrol fields, nuclear plants etc.
Structure of Military Production

**ARTILLERY**
- Optical Sights for Artillery Systems
- Optical Sights for Grenade Launchers
- Gunner Devices and Accessories
- Grenade Launcher Containers
- Reconnaissance and Distance Measuring Devices

**FIRE ARMS**
- Optical Sights for Fire Arms
- Night Vision sights, Monoculars and Goggles
- Collimating Sights and Red Dot Sights
- Laser Target Designators and IR Searchlight
- Tactical Laser Flashlights
- Thermal Sights and Imagers
- SWIR Lenses

**VEHICLES**
- Surveillance and Observation Systems
- Armored Vehicles

**DRONE TECHNOLOGIES**
UNIFIED MORTAR SIGHT MUM-706M

Unified Mortar Sight MUM is designed for sighting 60mm, 81mm, 82mm and 120mm mortars during direct fire and from covered positions as well as for observing the battle field.

For operation under low visibility conditions (in dusk or night), there is a system for illumination of the scales, included in the sight set.
Optical Sights for Grenade Launchers

- GRENADE LAUNCHER OPTICAL SIGHT MGO-7V or MGO-7VMU
- AUTOMATIC GRENADE LAUNCHER OPTICAL SIGHT MAG-17
- GRENADE LAUNCHER OPTICAL SIGHT MGO-7V WITH NIGHT VISION ATTACHMENT MNV-50
- OPTICAL SIGHT FOR GRENADE LAUNCHER SGO 100 3X
Gunner Devices and Accessories

GUNNER COLLIMATOR K-1

GUNNER QUADRANT KO

CONTROL QUADRANT FOR MORTARS KM-1

COMANDER COMPASS KK

CONTROL LEVEL AND MEASURE DEVICE /SIMPLE/ PO 30
CONTAINER 6G-18 FOR ANTI-TANK DISPOSABLE GRENADE LAUNCHER RPG-22

CONTAINER DREBG 7 FOR ANTI-TANK DISPOSABLE GRENADE LAUNCHER
Reconnaissance and Distance Measuring Devices

FORWARD ARTILLERY OBSERVER POST
LARTOS

PERISCOPE ARTILLERY AIMING CIRCLE
PAB 2 AM
Optical Sights for Fire Arms

Optical Sights for Fire Arms
- OS 6X
- OS 4XL
- MOSO

Telescopic Optical Sights
- 1 OM 8
- 1 OM 81

Rifle Scopes - Telescopic Optical Sights for Hunting Purpose
- OM Series
Night Vision sights, Monoculars and Goggles

NIGHT VISION SCOPE NOS4D

NIGHT VISION MONOCULAR MNV-50

UNIFIED NIGHT VISION SIGHT NSPU

NIGHT VISION SCOPE NOS4B

NIGHT VISON GOGGLES OENAG

NIGHT VISON GOGGLES OENG-E

NIGHT VISON GOGGLES NIRECON NVG
Collimating Sights and Red Dot Sights

- RED DOT SIGHT RD 22
- RED DOT SIGHT ML 22
- RED DOT SIGHT ML 30
- RED DOT SIGHT QCS 22 UBGL
- QUADRANT COLLIMATING SIGHT FOR UNDERBARREL GRENAFE LAUNCHER OF “MILKOR” QCS 22-MK
- COLLIMATING SIGHT KV-L
- COLLIMATING SIGHT K10-T
Laser Target Designators and IR Searchlights

- **RED / INFRARED LASER POINTER AND ILLUMINATOR OE RIRW4**
- **INFRARED LASER TARGET DESIGNATOR H1-ILTD-1**
- **LASER TARGET DESIGNATOR LTD-Y SERIES**
- **GREEN LASER TARGET DESIGNATOR HGLTD-1**
- **RED LASER TARGET DESIGNATOR RLTD-1**
- **IR LASER TARGET DESIGNATOR ILTD-1**
- **RED AND IR LASER TARGET DESIGNATOR R&IR ILTD**
- **IR LASER TARGET DESIGNATOR HILTD-1**
- **IR FLASHLIGHT AND IR TARGET DESIGNATOR PSR-IR**
TACTICAL LASER FLASHLIGHT FOR PISTOLS PCP-2
Thermal Sights and Imagers

- THERMAL SIGHT
  - HURECON 50 / TERECON 50

- THERMAL SIGHT
  - TERECON 75

- THERMAL SIGHT
  - TERECON 100

- UNCOOLED THERMAL IMAGER
  - OETHERMO 50FVA

- UNCOOLED THERMAL IMAGER
  - OETHERMO 35FVA

- IP IMAGER
  - OE THERMO IP SERIES
Short Wave Infrared (SWIR) Lenses

**MAIN APPLICATIONS**

1. Perimeter surveillance
2. Border and Port security
3. Low-light level imaging in the conditions of night glow irradiance.
4. Imaging through fog, dust & etc.
5. 24 hours day and night surveillance
6. 633, 850, 1064 and 1550 nm laser line detection
7. UAVs airborne payload
8. Driver vision enhancement
9. Detecting beacons and covered illumination
10. Muzzle Flash detection
11. Forest fires detection
12. Hostile fire detection system

**KEY ADVANTAGES**

1. Specially designed and coated for high resolution/quality SWIR cameras
2. Athermalized design for harsh environment
3. Compact size and low weight
4. VIS extended spectral band 600-1700 nm
5. Special design for flare removal
Drone Technology

MAIN SPECIFICATIONS

1. Carbon fiber frame
2. Carbon fiber propeller
3. Carbon fiber shield
4. Aluminum radiators
5. Brushless motors
6. Carbon fiber legs
7. HD video recorder
8. Brushless gimbal
9. FPV camera
10. Laser radar (LIDAR)
11. Telemetry
12. IP Thermal camera
13. Green and red direction lights
Armoured Vehicles

PERISCOPEs
M-27, PC-1, PO-1

COMMANDER NIGHT VISION DEVICE
BDIN

GUNNER PASIVE NIGHT VISION PERISCOPE
BRAN

DRIVER PASIVE NIGHT VISION DEVICE
TVN-M2
We are looking forward to further fruitful cooperation in development and implementation of various projects!