2012 Defense Security + Sensing
Exhibition Guide
Moving Technology to Market™

Exhibition
24–26 April 2012

Conferences + Courses
23–27 April 2012

Location
Baltimore Convention Center
Baltimore, Maryland, USA

spie.org/mobileapps
THE MICRO THERMAL CAMERA ROYALE

Starring FLIR QUARK

“The world’s smallest thermal camera.”
“17-micron action-packed pixels!”
“30/60 Hz switchable...This core is ready for applications not yet dreamed; it’s the future of thermal imaging!”

INDUSTRY-LEADING VOx SENSITIVITY | SOLAR IMMUNITY | SMALL UAVs | HELMETS | WEAPON SIGHTS | SECURITY CAMERAS | HANDHELD DEVICES

RATED 336/640:
LWIR RESOLUTION APPROVED FOR ALL APPLICATIONS.

Meet FLIR Quark in person in booth 2010, and check out a customized snowmobile loaded with lasers, thermal cameras and other state-of-the-art technology.

FLIR®
Quality – Innovation – Trust

FLIR.COM/SPIE
**Contents**

General Information .......................... 2–8  
Technology Demos and Displays .......... 10  
Sponsors ........................................ 12–14  
Special Events ................................. 18–21  
Product Demonstrations ..................... 28–29  
Floor Plan/Booth Map ......................... 32–33  
Exhibitor Index ............................... 32–35  
Company List/Descriptions .................. 36–106  
Companies by Product Category .......... 108–121

**Special Events**

Imaging Gallery ............................... 10  
SPIE Job Fair .................................. 16  
Professional Development Courses ....... 22–23  
SPIE Courses .................................. 24–27  
Advertisers ..................................... 35

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SPIE is the international society for optics and photonics, a not-for-profit organization founded in 1955 to advance light-based technologies. The Society serves nearly 225,000 constituents from approximately 150 countries, offering conferences, continuing education, books, journals, and a digital library in support of interdisciplinary information exchange, professional growth, and patent precedent. SPIE provided over $2.5 million in support of education and outreach programs in 2011.
Baltimore Convention Center

Level 400 - Ballroom Level

Level 300 - Meeting Rooms and Registration

Level 200 - Mezzanine

Level 100 - Exhibition Level

Coffee breaks: Monday, Thursday pm & Friday

Access to Skywalk, Inner Harbor and hotels

WiFi Area
Posters
Food Outlet
Exhibition Entrance
Coffee Break
Defense, Security, and Sensing Exhibition

Charles Street Lobby

Monter Plenary

Pratt Street Lobby

Access to Hilton Hotel
Skybridge

Demo Area
Job Fair

Food Outlet
Exhibition Entrance (Lower Pratt Lobby)
For more than 30 years, Dow Electronic Materials has been The Clear Choice for high-performance infrared optical materials. From our large-scale CVD furnaces we produce best-in-class, high-purity, high-density zinc materials that we precisely fabricate into a wide range of format options to your specifications.

We take pride in our ability to manufacture the largest format CVD substrates in the infrared market and to deliver high-quality materials for the most challenging IR applications.

We are the Clear Choice

Electronic Materials

www.dow.com  Visit us at booth #2326
General Information

Headquarters Hotel
Hilton Baltimore
401 West Pratt Street
Phone: +1 443 573 8700 · www.hilton.com

Exhibition Hours
(Level 100)
Tuesday 24 April .......................... 10:00 am to 5:00 pm
Wednesday 25 April ........................ 10:00 am to 5:00 pm
Thursday 26 April .......................... 10:00 am to 2:00 pm

Onsite Registration and Information Hours
Pratt St. Lobby (Level 300)
Sunday 22 April ............................ 4:00 pm to 7:00 pm
Monday 23 April ............................ 7:00 am to 5:00 pm
Tuesday 24 April ............................ 7:30 am to 5:00 pm
Wednesday 25 April ........................ 7:30 am to 5:00 pm
Thursday 26 April .......................... 7:30 am to 5:00 pm
Friday 27 April .............................. 7:30 am to Noon

Course Materials Desk
Located near the SPIE Registration Area, Pratt St. Lobby
Open during Registration Hours
• If you have registered to attend a course, please stop by the Course Materials Desk AFTER you pick up your badge.
• You must obtain your course notes to find out class location.
• Ask at the Course Materials Desk about the latest Education Services catalog (includes all SPIE courses, videos, and CD-ROM's) as well as customized in-company courses.

