

Laser



Electronics



Optics



Crystal



Optical Design



# LASER PRODUCTS

Light Amplification by Stimulated Emission of Radiation



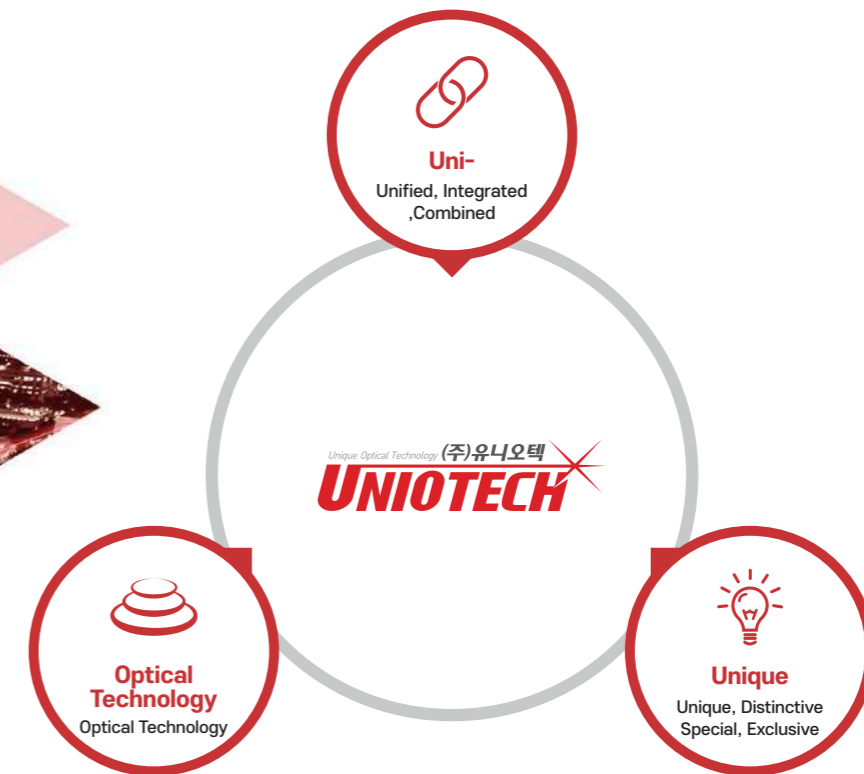
# Leading the Advancement of Optical Technology in Korea! UnioTech

UnioTech Co., Ltd. specializes in optical applications across industrial, medical, LiDAR, defense, and home sectors. The company provides optical solutions, designs products and components, and develops, manufactures, and mass-produces devices such as laser processing heads and fluorescence modules.

With the advancement of the optical industry and the rapid growth of laser applications, UnioTech is committed to leading with innovative and original technologies. We strive to advance Korea's laser and optical industries by providing reliable components, consulting, and mechanical & optical design services for product development, manufacturing, and production. We dedicate ourselves as pioneers who stay ahead, challengers unafraid of failure, and diligent professionals who never lose their original passion.

CEO of UnioTech Co., Ltd. **Kim Jin-Ha**

**UNIQUE OPTICAL TECHNOLOGY**  
UNIOTECH Co., Ltd. is an abbreviation of UNIque Optical TECHnology.



## Certifications



# UNIOTECH International Partners

## Laser & LED

- CW & Pulsed Laser Diode
- HeNe Laser
- Laser Diode Module

- DPSS Laser
- High Power Laser Diode
- Laser Sensor

- LPSS Laser
- Special Laser
- VCSEL Array & LED



innolume



DoGain



HAN'S TCS  
大族天成半导体



DAYY PHOTONICS



SHEAUMANN

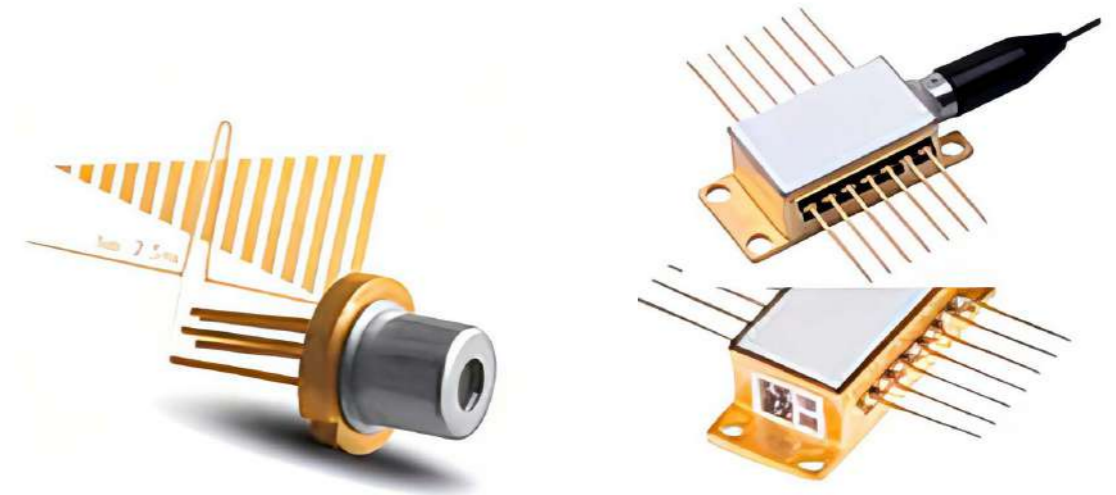


OXIDE



Marubeni

## 01 CW & Pulsed Laser Diode



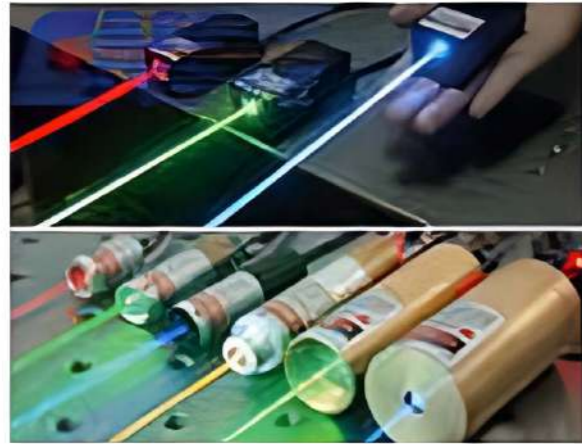
### Key Specifications & Features

- 850nm, 905nm, 1310nm, 1550nm
- Up to 650W (Peak Power)
- SMD, Fiber Coupled, Integrated PD
- FAC (Fast Axis Collimation) Lens Option
- Low Cost 905nm, 1550nm TO-PLD Production Model
- Driver Integrated PLD(2.5ns pulse width)
- PLD Array & Module

