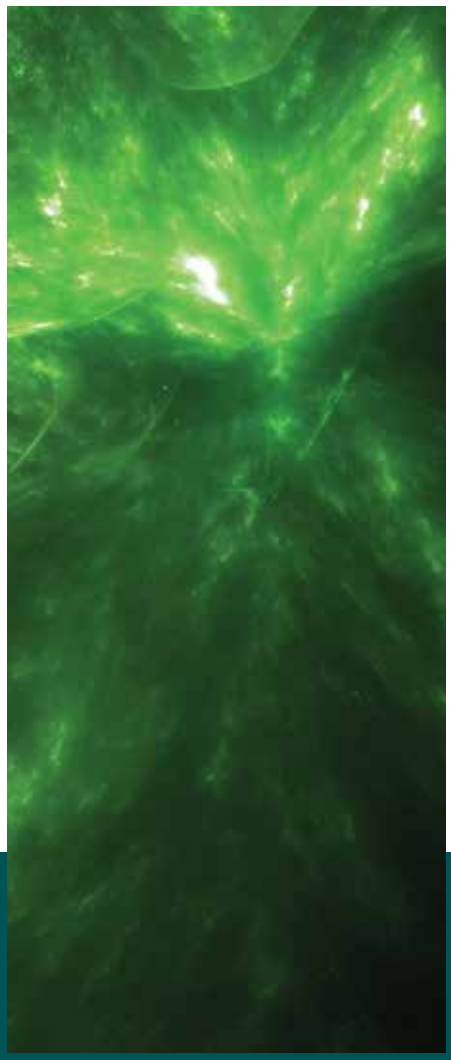
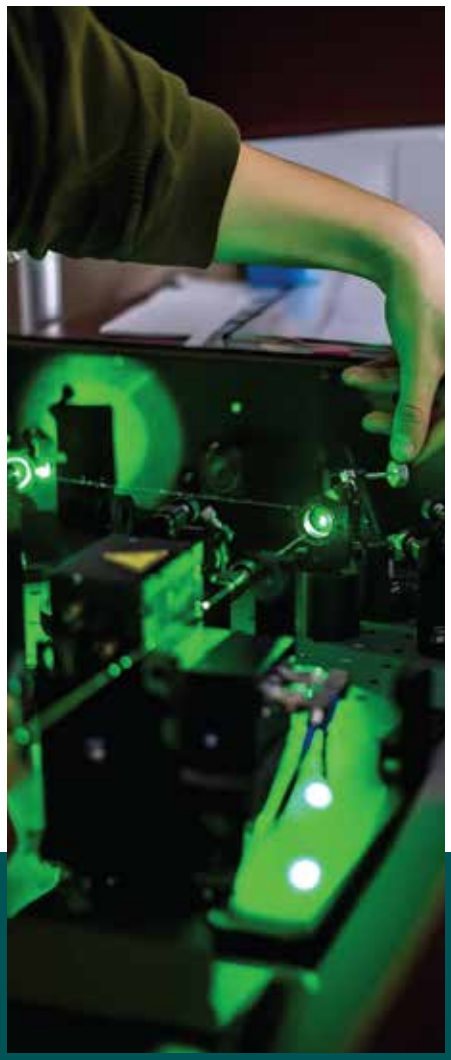




YOUR GATEWAY
RESEARCH SOLUTIONS
TO CUTTING-EDGE

Lasers & Optics | Imaging & Spetcrometers | Photovoltaic
Confocal Raman | AFM | Benchtop NMR | Additive Manufacturing

microgen-me.com

About Us

At Beam Optics, we are a leading distributor of high-end scientific and industrial equipment. We collaborate with world-class manufacturers from the USA, Europe, and Asia, each a specialist in advanced technologies for specific applications. This global network enables us to deliver tailored, high-performance solutions that meet your precise requirements.

Beam Optics is a team of dedicated engineers with over 15 years of experience in advanced scientific equipment, and their applications. More than just distributors, we are partners in progress—dedicated to:

- Supporting pioneering research across the Middle East
- Providing expert consulting to help design and equip cutting-edge research facilities
- Delivering tailored, precision-driven solutions for academia, industry, and defense sectors

We cater in the field of :

PHOTONICS | SPECTROSCOPY | MICROSCOPY | ADDITIVE MANUFACTURING
PHOTOVOLTAIC | THIN FILM TECHNOLOGY | LASER IMAGING | QUANTUM OPTICS
NANO TECHNOLOGY | ASTRONOMY | AEROSPACE & DEFENCE

Our Technical Excellence & Commitment:

- Factory-trained engineers with experience in installing hundreds of various systems.
- Unmatched local support—from product selection to installation and comprehensive after-sales service.
- Tailored solutions for unique research and industrial needs.