SPIE Receipts, Badge Corrections, Cashier
Pratt St. Lobby (Level 300)
SPIE cashier can assist with registration payments, receipts and badge corrections.
• Registration Payments—if you are paying by cash or check as part of your onsite registration, wish to add a short course, workshop, or special event requiring payment, or have questions regarding your registration please go to the Cashier station in the registration area.
• Receipts—Preregistered attendees who did not receive a receipt prior to the meeting may obtain a new copy of their registration receipt onsite at the Badge Corrections and Receipts counter in the registration area.
• Badge Correction—Attendees who need a correction to their badge information onsite may do so at the Badge Corrections and Receipts counter in the registration area. Please have your badge removed from the badge holder, marked with your changes, and ready to hand to the attendant upon approaching the counter.

Food and Beverage Services

Coffee Breaks
Complimentary coffee will be served at approximately 10:00 am and 3:00 pm in the following locations:
Monday ................................. Mezzanine Level 200
Tuesday through Thursday am ...... All Exhibition Halls
Thursday pm and Friday ............... Mezzanine Level 200

Desserts
Tuesday and Wednesday
Served in the Exhibition Halls
Dessert snacks will be served from 3:00 to 3:30 pm. Complimentary tickets for the dessert will be included in course and conference attendee registration packets.

Meals and Refreshments for Purchase
Main Terrace (Level 300)
Monday through Friday
Food outlets will serve hot and cold snacks, espresso, beverages, sandwiches, salads, hot entrees, and pastries.

Food Outlets Open in the Exhibition Halls
Tuesday through Thursday .................. 10:00 am to 2:00 pm

Free Popcorn
Exhibition Hall / 2 Locations
Sponsored by
GENERAL DYNAMICS
Global Imaging Technologies

Popcorn carts will be open Tuesday and Wednesday from 11:00 am to 3:00 pm; Thursday from 11:00 am to 2:00 pm.
Send **Video** 100+ kilometers.

Visit Booth 904 to see how we blast through the 10-meter barrier of standard Camera Link cables. Our fiber and coax extenders were the first solution on the market to be both fast and reliable, and they’re still the best.

Use **ONE** extender with an EDT fiber optic framegrabber (large image below) to bring fiber directly into your system, or use **TWO** as a “plug-and-play” extension cord with an EDT or third-party standard Camera Link framegrabber.

Use our Camera Link simulators to output recorded data or generated test patterns.

We support multiple platforms (PCIe, PCI, PMC, cPCI), modes (base through extended full), and operating systems (Windows, Linux, Mac OS).

We include, at no extra charge, all OS drivers, common API, full SDK, and generous engineer-to-engineer support. Contracts for consulting, support, and other services may be purchased.

Come see why our customers trust EDT to handle their valuable Camera Link data. We’ll exceed your expectations.

Cliff Hayes
Field Application Engineer
503-690-1234 | 800-435-4320
info@edt.com
www.edt.com/vision
General Information

SPIE Onsite Services

SPIE Bookstore
Pratt St. Lobby (Level 300)
Open during Registration hours

Visit the Bookstore for:
- SPIE Press books and proceedings
- Educational and professional development CDs and DVDs
- T-shirts and gifts for kids
- SPIE Membership and Digital Library subscriptions
- Free posters and information

SPIE Job Fair – Special 2-Day Event!
Exhibition Hall
Tuesday 24 April .............................. 10:00 am to 5:00 pm
Wednesday 25 April ........................ 10:00 am to 5:00 pm

Top employers are coming together to interview and hire. Whether you’re looking for a better job, re-entering the workforce or just starting your career, plan to visit the Job Fair at SPIE Defense, Security, and Sensing – come prepared to discuss your skills and talents with 15 companies on site.
- Discuss career options with employers
- Build your network
- Gain visibility with hiring companies
- Post your resume today! Visit the Career Center on spie.org/careercenter

NOTE: Many of the positions posted to this career event require an active security clearance or the ability to acquire one.
For more information see p. 13.