### Applications

- Range Finding
- Surveying Equipment
- LIDAR
- Optical Trigger
- Medical
- ADAS

## 02 DPSS & LPSS Laser



### Key Specifications & Features

- Cost Effective Laser
- High Energy (Up to 50J) Pulse Laser
- Multi Color Laser (RGB & Broadband)
- SLM (Single Longitudinal Mode) Laser
- Fiber Coupled Laser
- CW, QCW and Pulse(ns, ps) Laser
- Eye Safety 1550nm Pulse Laser

### Applications

- Sensing, LIDAR
- 3D Holography
- Interferometry
- Ti:Sapphire Pumping
- Photon Microscopy & Spectroscopy
- Medical & Etc.
- PIV

## 03 Fiber Laser



### Key Specifications & Features

- High Power CW Fiber Laser(~KW)
- Pulsed (MOPA/Q-switched)/Pico/Femto Fiber Laser
- Single Frequency, VIS and 2um Special
- Fiber Laser Available
- 1um Cost Effective Laser
- Easy Beam Delivery
- Lower Maintenance Cost

### Applications

- Super Resolution Microscopy
- Interferometry
- Micromachining (Marking and Welding)
- Holography
- Defence and Aerospace
- LIDAR
- Medical/Telecommunications

## 04 HeNe Laser



### Key Specifications & Features

- HeNe Laser
- Red, Yellow, Green HeNe Laser
- Melles Griot Production Line Merger
- HeNe Tube Compatibility and Maintenance for FT-IR Equipment (Bruker, Perkin Elmer, Thermo Fisher etc.,)

### Applications

- Sensing, Alignment
- Most of Optical Experiments
- Flow Cytometry, Laser-Induced Fluorescence
- Semi-Conductor Inspection
- FT-IR

## 05 Special Laser



### Key Specifications & Features

- MOPA SLD Systems
- Superluminescent Diode (SLD)
- Semiconductor Optical Amplifier (SOA), Gain Chip
- Quantum Cascade Laser (QCL)
- Tunable Laser (450-4300nm Operating Wavelength)
- Frequency Converted Laser

### Applications

- Medical Image Diagnostic
- Optical Sensing
- Telecommunication Systems
- Metrology
- Spectroscopy, Photobiology (Tunable Laser)
- Industrial, Medical OCT
- Quantum Application

## 06 High Power Laser Diode



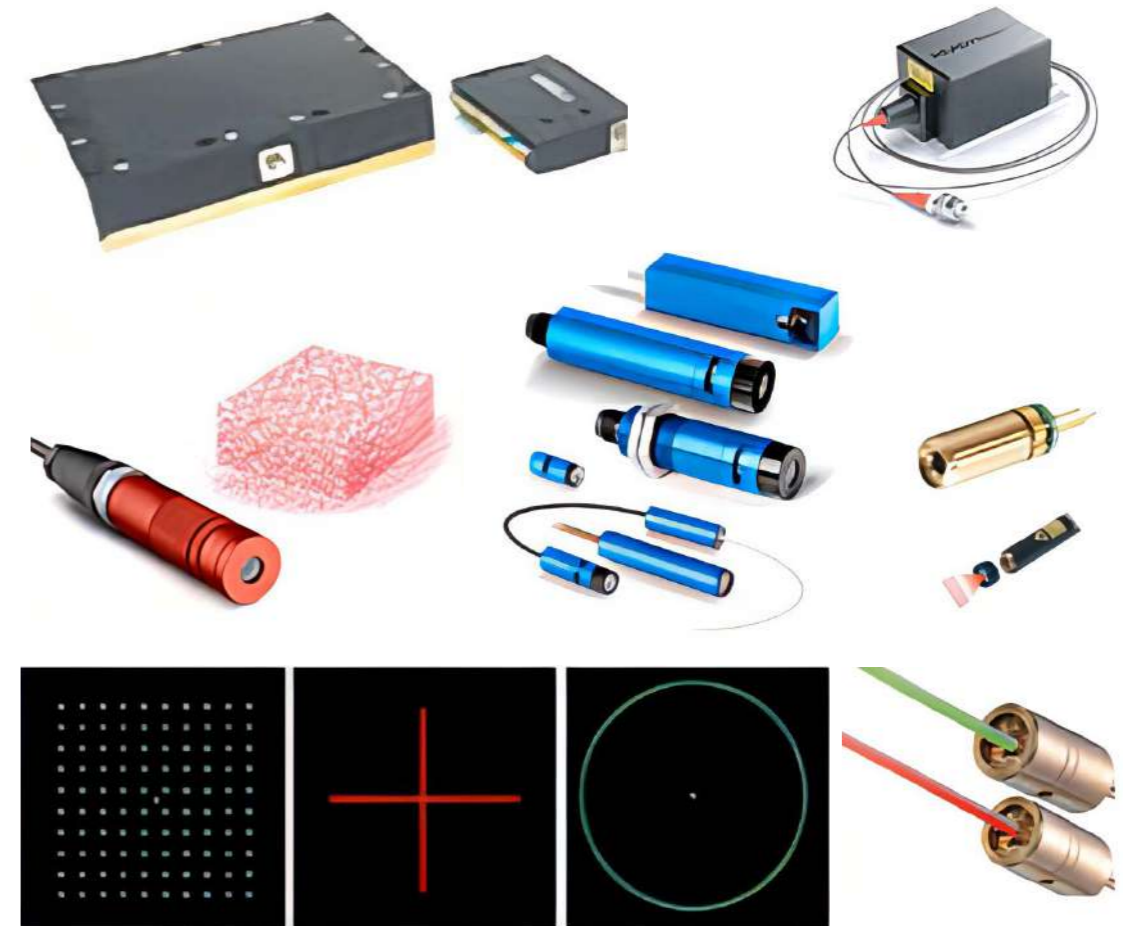
### Key Specifications & Features

- VIS, NIR, IR High Power
- Seed & Pump for Fiber Laser
- Up to KW (CW&QCW)
- Multi Wavelength Laser in One BOX
- Fiber Coupled & Detachable