NANOSECOND SOLID STATE & DYE LASERS

LUMIBIRD is one of the world's leading specialists in lasers. With 50 years of experience in solid-state lasers, laser diodes and fiber lasers - the group designs, manufactures high performance lasers for the industrial (manufacturing and lidar sensors), scientific (laboratories and universities), medical (ophthalmology) and defense markets.

FPSS & DPSS lasers (Nd:YAG, Nd:YLF and Nd:Glass)

Tunable dye lasers and OPOs

Double pulse lasers

High power laser diodes.

Quantel laser BY LUMIBIRD

EverGreen ²
(70-200 mJ @ 532 nm)
A state of the art laser
for PIV

Qsmart -pumped
Peacock XT 355 OPO
(405 nm – 2.850 µm)

Q-scan
(200 nm - 4.5 µm)
Dye laser

Q-smart HE
(1200-2300 mJ)
High energy lamp
pumped Nd:YAG laser

HIGH REP. RATE SOLID-STATE LASERS

Photonics Industries International, Inc. is the pioneer of intracavity harmonic lasers, and manufactures a wide range of lasers in the nanosecond, sub-nanosecond, picosecond, and femtosecond regimes for industrial microprocessing systems and scientific research applications.

Photonics Industries International, Inc.

Ultrashort pulse femtosecond/picosecond lasers

Nanosecond nd:YAG , nd:YLF, nd:YVO4 lasers

with high rep. rates

High repetition rate double pulsed lasers

FS Ultra short pulse femtosecond lasers

400fs-5ps

DM nd: YLF series
single & duel head
high pulse energy lasers

FS ultra short pulse
femtosecond lasers
400fs-5ps

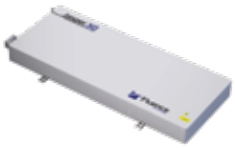
FIBER FEMTOSECOND LASERS

Fluence Technology is a manufacturer of femtosecond laser solutions with unique all-fiber technology. The company offers robust and stable industrial-grade femtosecond lasers that are immune to misalignment and feature a novel all-fiber oscillator for a robust, reliable package. Fluence is devoted to providing the highest quality standards and product reliability, offering a

- Max power upto 60W
- System rep rate: 2MHZ
- Pulse picker option: single shot to 2MHZ
- Pulse energy: upto 200 µJ
- Pulse duration: 250fs to 8ps tunable
- All fiber design
- Shock immunity

Jasper flex: high power femtosecond fiber laser

Jasper micro: compact femtosecond fiber laser



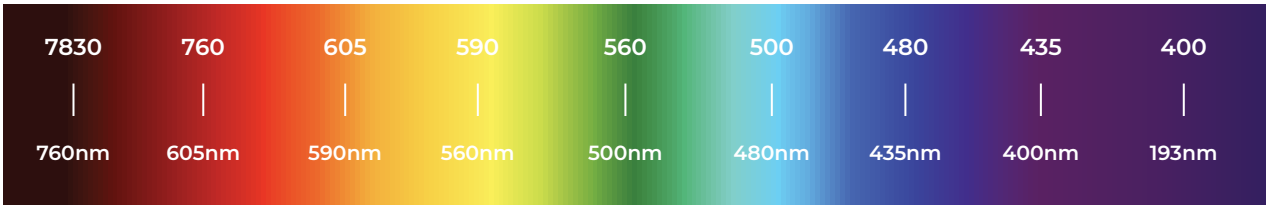
Jasper X0: high power femtosecond fiber laser

Oscillator yb: 1030 nm industry grade femtosecond

Jasper Micro: Compact Femtosecond Fiber Laser

CNI HIGH QUALITY LASERS AND LASER DIODES

CNI IS DEDICATED TO OFFER HIGH QUALITY LASERS AND LASER DIODES



Diode Laser: CNI offers high reliability diode lasers, which features with high stability,

HIGH PERFOMANCE IMAGING CAMERAS

As market leaders in high performance imaging solutions for OEM and industrial usage, Andor's extensive portfolio of scientific cameras offer a superb combination of sensitivity, speed, dynamic range, noise characteristics and linearity, ensuring optimal performance for high fidelity imaging and quantitative measurement.

sCMOS – Flexible, high speed, high resolution and sensitive imaging solutions for a wide variety of applications.