Press Room
The on-site Press Room provides meeting space, refreshments, access to exhibitor press releases, and high-speed internet connections for the use of registered press covering the event. For more information about SPIE resources for the media, see http://spie.org/pr.

Internet Pavilion
Pratt St. Lobby – near SPIE Bookstore
Monday – Thursday .......................... 7:30 am to 6:00 pm
Friday ............................................. 7:30 am to 4:00 pm

Sponsored by

There will be multiple workstations allowing access to web or e-mail during the conference, and several Ethernet connections to use with your personal laptop. Please limit your session to 10 minutes.

Schedule Your Week with the SPIE Conference App
Kiosk Near Registration or via mobile apps at spie.org/mobileapps
Find your way around the conference...find people, topics, papers, courses, and locations. Build your own custom schedule, print and go.

WiFi
Complimentary WiFi access for attendees with 802.11b wireless enabled laptops and PDAs will be available Monday through Friday in Pratt St. Lobby and Main Terrace on Level 300. The back of Hall A will also have WiFi access during exhibition hours.

Business Services

SPIE Copy Center
Pratt St. Lobby (Level 300)
Monday through Friday during registration hours San Diego Copy will provide a copy service during the week for conference attendees and exhibitors. The rates are 5 cents per copy.

Baltimore Convention Center Business Center
Pratt St. Lobby (Level 300)
The Business Center provides full service business needs for your convenience. They provide photocopying, faxing, computer workstations and printing services. Shipping is provided through FedEx. Office supplies are also available. Phone 410-649-7194. Monday through Friday.

Messages
SPIE has an urgent message line available during registration hours Sunday through Friday by calling: 410-649-6102.

Child Care Services
Elizabeth Cooney Agency Inc.
Toll Free: 888-353-1700, Phone: 410-323-1700,
Website: www.ElizabethCooneyAgency.com

NOTE: SPIE does not imply an endorsement or recommendation of these services. They are provided on an “information-only” basis for your further analysis and decision.

Information Desk
Pratt St. Lobby  (Level 300)
The Information Desk will be open 10:00 am to 4:00 pm Monday through Thursday for sightseeing, shopping, and restaurant information.

Luggage/Package Storage and Coat Check
Room 336 (Level 300)
Monday through Friday
Complimentary luggage/package and coat storage will be available to attendees.
Please note hours of operation posted onsite. If you intend to stay later than closing time, you will need to claim your checked items before this station closes.
Mission-critical projects demand mission-specific solutions.

When it comes to mission-critical defense projects, failure is not an option. That's why the world's most demanding defense contractors look to LightWorks Optics for complex optical assemblies that require precision and fully producible solutions. This includes systems for infrared search and track, missile launch detection, space-based laser communications, missile guidance, and RISTA missions. All developed with our highly coordinated design-for-manufacturing process. So whatever we design and develop, we can produce; and whatever we produce, works. If you have a challenge, LightWorks Optics has a solution—one you can count on the same way people count on you.
Policies

Audio/Video/Digital Recording Policy

In the Meeting Rooms and Poster Sessions: For copyright reasons, recordings of any kind are strictly prohibited without prior written consent of the presenter in any conference session, course or of posters presented. Each presenter being taped must file a signed written consent form. Individuals not complying with this policy will be asked to leave a given session and asked to delete images or videos. Consent forms are available at the Speakers Check-In Desk.

In the Exhibition Hall: For security and courtesy reasons, photographing or videotaping individual booths and displays in the exhibit hall is allowed ONLY with explicit permission from onsite company representatives. Individuals not complying with this policy will be asked to delete images or videos and to leave the exhibition hall.

Underage Persons on Show Floor

For safety and insurance reasons, no persons under the age of 16 will be allowed in the exhibition area during move-in and move-out. During open exhibition hours, only children over the age of 12 accompanied by an adult will be allowed in the exhibition area.

Unauthorized Solicitation

Unauthorized solicitation in the Exhibition Hall is prohibited. Any non-exhibiting organization or person observed to be distributing information or soliciting business in the aisles, or in another company’s booth, will be asked to leave immediately.

Unsecured Items

Personal belongings such as briefcases, backpacks, coats, book bags, etc., should not be left unattended in meeting rooms or public areas. These items will be subject to removal by security upon discovery.

