Welcome to the optics.org Product Focus which we have published specifically for Photonics West 2017 in partnership with SPIE and the Photonics West Show Daily. Here you will find an effective at-a-glance guide to some of the latest products available on the market with booth numbers if available making it easy for you to check out the products for yourself.

Navitar’s 10X High Resolution Microscope Objective for Industrial Applications
The Navitar 10X 0.4 NA HR lens is apochromatic over 436-656 nm, providing excellent correction of spherical and chromatic aberrations. A working distance of 10 mm allows for room to manipulate specimens. This objective was designed to cover a 4:3 sensor and has a field number of 22. The 10X HR is the next lens in a new high resolution objective series being rolled out by Navitar in 2017. The high NA, large field of view line will include 4X, 6X, 10X, and 20X hi-res lenses.

ALPhANOV
High-power and high precision connector for hollow-core fibers
Since 2007, ALPhANOV has built a solid expertise in modelling, designing and prototyping of innovative fiber laser sources and components. The ALPhANOV’s PowerPAC connector offers a highly precise connector for single-mode hollow-core fibers. It includes a collimator, which can withstand more than 100 Watts of injected power. It is particularly suitable for beam delivery based on hollow-core fibers, for instance in the femtosecond core fibers.

ID Quantique SA
NEW - OPTICAL FIBER GEOMETRY MEASUREMENT SYSTEM
ID Quantique complete SNSDP system: IDQ’s ID280 series detection system consists of a superconducting nanowire detector combined with high performance electronics and reliable cryogenic system. The system operates at 2.3K and offers impressive performances like quantum efficiencies higher than 70%, count rate up to 15 MHz, dark counts <100Hz (at 2.3K), jitter below 70ps and no afterpulsing. The complete system is plug and play and includes cryocooler, stable adjustable bias current source, amplification stage, discriminator and counter.

Nanoscribe GmbH
Photonic Professional GT
The New Standard for Microfabrication
Nanoscribe’s Photonic Professional GT is the world’s highest resolution 3D printer. Based on two-photon polymerization, it allows for additive manufacturing and massless lithography with the same device. Submicrometer resolution printing with feature sizes down to 200 nm and optical quality surface finishes are characteristic key features. This award-winning system sets new standards in a multitude of applications like photonics, micro-optics, micro-fluidics, MEMS, and life sciences.

Diamond USA
Diamond F-3000™ Connector…performance, versatility, reliability
Diamond F-3000™ connector utilizes proprietary technologies, along with mechanical and optical interfaces, that can cover the most standard and custom requirements in response to increasing customer demands. The family includes: simplex, duplex and backplane connectors and adapters, as well as a series of network accessories, such as attenuators, hybrid adapters, transition adapters, terminations, reflectors and receptacles.

Arden Photonics Ltd
ID280 series detection system
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All this information and more can be found on the optics.org website. Simply go to www.optics.org for all the latest product and application news. Alternatively, why not sign up to our free weekly newsletter (www.optics.org/newsletter) and get the information delivered direct.
**Voltage Multipliers Inc.**

**Visit us at Booth #4608**

**10kV and 15kV High Voltage Opto-Diodes**

OZ 100 and OZ 150 families feature high voltage isolation in a small package. Reverse current, in µA, is generated when the diode junctions are exposed to light. The response is linear, meaning the current level can be used to control and monitor isolated systems. The optically clear over-encapsulation preserves light sensitivity, protects the device, and provides mechanical stability. Applications include noisy industrial environments and sensitive instrumentation where high isolation is needed, or in controlled feedback systems like high voltage opto-couplers or voltage regulators.

**Contact Details**

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Viola, CA, USA 93291
www.voltagemultipliers.com/LP/OZ150_and_OZ100.html
kspano@voltagemultipliers.com

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**Navitar**

**Visit us at Booth #638**

**New Resolv4K Zoom lens system**

Navitar's new Resolv4K Zoom lens system is designed to maximize the usage of modern sensors with higher pixel densities. The Resolv4K offers tremendously more resolving power over a traditional zoom imaging system – achieving a 400×600× larger field of view without any loss of detail. The cohesive design delivers superior visible wavelength axial color correction for all configurations and dramatically increased wavelength focusing ability with Visible, NIR and SWIR options. Resolv4K's higher NA, along with superior aberration correction, gives more precise measurement capabilities than ever.

**Contact Details**

Navitar, Inc.
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Tel: +1 585 359 4000

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**CILAS**

**Visit us at Booth #1723**

**Active and passive optical components for Space, Astronomy and Industry**

For each application, CILAS will provide you with the most efficient and reliable adaptive optics system thanks to a deformable mirror, SAM or MONO, based on piezo electric technology, standing out from competition thanks to both correction frequency and performances.

Besides, CILAS offers you the hardest coatings available on the market: metallic mirrors for standard sizes and up to 2meters dimensions, as well as complex coatings such as dichroics and band pass filters for your observation needs.