### Applications

- Direct Processing
- Laser Pumping
- Holography, Interferometry, Military Laser
- Medical Treatment, Microscopy, Lithography
- Gesture Recognition (Sensing)
- Illumination

## 07 Laser Diode Module



### Key Specifications & Features

- UV, Visible to NIR wavelength
- Machine Vision Laser
- Fiber Coupled Diode Laser
- Multi-Wavelength Laser Module
- Low Cost LD Module
- Low Divergence Angle LD Module

### Applications

- Data Storage
- Spectroscopy
- Optical Measurement
- Medical
- Machine Vision



**Key Specifications & Features**

- Wide Power Range ( $\mu\text{W}$  to  $\text{KW}$ ) - Stackable
- Non-Gaussian Beam Mode
- Multi-Wavelengths and PD in ONE Package
- Lower Temperature Sensitive than Laser Diode

**Applications**

- TOF (Time of Flight) Sensing
- IR Illumination, Atomic Clark
- LIDAR, 3D Sensing
- Medical Treatment, Microscopy, Lithography
- Gesture Recognition
- Industrial Heating & Processing
- Bio & Healthcare Industry



**Key Specifications & Features**

- UV, VIS, SWIR, MWIR
- Scanning Light Source without Speckle
- Multi-Wavelengths in ONE Package
- Single or Multi-Die LED Arrays
- LED Solar Simulator
- Individually Addressable

**Applications**

- Flood Source Illuminator
- 3D Printing
- Biomedical Fluorescence Excitation
- UV Photocuring, Disinfection
- Medical Treatment, Gesture Recognition
- Bio & Healthcare Industry

# UNIOTECH International Partners

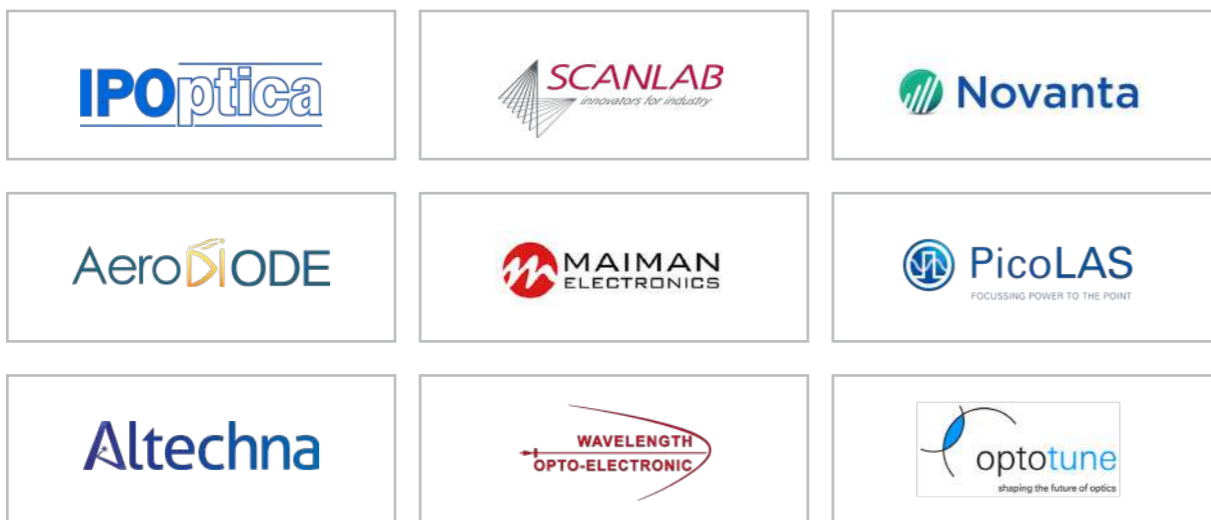
## Detector & Measurement / Beam Control & Electronics

- Detectors(PD, APD, SPAD, SIPM) · Measurement
- Scanning System Laser Driver and Power Supply · Galvano, Polygon & Precession Beam Controller