SPIE Apps for iPhone® and Android™

Conference Program

Android and iPhone®
Create your schedule—search and browse the Technical Program and special events, participants, and exhibitors.

Profiles

iPhone®
Make valuable personal connections—find and contact colleagues based on SPIE research publications, conference involvement, and courses taught.

Field Guides

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Take Field Guides to a new level—access and use equations, linked terms, bookmarks, and interactive figures, and take notes. Try Geometrical Optics Field Guide Lite for Free!

Newsroom

iPhone®
The latest innovations, news, and multimedia coverage of Optics and Photonics.
SWIR IMAGING. ENHANCING MILITARY VISION.

With military, surveillance, and anti-terrorist missions more critical than ever before, Sensors Unlimited - Goodrich ISR Systems brings a complete arsenal of mil-hardened shortwave infrared (SWIR) cameras to the field. These uncooled InGaAs cameras help image through smoke, dust, fog and haze, and aid in facial recognition – in daylight or starlight. Extremely compact and lightweight, they are ideal for manned and unmanned ground, air, and maritime intelligence and surveillance operations.

Our new 1280 x 1024, 1.3 Mpixel camera provides the highest sensitivity available in a SWIR camera. Its miniature form factor and lightweight make it ideal for UAS, UGS, hand-held, and mobile surveillance systems.

Contact us for more information on our military and other SWIR products for machine vision, semiconductor inspection, biomedical/OCT imaging, photovoltaic processing, and commercial applications. Sensors Unlimited - Goodrich ISR Systems. Always the leader in SWIR vision.

See us at DSS - Booth #1610

For the latest in SWIR imaging concepts of operation, visit www.swirconops.com

phone: 609-529-0610
email: sui_sales@goodrich.com
www.sensorsinc.com

right attitude/right approach/right alongside
www.goodrich.com
Don’t Miss the New Technology Demos and Displays on the Exhibition Floor

The Exhibition includes hands-on demos of some amazing new technologies, including:

**Princetel** – Optically enabled robotic vehicle with 4 cameras
**FLIR** – Applications for small integrated thermal imaging camera
**Mantaro** – Telepresence robots, utilizes smartphone interface
**Intelligent Optical Systems** – Handheld LED defensive weapon
**JDSU** - MicroNIR, A Handheld Near Infrared Spectrometer

Don’t Miss the New Technology Demos and Displays on the Exhibition Floor

2nd Annual Imaging Gallery Showcase at SPIE Defense, Security, and Sensing 2012

Where: Exhibition Floor
When: Tuesday (4/24) – Thursday (4/26)

Building on the success of last year’s gallery, SPIE and StingRay are once again teaming up to display the finest examples of today’s imaging technology… with an artistic flair!

For more details on the 2012 Imaging Gallery, please contact
Mr. Sam Wyman, swyman@stingrayoptics.com, or Jennifer Myers, jmyers@stingrayoptics.com, or call (603) 358 5577 for immediate attention.

(Image courtesy of StingRay Optics, “Three Blind Mice”, photographed by Ed Kingsbury, 2011)
When it comes to critical optical systems, there’s nothing more reliable than our ultra-durable thin film coatings. From hyperspectral sensing to biosensing, from multi-layer coatings to multi-spectral systems – DSI’s Special Products Group provides the most reliable precision coatings available.

Our patented processes deliver rugged coatings designed for the harshest environments – in any application, anywhere. From visible to UV and IR, call us at 866-433-7724 or visit www.depsci.com. DSI – for high precision coatings that serve and protect.