EMCCD - Single photon sensitivity, the platform of choice for an array of light-starved applications

CCD – Deep cooled CCD cameras are suited primarily to low-light imaging with long exposures from tens of seconds to minutes

Intensified and Gated - For high-speed applications requiring the best timing accuracy, ultra-fast time resolution and high sensitivity.

X-Ray and EUV – Includes CCD and sCMOS cameras for EUV/soft x-ray and hard x-ray applications.

SPECTROSCOPY DETECTION SOLUTIONS FROM UV TO SWIR

Andor's modular spectroscopy platforms are designed to tackle analytical challenges from macro to nano-scale, with fluxes down to single photon and time-resolution down to nanosecond.

- Kymera Spectrographs – Intelligent, modular, and compact spectrograph solutions.
- Shamrock Spectrographs - High resolution and versatile Czerny-Turner platforms.
- Echelle Spectrographs – Offering high bandpass and high resolution simultaneously.

Kymera 19
193 mm focal length
& F/3.6 aperture

Shamrock 750
750 mm focal length
Resolution down to 0.02 nm

Mechelle 5000
Large simultaneous
bandpass resolution
power up to 6,000

CONFOCAL MICROSCOPY IMAGING SYSTEMS

The most flexible confocal imaging systems available; from routine imaging to the most advanced techniques.

- Andor's game-changing **Dratgonfly** systems are rich in innovative technology to provide fast and high-resolution imaging in multiple imaging modalities.
- **BC43** is a push-button benchtop imaging microscope designed with cost, performance and accessibility in mind. Make stunning 2D and 3D images part of your routine benchtop workflow.

OPTICAL CRYOSTATS FOR SPECTROSCOPY

Andor's Optistat range of optical cryostats provide cryogenic sample environments with a variety of design and performance characteristics

- Available with liquid Nitrogen (LN2), liquid Helium and Cryofree™ technologies
- Sample in vacuum and sample in exchange gas systems
- Sample temperatures from <2.3K to 500K.

ATOMIC FORCE MICROSCOPY

OXFORD INSTRUMENTS | ASYLUM RESEARCH

Vero Family of AFMs

Vero AFMs are next-generation AFMs that precisely and accurately measures true tip displacement using Quadrature Phase Differential Interferometry (QPDI). This unique patented innovation enables Vero AFMs to provide results with higher accuracy, precision, and repeatability.

Cypher S: The Base Cypher AFM

- Ultra high resolution
- Unmatched speed
- Simple environment control
- Fast and easy to get great result

Jupiter XR Large- Sample AFM

- Highest resolution Large-Sample AFM
- 5-20 x faster imaging than most AFMs
- Simpler experience, from setup to results
- Ideal for both research and industrial R&D

MFP - D Origin

- High performance
- Widest range of modes and accessories
- Simple to use yet flexible
- Solutions for every budget

CONFOCAL RAMAN IMAGING MICROSCOPES

WITec confocal Raman imaging microscopes deliver advanced chemical characterization with industry-leading speed, sensitivity and resolution simultaneously. The alpha300 series includes variations for every budget environment and sample type. Through a modular hardware and software architecture, the systems can be configured for individual requirements and reconfigured as experiments evolve. Excitation wavelengths from the UV through VIS to the NIR are available and their fiber-based beam delivery provides a flexible laboratory footprint.

alpha300 R –
Raman Imaging Microscope

alpha300 apyron –Automated Raman Imaging Microscope

alpha300 access –
Entry-level Raman Microscope

alpha300 Ri – Inverted Raman Imaging Microscope

cryoRaman – Cryogenic Raman Imaging Microscope

alphaCART –
Mobile Raman System

Modular Design: Confocal WITec Raman microscopes can also be integrated with AFM, SEM, SNOM or Raman-based particle analysis as correlative systems for investigating chemical and structural sample properties.

BENCHTOP NMR

Oxford Instruments Magnetic Resonance benchtop NMR spectroscopy and time domain (TD-NMR) relaxometry solutions enable novel research and optimise quality control.

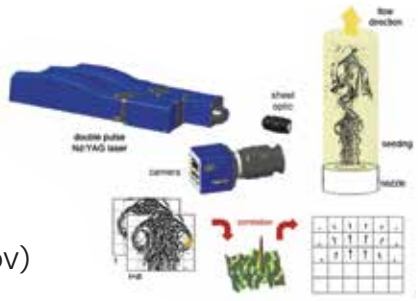
- **X-Pulse NMR Spectrometer**
  High resolution multi-nuclear NMR spectroscopy with flow and reaction monitoring.
- **MQC-R TD-NMR Research**
  Develop applications based on relaxation, diffusion and gradient measurements.
- **MQC+ QA/QC Analyser**
  Fast, accurate analysis for food, agriculture, textile, chemical, polymer and other industries.
- **GeoSpec Rock Core Analyser**
  Core sample analysis of porosity, permeability free and bound fluid and T2 cut-off.