### “Detector & Measurement”



### “Beam Control & Electronics”



## 10 Detectors (PD, APD, SPAD, SIPM, PSD)



### Key Specifications & Features

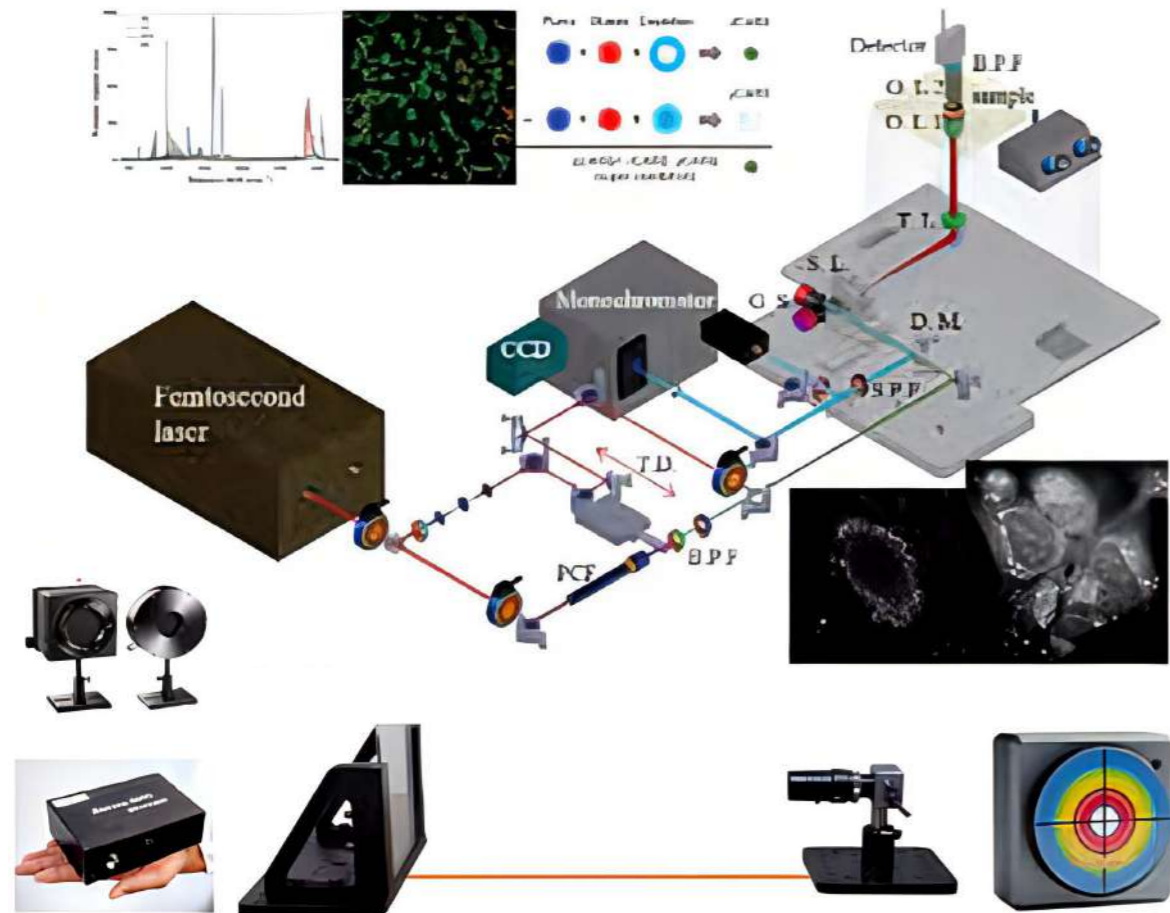
- APD (Silicon, InGaAs) / Low Cost APD (8)
- Photodetector and Module
- Single Photon Counting Module
- Si APD Array, InGaAs APD Array
- Quantum Efficiency  $\geq 99\%$  (99.5% Typically)
- PSD (Position Sensing Detector) and Array

### Applications

- Confocal/Multi-Photon Microscopy
- Particle Sizing
- Fluorescence Analysis
- LIDAR
- Gas, Protein, Moisture and Hazard Analysis
- Quantum Applications



# 11 Measurement



## Key Specifications & Features

- Power Meter & Energy Meter
- Spectrometer
- Laser Beam Profiler (UV, VIS, IR)
- Focused Beam, Line Beam, Large Beam
- SWIR Camera and Detector

## Applications

- Surveying Equipment
- Power & Energy Measurement
- Beam Analysis
- Spectrum Analysis
- Raman Analysis

# 12 Galvano, Polygon & Precession Scanning System



## Key Specifications & Features

- 2D, 3D, 5D Optical Scanner
- Precession Head
- Resonant Scanner
- MEMS Scanner
- Polygon Scanner
- Fast Steering Mirror
- Spatial Light Modulator

## Applications

- Industrial, Medical Application
- Marking, Cutting
- Micro-Hole Drilling
- Heating, Cleaning, Micromachining