See us at
DSS Booth #2324
<table>
<thead>
<tr>
<th>Banners</th>
<th>Welcome Reception</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimax Booth #2021 <a href="http://www.opticalmaterials.umicore.com">www.opticalmaterials.umicore.com</a></td>
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<tr>
<th>Column Wrap</th>
<th>Conference Bag</th>
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<td>Imperx Booth #2027 <a href="http://www.imperx.com">www.imperx.com</a></td>
<td>Raytheon ELCAN Optical Technologies Booth #1921 <a href="http://www.elcan.com">www.elcan.com</a></td>
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<td>Ophir Booth #1625 <a href="http://www.ophiropticinc.com">www.ophiropticinc.com</a></td>
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<th>Conference Bag Inserts</th>
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<td>Americanelements.com Booth #2921 <a href="http://www.elcan.com">www.elcan.com</a></td>
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<td>C4ISR Booth # 635, 3074 <a href="http://www.defensenews.com">www.defensenews.com</a></td>
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<td>CVI Melles Griot Booth #1619 <a href="http://www.cvimellesgriot.com">www.cvimellesgriot.com</a></td>
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<thead>
<tr>
<th>Exhibition Map/Restaurant Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASD Inc. Booth #2210 <a href="http://www.asdi.com">www.asdi.com</a></td>
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<td>Calculex Booth #402 <a href="http://www.calculex.com">www.calculex.com</a></td>
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<td>SCHOTT Booth #1519 <a href="http://www.us.schott.com/defense">www.us.schott.com/defense</a></td>
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<td>Sofradir Booth #1711 <a href="http://www.sofradir.com">www.sofradir.com</a></td>
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<td>Temmek Booth #803 <a href="http://www.temmek.com">www.temmek.com</a></td>
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<td>Trioptics Booth #2426 <a href="http://www.trioptics.com">www.trioptics.com</a></td>
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<td>Umicore Booth #201 <a href="http://www.opticalmaterials.umicore.com">www.opticalmaterials.umicore.com</a></td>
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view it all in
a different light

for the latest news, analysis, market intelligence and insight direct to your desktop or mobile device

sign up to our new-look html newsletter
simply go to optics.org/register
or visit us at booth #318

sign up today
to receive our free weekly new-look html newsletter
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<thead>
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<th>Defense, Security, and Sensing Sponsors</th>
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<td><strong>Platinum Sponsor</strong></td>
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<td>IMPERX</td>
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<td><a href="http://www.raytheon.com">booth #357</a>, 2010</td>
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<td><a href="http://www.ndia.org">booth #702</a></td>
<td><a href="http://www.edmundoptics.com">booth #1206</a></td>
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<td>Qioptiq</td>
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<td><a href="http://www.qioptiq.com">booth #913</a></td>
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<td><a href="http://www.gd-imaging.com">booth #1811</a></td>
<td><a href="http://www.scdusa.com">booth #1927</a></td>
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<td>SCD USA</td>
<td><a href="http://www.scdusa.com">booth #2510</a></td>
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<td>Geospatial Intelligence Forum</td>
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<td>Tactical Defense Media</td>
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<td>Vision Systems Design</td>
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ImageMaster® HR IR, based on well proved ImageMaster® HR, has been developed to fulfill customer requirements for highest accuracy and flexibility. It is designed for the measurement of MTF and others optical parameters of today’s high-end IR optics in R&D and production.

The fully computer-controlled instrument comes with a high-quality mirror collimator, broadband IR light source and IR focal plane array image sensor and can be configured for testing optical systems with:

- Object at infinity
- On-axis and off-axis (up to ± 90°)
- Clear aperture up to 80 mm
- VIS spectral range optional

Visit us at Booth #2426

TRIOPTICS
www.trioptics.com
Meet. Discuss. Impress.

Talk with representatives from companies currently looking to hire.

See us in the Exhibition Hall
Baltimore Convention Center, Baltimore, Maryland, USA
Tuesday 24 April, 10:00 am to 5:00 pm
Wednesday 25 April, 10:00 am to 5:00 pm

Win a Kindle Fire
SPIE Defense, Security, and Sensing Game Challenge
hosted by

Visit the SPIE Career Center, Booth #318, Wednesday, 25 April to participate in the Optikos Game Challenge.
By participating in the game challenge, your name will be entered into a drawing to win an Amazon Kindle!
Make sure to stop by and talk with representatives about job opportunities and hiring resources.

spie.org/dssjobfair
Cameras

The Teledyne family of companies are experts in the creation of rapid prototypes and production of visible and infrared cameras, from x-ray to VLWIR, optimized for SWaP and rugged environments for a broad range of commercial and military applications. Our camera electronics and fully integrated camera systems are some of the smallest and lowest power in the industry.

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We also have a world class read-out integrated circuit design team to meet your large format and digital ROIC design requirements.

Camera Products

- Cruz MWIR 1280 x 1024
- Cruz MWIR 640 x 512
- Anacapa SWIR 640 x 512
- Anacapa SWIR 1280 x 1024
- San Miguel Two Color 640 x 512
- Santa Barbara Hyperspectral 640 x 512

We do custom!