LASER IMAGING SYSTEMS

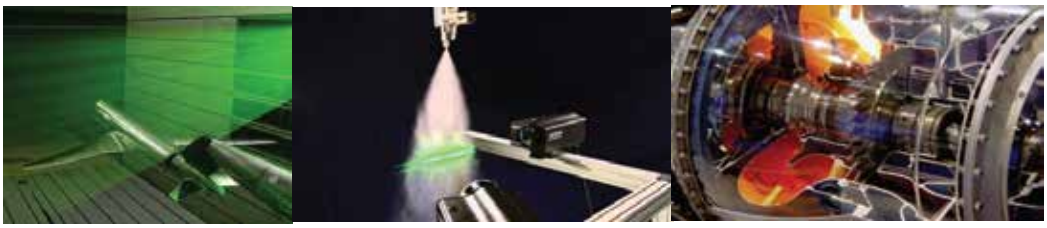
LaVision

FOCUS ON IMAGING

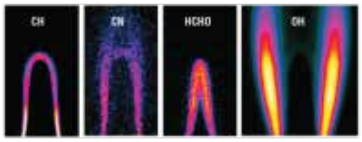
LaVision's imaging and sensor systems provide market-driven measurement solutions for flow field imaging, spray and combustion analysis, particle sizing and material inspection.



- **FlowMaster PIV :** Advanced flow field masurements in fluid mechanics
  - 2D/Sterio/Tomo/ Time-resolved PIV system
  - Micro/educational/thermographics/underwater PIV System
  - Phase dopplar interferometer (PDI) & laser doppler velocimeter(LDV)



- **FluidMaster :** Measure scalar flow properties such as concentration, mixture fraction, fluid composition and temperature in various fluid dynamical applications.



- **FlowBOS :** Visualize and monitor air and heat flows in industrial processes without the need for smoke or seeding particles meaning zero contamination.

- **FlameMaster :** Laser Imaging systems are designed for multi-parameter measurements in all kind of flames with high spatial and temporal resolution.
  - Laser Induced flouresence (LIF)
  - Laser Induced incandescence (LII)

OPTICAL MEASUREMENT TECHNOLOGY SOLUTIONS

Polytec

Polytec develop optical measurement technology solutions for research and industry

VibroScan QTec

The new standard for full-field vibration measurement With the new VibroScan QTec we push reliability, flexibility and speed to the next level. With IR or HeNe even the toughest measurement tasks can be mastered in your product development, quality assurance or research projects.

- Non-contact fast and reliable measurement
- Nanometer resolution
- Ability of areal measurement for large samples or multi-sample measurements in a single shot

OPTICS OPTO-MECHANICAL COMPONENTS & OPTICAL TABLES

standa THORLABS DAEIL SYSTEMS Solution for Vibration WAVELENGTH OPTO-ELECTRONIC

Optical systems, optical assemblies, optical coatings, opto-mechanics, manual and motion control stages, and a variety of complimentary photonics products.
We specialize in selecting the most suitable optical components, precisely tailored to your application requirements.

Laser Optics

Laser optics compromise of finest performing laser optical components and modules used for a wide range of laser applications from wavelength of UV, Visible and IR spectral region.

Imaging Optics

Imaging optics is the use of light to create images. It is used in various applications, including microscopy, security, telescopes, Cameras, medical imaging and industrial inspection.

Consumer Optics

Consumer optics are designed to improve the life of people. Wavelength opto-electronic offers optics for consumer electronics and other consumer applications.

PHOTONICS ENGINEERING AND MANUFACTURING SOLUTIONS

G&H A BETTER WORLD WITH PHOTONICS

G&H provides photonics engineering and manufacturing solutions for industry, telecoms, aerospace, defense, space and life sciences, enabling our customers to innovate and compete by leveraging our world-class expertise in photonics technology.

Acousto Optics

Unmatched optical power handling and optical performance. Delivered consistently over time and in volume.

Crystal Optics

High-Optical throughput and precise phase control. A wide selection of materials are available.

Electro-Optics

Minimized drive voltage and high pulse rate. A wide selection of materials are available.

Fiber Optics

Optimal performance and reliability. Qualified and deployed in many harsh environments.

Precision Systems

Precision optical components for applications that require high-quality custom optics.

Lens Systems

Unique cutting-edge optical solutions for a diverse customer base and a staggering range of applications.