## 13 Laser Driver and Power Supply



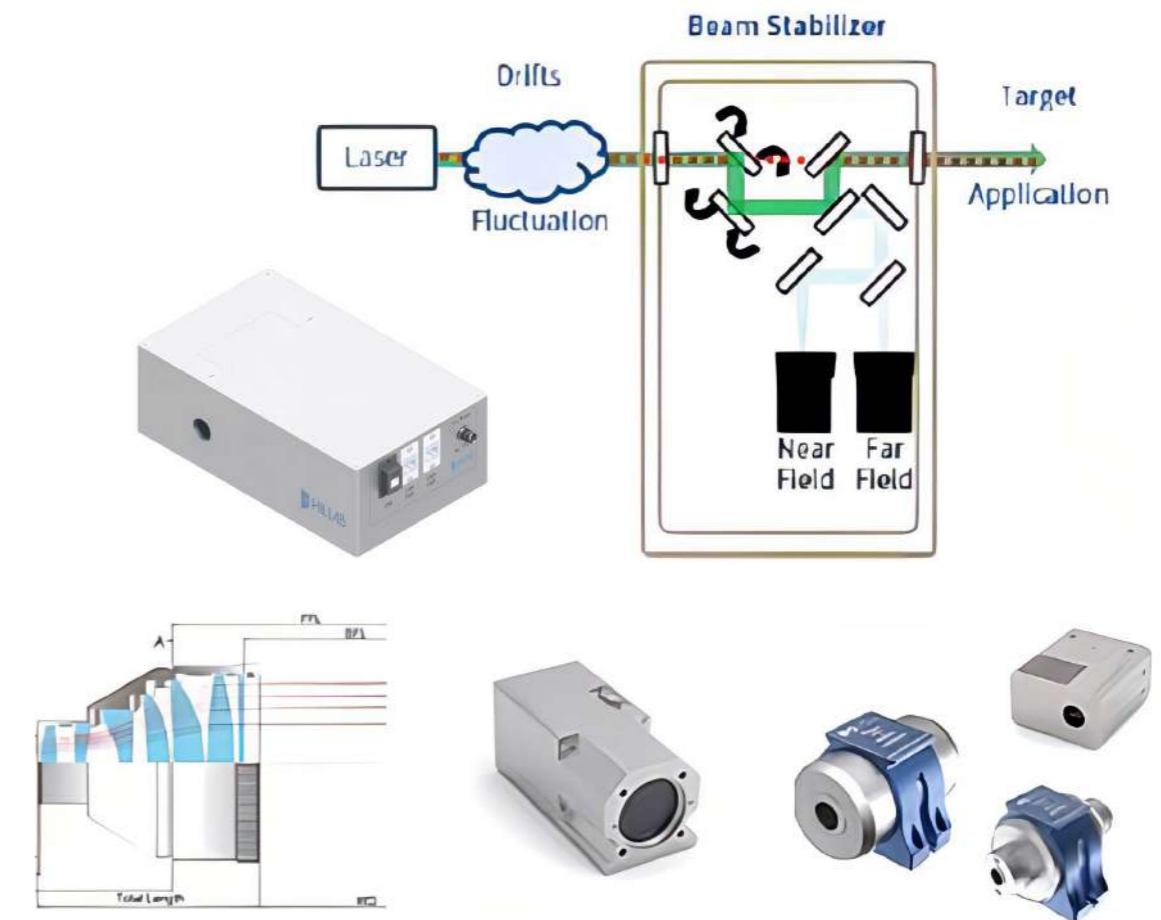
### Key Specifications & Features

- High Current, High Voltage
- Pulse Duration min. < 500 ps
- Rep. Rate: MAX. 250MHZ
- Diode Guard Advanced Safety Circuit
- Advanced Control and Monitoring Function
- CW/Pulsed @Pump/Seed LD Driver
- Pulse Delay Generator

### Applications

- Fiber Lasers and Amplifier
- Medical System
- Direct Diode Materials Processing
- LD/TEC Controller

## 14 Beam Controller



### Key Specifications & Features

- AOM, AO Q-Switch, Pockels Cell
- Faraday Rotator & Isolator
- Manual & Motorized Beam Expander
- Telecentric F-theta lens
- Motorized Laser Attenuator
- Laser Processing Delivery Unit
- Laser Beam Stabilizer

### Applications

- Marking, Cutting, Welding, Trimming
- Industrial & Medical Laser Application
- Most of Applications Related Laser
- Smart Laser System
- Pulse Picking and Optical Switch

# UNIOTECH International Partners

## Optics & Fibers & Accessories

- Special Optics · DOE and Beam Shaper · Software Creation · Fiber · Optical Accessory
- Fiber Optics/Passive Components · All-in-One Software for Laser Processing · Crystal
- Laser Processing System · Optics · Optical & Module Design, Electronics & Firmware