**Contact Details**

CILAS
8 Avenue Buffon, BP6319
45063 Orléans Cedex 2 - France
www.cilas.com
optics@cilas.com
Tel: +33 (0)2 38 64 15 55

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**Spectrum Scientific Inc.**

**Visit us at Booth #2739**

**Hollow Cube Retroreflector**

 Spectrum Scientific’s Hollow Cube Retroreflectors (HCRs) are stable monolithic construction from a wide range of materials. HCR’s corner reflecting properties provide insensitivity to vibration, position, and rotation in all degrees of freedom, except axial separation. With only axial separation sensitivity, HCRs are ideally suited for Michelson type interferometers, FTR spectrometers, positioning systems, and laser-tracking systems. HCRs are available with return beam accuracy as low as 2 arcseconds.

Spectrum Scientific offers both gold and aluminum coatings to suit your spectral needs.

**Contact Details**

Spectrum Scientific Inc.
16692 Hall Ave. Irvine, CA 92606
www.spectrumoptics.com
Tel: +1 949 260 9900

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**Ibsen Spectral Technologies**

**Visit us at Booth #507**

**Global leader in optical filter design and manufacturing**

Iridian is a global leader in optical filter design and manufacturing for applications such as: tele/datacom, spectroscopy, 3D entertainment, and detection/sensing/imaging (for example industrial, earth-observation, process control). Current capabilities extend from ~300 nm to 10 µm (UV-LWIR) with filter sizes from < 1mm to >300mm.

Iridian supports all customer needs from prototype to high volume production and focuses on tailoring solutions for specific OEM applications. Areas of specialization include both multi-band filters (multiple notch/bandpass filters) and multi-spectral filter arrays (assemblies or photo-lithographically patterned filters).

**Contact Details**

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info@iridian.ca
Tel: +1 (613) 741 4513
Twitter: @IridianSpectral

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**CMOSIS**

**Visit us at Booth #6570**

**48Mpixel global shutter sensor from CMOSIS supports 8k image resolution**

The CMV50000 medium format 48Mpixel sensor with 7920 x 6022 pixels offers low noise and excellent electronic shutter efficiency. It provides 6448 optical dynamic range at full resolution and up to 61dB in subsampled 4k mode. Operating at 30 frames/s with 12 bit pixel depth at full 8k resolution or a binned 4k mode, and at up to 60 frames/s with pixel subsampling to 4k resolution, the sensor is suitable for use in high-speed machine-vision systems, as well as in TV broadcasting and video cameras.

**Contact Details**

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info@cmosis.com
Tel: +32 3 260 17 30

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**JENOPTIK Optical Systems GmbH**

**Visit us at Booth #1323**

**Next generation of F-Theta lenses and Beam Expanders for powerful laser systems**

Jenoptik extends its F-Theta and Beam Expander portfolio by introducing new versions of the successful and industry-proven standard products.

The new full quartz crystal lens, the F-Theta JENA Silverline™ TM 355-140 has a maximum telecentric angle of just 4.9 degrees and a highly homogeneous spot size distribution across the whole of the 100 x 100 mm work area.

A novel patented mounting technology ensures highest optical performance for this demanding system.

Discover our final product catalog under www.jenoptik.com/optics or visit our experts at booth #1323.

**Contact Details**

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optics@jenoptik.com
Tel: +49 3641 65 3327

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**Ibsen Photonics**

**Visit us at Booth #8217**

**Digital Image Sensor Board (DISB)**

With our DISB spectrometer electronics, we enable you to build analytical instruments with accurate control of exposure timing.

Trigger delay can be programmed in steps of 200 ns with very low jitter of only ± 10 ns, and exposure time can be as short as 2.2 µs.

When combined with our spectrometers, the DISB electronics provides a compact solution for applications which require accurate synchronization with a pulsed light source. The DISB electronics supports both a low cost CMOS detector and a low noise Back-Thinned CCD.

**Contact Details**

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**Contact Details**

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Automated assembly and testing of photonics devices: preparing for an increase in volume manufacturing

Packaging of PICs and that of optoelectronics micro-assembly has been discussed many times and advanced automation is the key to keep costs at bay. Also testing becomes more and more important in Photonics. The solution to this task is ficonTEC’s TL product line. ficonTEC has addressed the complex issues of automated testing, differentiating among fully packaged/integrated complex devices.

First turn-key dual-comb spectrometer in the mid IR

The IRspectrometer is the first commercial table-top frequency comb spectrometer offering micrometer time resolution combined with a spectral bandwidth up to 150 cm⁻¹ and high spectral resolution. It opens new possibilities in various applications such as spectroscopy of biological samples and monitoring of fast reactions. Especially applications demanding high time resolution or high throughput and where high brightness is required, the IRspectrometer’s quantum cascade laser frequency comb spectrometer is the perfect solution.

Center wavelengths between 5 µm and 10 µm are available.

NeoSpectra™ sensors

NeoSpectra™ sensors, are compact and low cost Fourier Transform InfraRed (FT-IR) spectral sensors. They deliver the spectral response of the light absorbed by materials for quantification, qualification or identification. NeoSpectra™ sensors bring new perspective to optical spectroscopy. The sensors are constructed from low cost, robust, permanently aligned, and highly reproducible components. The core technology is based on Micro Electro Mechanical Systems (MEMS) technology involving semiconductor fabrication techniques promising unprecedented economies of scale.