Vision Systems

Incredibly durable and dependable. Trusted by vision system integrators and suppliers of major subsystems worldwide.

SOLAR SIMULATORS AND QUANTUM EFFICIENCY MEASUREMENT SYSTEM-IPCE

- **ENLITECH - SS -X** are A+AA+ class steady-state solar simulators with 50x50, 100x100, 180x180, 200x200, 220x220 mm^2 illumination area, suitable to characterize any kind of solar cell.

Specifications

- Spectral range: 350nm to 1200nm
- Intensity: upto 1.5 Sun (based on model)
- Spectral match: ± 12.5% * spatial non-uniformity: <2%

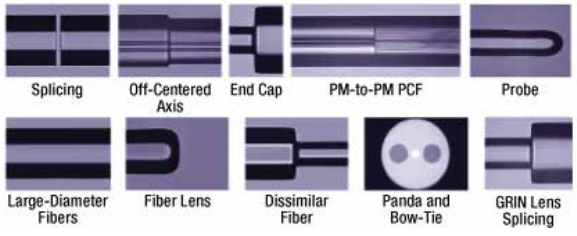
  Intensity instability: <1% (Class A+AA+)
- Irradiance area: 50x50, 100x100, 180x180, 200x200, 220x220 mm2
- Continuous irradiance control from 0% to 100%

- **ENLITECH- QE-R** quantum efficiency system is a PV cell tester which provides cell's EQE, IPCE, IQE and spectral response data accurately and rapidly.

  - Spectral Range 300nm – 1100nm standard (extendable upto 2500nm) with AC & DC mode
  - Repeatability > 99.5%
  - Light Bias for multijunction Cell measurement
  - Measures all kind of cell such as Si, OPV, DSSC, perovskite, and multi-jun solar cell etc

VYTRAN® FILAMENT FUSION SPLICER

- Splice standard and specialty optical fibers with cladding diameters up to 1.25 mm
- Filament fusion for Precise and consistent splicing
- Wide thermal dynamic range for various fiber sizes and fusion processes
- Fire polishing for enhanced splice strength
- True core imaging™ for high resolution fiber alignment
- Thermally diffuse fiber cores to produce mode field adapters
- Real-time control system and machine-level programming



METAL 3D PRINTERS

AmPro Innovations leads in global metal SLM 3D printers with diverse build sizes and lasers. Their powder handling system ensures a fully inert environment, prevents contamination, enables bulk powder extraction and residual recovery from complex parts.

- Build parts up to 1200 x 600 x 1500mm
- Can integrate up to 12 lasers
- Self-cleaning filtering system
- Adjustable powder removing chamber
- Dual build chambers
- Powder bed fusion

DIRECT ENERGY DEPOSITION (DED)

FormAlloy's Directed Energy Deposition (DED) systems provides high-quality and precise metal powder and wire deposition capabilities for 3D metal part production, repair, enhancement and cladding to a diverse set of industries.

Multi Material printing with 16 alloy development feeder

- FormAlloy's X & L-series DED systems features closed-loop control, variable-wavelength lasers, and formAlloy PF and ADF powder feeders for gradient or bi-metallic structure.
- Build volume:250x250x300mm, 1000x1000x650mm, and custom Sizes.
- Laser type: IR (970-1070nm) | blue (450nm).
- Laser power: Up to 8 KW in IR
- Alloy development feeder closed loop melpool temperature, size & thickness monitoring

LASER WIRE DIRECTED ENERGY DEPOSITION (LW-DED) Laser Wire additive manufacturing (AM) technology as a large-scale additive manufacturing method is highly promising and employs metallic wire as the feed stock, and laser as the energy source. We can offer various system according to customer requirement.

3D BIOPRINTERS 3D bioprinting is a technology where bioinks, mixed with living cells, are printed in 3D to construct natural tissue-like three-dimensional structures

OUR PRINCIPALS

Quantel laser BY LUMIBIRD

Photonics Industries International, Inc.

Fluence Technology

CNI Laser

OXFORD INSTRUMENTS ANDOR

LAVISION FOCUS ON IMAGING

Polytec

Standa

THORLABS

DAEIL SYSTEMS Solution for Vibration

WAVELENGTH OPTO-ELECTRONIC

ENLITECH

vytran a division of THORLABS

AmPro Innovations

FORMALLOY

microgen

Get in Touch

+966 542228080

+966 539880550

sales@beam-optics.com

www.beam-optics.com

No:4325, Muhammad Hassan Awad Street,
Secondary No: 9121, JEDDAH -23434,
Kingdom of Saudi Arabia.