Altechna



HOLO/OR

THATSHIGH



FISBA Innovators in Photonics

BrightCore 睿芯



NoIR

LightPath Technologies



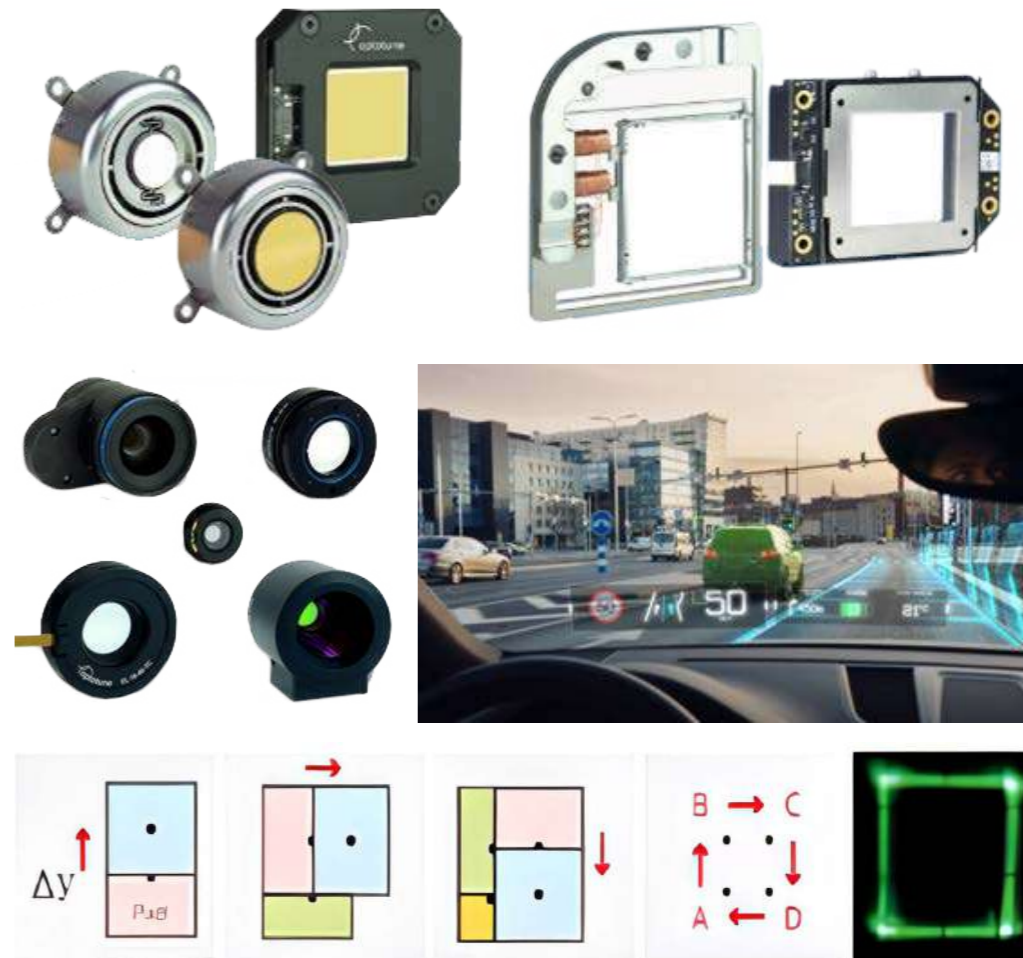
CarbonVision

iXblue

THORLABS

Edmund optics | worldwide

## 15 Special Optics



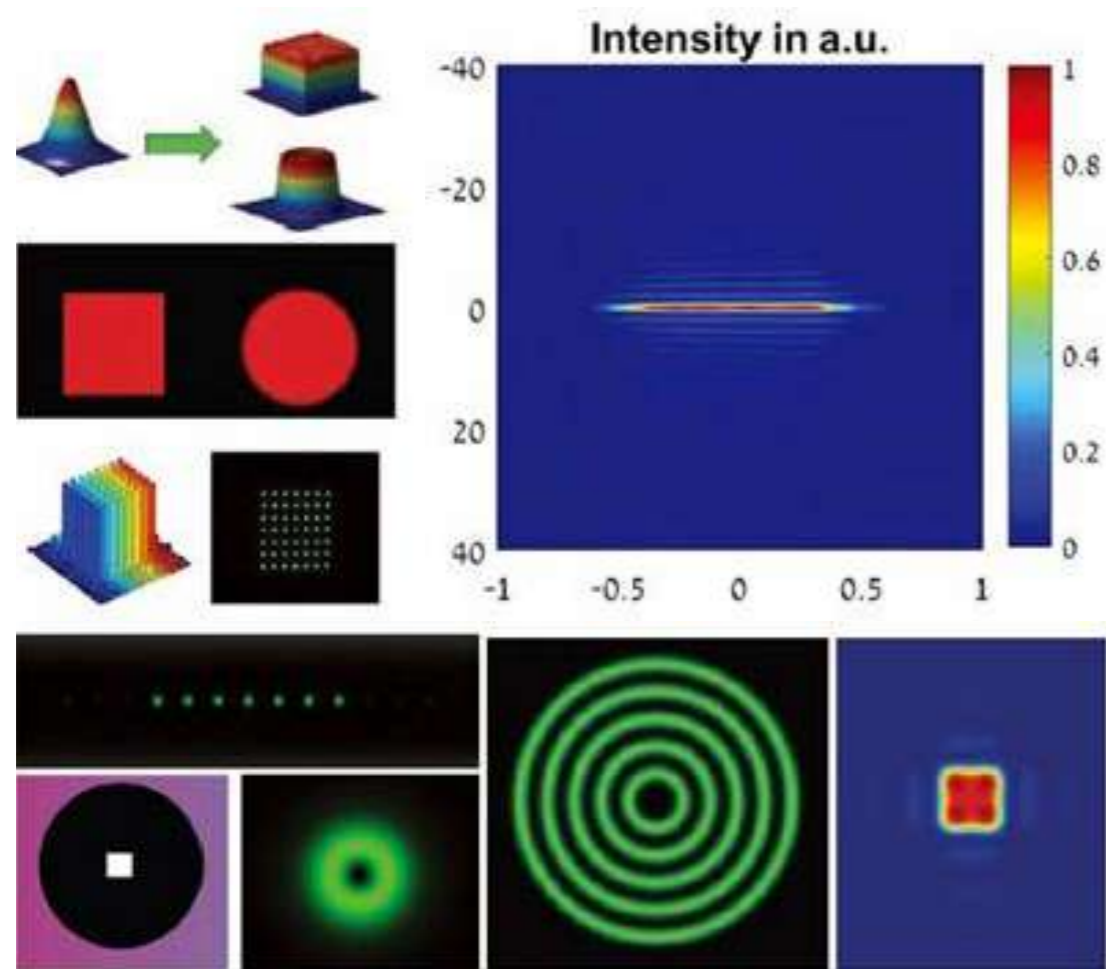
### Key Specifications & Features

- Manually Focus Tunable Lens
- Electrically Focus Tunable Lens
- Laser Speckle Reducer
- USB Driver and Free Library
- 2D Mirror Scanning

### Applications

- 2.5D & 3D Marking & Laser Processing
- Laser Micro/Pico Projection
- Machine Vision
- Microscopy
- Ophthalmology
- LIDAR

## 16 DOE and Beam Shaper



### Key Specifications & Features

- Top-Hat/Beam Shaper
- Homogenizer/Diffuser
- 1D & 2D Beam Splitter
- Multi Focal Lens
- Dielectric Mask
- Vortex Lens
- Deepcleave Optical Module for Glass Cutting