For more information, please visit www.si-ware.com or www.neospectra.com.

Freeform Optics

Spectrum Scientific has expanded its optical engineering, manufacturing, and metrology infrastructure for low cost mass production of reflective freeform optical elements.

Spectrum Scientific’s manufacturing allows mass production of component geometries and mounting designs available only using our process.

Your freeform design can be manufactured on the glass or metal of your choice to surface roughness as low as 5 Å and surface figure error as small as 3/10.

High Performance InGaAs camera

Designed for industrial or Bio-Imagery applications, the latest compact high performance InGaAs camera from First Light Imaging is revolutionizing SWIR imaging.

- Up to 400 images per second full frame
- Under 10 electron read out noise
- 15 µm pixels detector for high resolution
- Electronic shutter <1 µs
- From 0.8 to 1.7 µm wavelength
- 14 bits for an extreme precision

Air or liquid cooled (no LN2), C-RED 2 can operate in any environment, offering at the same time the fastest acquisition rate and the lowest read out noise of all InGaAs SWIR cameras.

Cobalt

Cobalt SkyRaT: The new multi-line laser

Cobalt AB, Swedish manufacturer of high performance lasers, proudly introduces the Cobalt SkyRaT, a revolutionary multi-line laser platform. Offering up to 4 laser lines in a box that can fit into the palm of your hand (70 x 134 x 38 mm) and requiring no external electronics, the Cobalt SkyRaT will enable the next generation of compact and easy-to-use analytical instrumentation for the life science market.

MicroCircuit Laboratories, LLC

Visit us at Booth #5664

Hermetic package sealing with leak rates tighter than MIL-STD 883 Method 1014 for Class K devices

MCL provides hermetic package sealing with leak rates tighter than MIL-STD 883 Method 1014 for Class K devices.

Class 1 Cleanroom processing, with an incoming non-contact clean, insures your hermetically sealed devices will be cleaner after sealing.

Packages are never touched by human hands with MCL Carriers (Patent Pending). Design, Develop, Pilot and HVM – with a proven manufacturing cell - MCL provides this with no risk to your process and a second source by design.

Meadowlark Optics

Visit us at Booth #2300

NEW SLM High Power Capabilities

Meadowlark Optics now offers High Power Handling options for our high speed (up to 500 Hz), high resolution (1920 x 1152) Spatial Light Modulators (SLMs).

All of Meadowlark’s reflective backplanes incorporate analog addressing with high refresh rates to provide the lowest phase ripple SLMs available.

Users can select standard or high speed liquid crystal for optimal performance for wavelengths from 405 – 1550 nm.

Spectrum Scientific Inc.

Visit us at Booth #2739

UV-470

Spectrum Scientific’s UV-470 spectrometer incorporates a single element concave holographic grating.

The blazed grating attains peak performance in the UV region and operates in a spectral region from 190-850 nm.

The single element design and holographic mastering provides low stray light of 0.07% @ 340 nm, enhanced signal-to-noise ratio, and improved throughput for photon sensitive applications.

The UV-470 boasts a variety of interchangeable slits that cater to your application.

The UV-470 is available with or without a driver board to match your custom OEM application.

TOPTICA Photonics AG

Visit us at Booth #923

TOPTICA’s new TopWave delivers 150 mW at 266 nm

The TopWave laser series is the latest addition to TOPTICA’s portfolio of deep UV cw lasers. Its first model, the TopWave 266 delivers 150 mW output power at a wavelength of 266 nm.

It has an excellent power stability, ultra-low noise operation and a premium beam quality.

The TopWave laser series incorporates successful building blocks from TOPTICA’s scientific lasers and takes the performance of industrial-grade UV lasers to another level.

ALPHA-RLH showcases innovations from nine cluster members at Photonics West

ALPHA-RLH (Route des Lasers & des Hyperfréquences®), a newly merged technology cluster specializing in photonics, lasers, microwave and digital technologies, will host the innovations of its cluster members Neta, Irisome, ALPhANOV, Spark Lasers, ISP System, First Photonics, Kylia, Femto Easy, Azur Light Systems, as well as unveil new products, at Photonics West.

Novel devices improving imagery, laser accuracy and speed will also be unveiled at ALPHA-RLH stand #1823 during the event.

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GoSpectro puts the power of spectroscopy in the hands of everyone, offering the world’s most compact and most simple light spectrometers. Indeed, GoSpectro is a simple device that turns any smartphone into a light spectrometer in order to measure, record, analyze and export spectral data. This enables to perform material characterization and analysis with an ultra-compact device natively connected to the internet, with applications in gemology (gem identification), food industry (color measurement, allergen detection), water quality (pollution detection), academia/teaching, anti-counterfeiting (fluorescent inks), art, etc.

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Visit the optics.org team at booth #944 and get your badge scanned for a chance to win an amazing GoPro HERO3 White edition. The draw will be made at 12pm Thursday 21st April. If you’re not here to collect it we’ll post it to you!