### Applications

- Laser Processing
- Medical Application
- 3D Sensing
- Spectroscopy

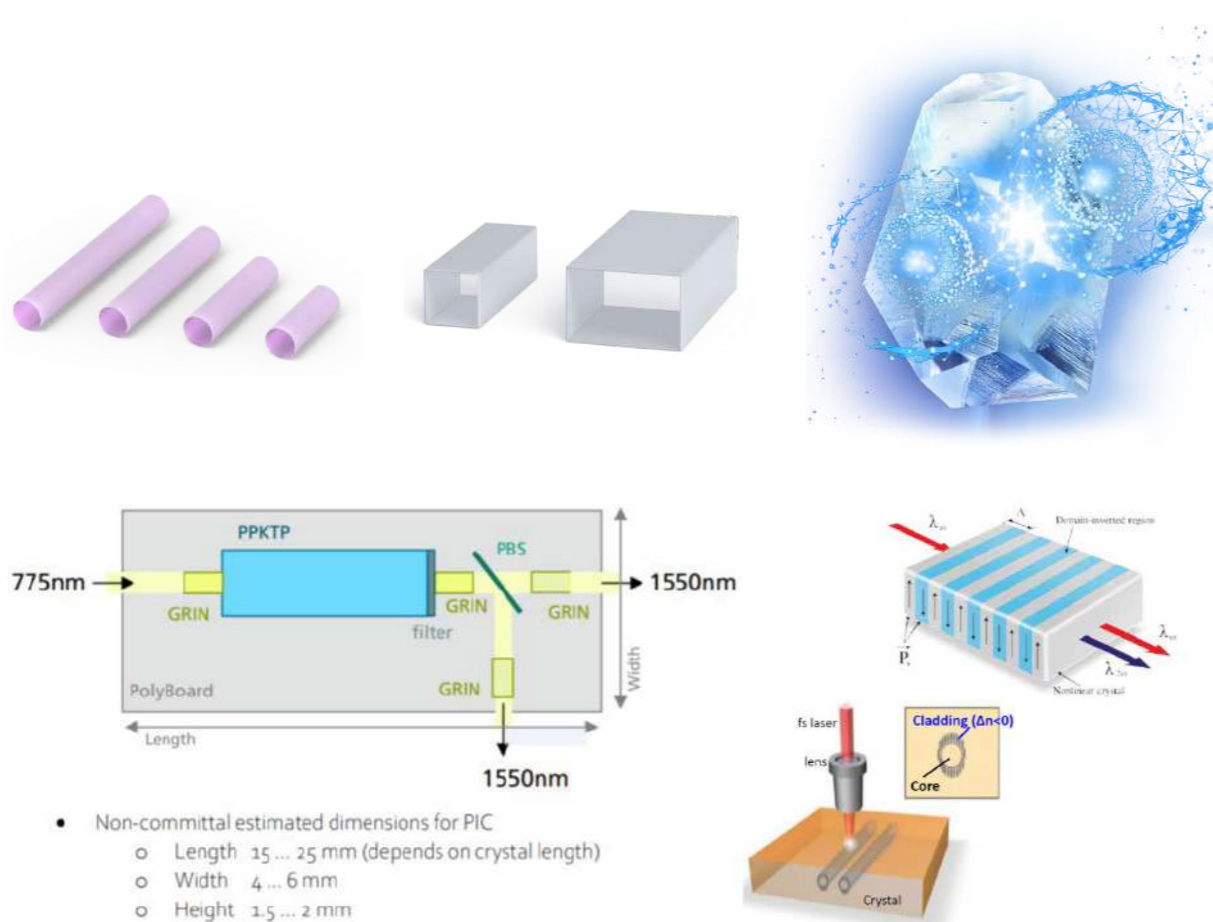
## 17 Optics



### Key Specifications & Features

- Lens, Mirror, Filter, IR Optics
- Aspherical Lens
- Aspherical Axicon Lens
- Aspherical Cylindrical Lens
- Customized Aspherical Lens
- Nd:YAG Laser, Pico/Femtosecond Laser Optics
- High Power CO2 Laser Optics

# 18 Crystal



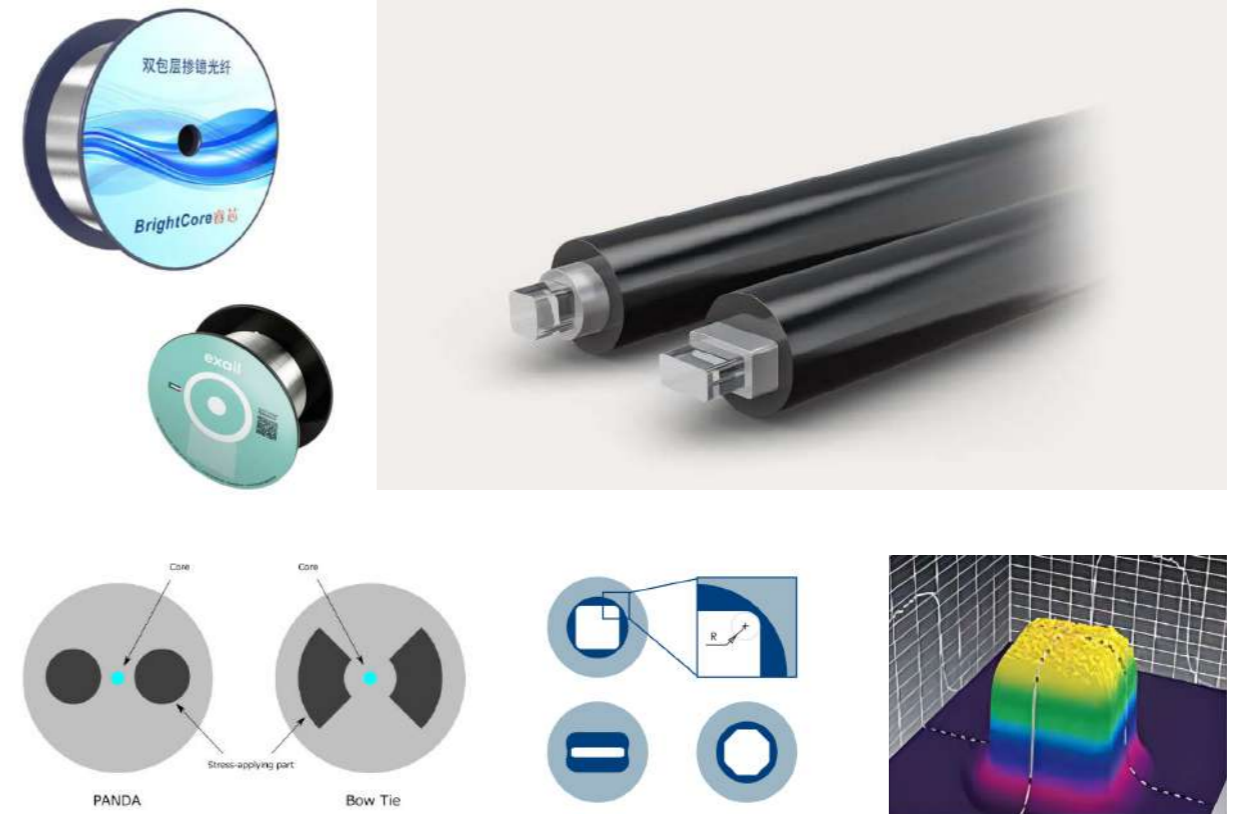
## Key Specifications & Features

- Laser Crystal
- Non Linear Crystal
- AO, EO Crystal
- Quantum Crystal (PPKTP, Wave-Guide)

## Applications

- DPSS, LPSS Laser
- Q-Switching
- Amplitude Modulator
- Quantum Sensing
- Quantum Communication
- Quantum Key Distribution

# 19 Fiber



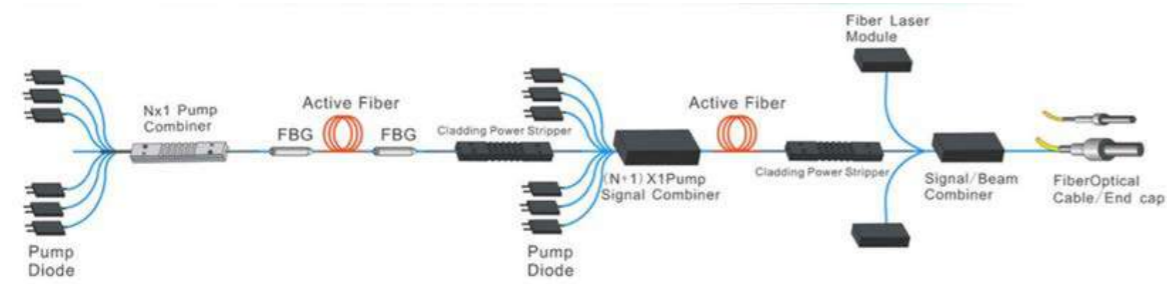
## Key Specifications & Features

- Single, Multi Mode Fiber/Large Mode Area
- Active (YDF, EYDF, Tm, Ho Etc.)/Passive
- PM/Non PM Fiber
- Grade Index/Step Index Fiber
- Special-Square Fiber / Gyro Fiber
- Bending Loss Insensitive

## Applications

- Fiber Laser Application
- High Power Beam Delivery
- Medical
- Gyroscope
- Fiber Sensing

## 20 Fiber Optics/Passive Components



### Key Specifications & Features

- High Power Delivery & QBH Cable
- Pump Combiner & FBG & CPS
- PM, SM Optical Circulator & WDM & Coupler
- Isolator & Bandpass Filter & Hybrid Components
- Phase & Intensity Modulator
- Quantum Key Distribution Module
- Fiber Connector, Stripper 및 Accessories

### Applications

- Fiber Laser Application (1um/1.5um/2um)
- Fiber Sensor
- Medical Application
- CATV
- Quantum Communication

## 21 Laser Processing System



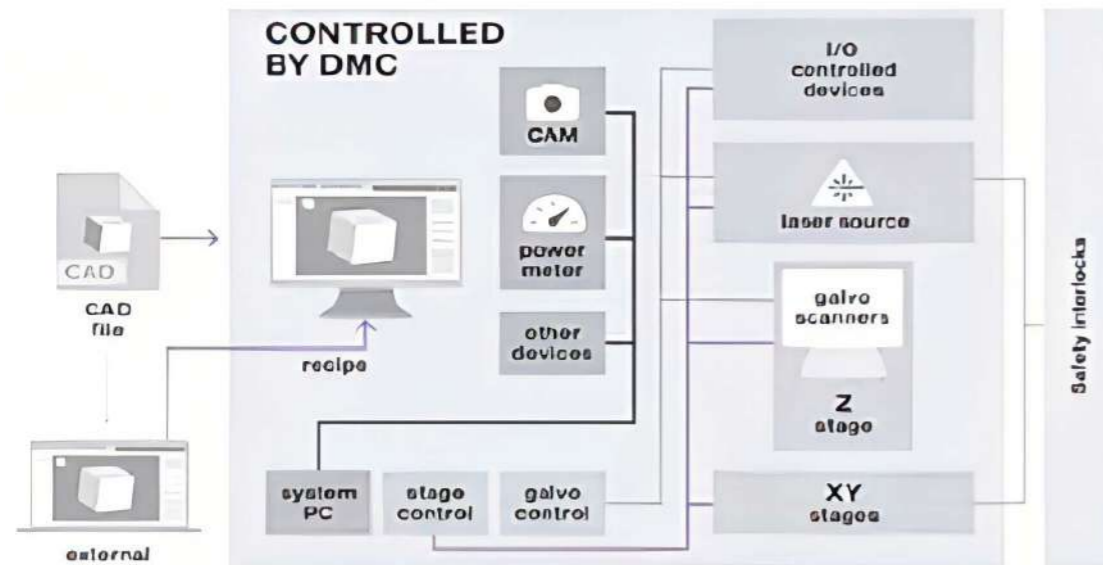
### Key Specifications & Features

- 1064,532, 355nm High Energy Marking System
- Low Cost 1064 & 532nm Marking System

### Applications

- Job-Shop Laser Marking
- Industrial High End Laser Marking
- Laser Processing with Optical Scanner

## 22 All-in-One Software for Laser Processing



### Stage controllers

- ACS
- Aerotech
- Polaris Motion Control
- Newport
- Delta TAU
- Physik Instrumente
- Zaber
- Galil
- Googol GTS
- HALaser
- Standa
- Sigmakoki
- Elmo Motion Control

### Galvo Scanner

- SCANLAB GmbH
- Raylase
- Aerotech
- Polaris Motion Control
- Cambridge

### Laser sources

- Light Conversion
- Iradion
- Trumpf
- Lumentum
- Amplitude
- Luxinar
- Coherent
- IPG
- Spectra-Physics

### power meters

- Gentec
- Coherent
- Analog Sensors
- Ophir

### Cameras

- Basler
- IDS
- Cognex
- Allied Vision
- PointGray and Flir

### Sensors

- Keyence
- Panasonic
- Precitec
- Analog Height Sensors
- Micro-Epsilon
- SCANLAB

### Other Hardware

- DLP/DMD Projection Generators
- Cognex
- Allied Vision
- Point Gray and Flir

## 23 Optical Accessory



### Key Specifications & Features

- Laser Safety Glasses (with Company Logo)
- Laser Safety Curtain
- IR Camera/IR Viewer/Burning Paper
- Laser Marking Label
- Protection Window, Film (With Static Dissipative Coating)

### Applications

- Laser Safety
- Alignment
- Laser Marking Label

# 24 Non-Destructive Testing System



## Key Specifications & Features

- Odinopti NDT Equipment
- Phsonic Optical Microphone

## Applications

- OCT
- Laser welding, Addictive Manufacturing
- 3D Contour Defect Inspection

# 25 Memo

Lined area for taking notes.