For more information please contact Tony Vengel at (805) 245-9979
Special Events

Symposium-Wide Plenary Session
Monday • 5:00 to 6:00 pm • Conv. Ctr. (Level 400), Ballroom I-II

Open to All Attendees
exhibition visitors,
exhibitors, and technical
conference attendees

NRO Overview
Bruce Carlson
Director, National Reconnaissance Office

Bruce Carlson was appointed the 17th Director of the National Reconnaissance Office (DNRO) on June 12, 2009. Prior to his appointment, after retiring from the United States Air Force in January 2009, he served as a defense industry consultant and as a member of the Board of Directors of EADS North America. The DNRO provides direction, guidance, and supervision over all matters pertaining to the NRO and executes other authorities specifically delegated by the Secretary of Defense and the Director of National Intelligence.

Director Carlson began his military career as a commissioned officer in 1971 after graduating with distinction from the Air Force ROTC program at the University of Minnesota, Duluth. He is a command pilot with more than 3,700 flying hours in 10 different aircraft, and saw combat as a forward air controller in the OV-10 Bronco. His various flying assignments included commanding the 49th Fighter Wing at Holloman AFB in New Mexico, the Air Force’s first stealth fighter wing. His staff assignments included positions at Tactical Air Command, Headquarters U.S. Air Force, and the offices of the Secretary of the Air Force and Secretary of Defense. He also served as the Director of Force Structure, Resources and Assessment on the Joint Staff; Commander, 8th Air Force, Barksdale AFB, Louisiana; and Joint Functional Component Commander for Space and Global Strike, U.S. Strategic Command, Offutt AFB, Nebraska. Prior to his retirement from the U.S. Air Force, General Carlson served as Commander Air Force Materiel Command, Wright-Patterson AFB, Ohio, which is responsible for development, testing, acquisition and sustainment of Air Force weapons systems. In that role, he had responsibility for 74,000 people and $59 billion annually. He was promoted from Lieutenant General to General, pinning on his fourth star, on September 1, 2005.

Among Director Carlson’s many awards and decorations are the Defense Distinguished Service Medal with oak leaf cluster, Distinguished Service Medal with oak leaf cluster, Legion of Merit, the Meritorious Service Medal with two oak leaf clusters, the Air Force Commendation Medal with two oak leaf clusters, and the Order of the Sword, Air Force Materiel Command.

Director Bruce Carlson holds a Bachelor of Arts Degree from the University of Minnesota, Duluth, and a Master of Arts Degree, Webster University, St. Louis, Missouri. He also is a graduate of the U.S. Air Force Fighter Weapons School, Nellis AFB, Nevada and a Distinguished Graduate, Naval War College, Newport, Rhode Island. Director Carlson was born in Hibbing, Minnesota. He and his wife, Vicki, have three children and 10 grandchildren.
All Symposium Welcome Reception · Maryland Science Center

Monday • 6:30 to 8:00 pm
Open to All Conference Attendees and Exhibitors

All attendees are invited. Relax, socialize, and enjoy the refreshments and all that the museum has to offer. Please remember to wear your registration badges. Dress is casual.

Contributing Sponsor:

FLIR
Booth #357, 2010

Kurt J. Lesker Company

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Since 1954, the Kurt J. Lesker Company has been an industry leader in the design, manufacturing and distribution of vacuum technology products and services.

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The purpose of this session is to assist industry in determining potentially profitable areas where they might invest to develop technology of interest to government funding agencies. Please attend this session to gain insights in future interests and directions of key agencies.

Moderator: Paul F. McManamon, Exciting Technology, LLC (USA)

Anthony S. Lombardo, Deputy Director, Intelligence, Surveillance and Reconnaissance Programs, Under Secretary of Defense for Intelligence, Portfolio, Programs & Resources, Office of the Under Secretary of Defense for Intelligence, Pentagon, Washington, DC (USA)

Colonel Tony Lombardo is Deputy Director for Intelligence, Surveillance and Reconnaissance Programs. He leads a division of professionals conducting acquisition oversight for the Department of Defense intelligence combat support agencies—the Defense Intelligence Agency, the National Geospatial-Intelligence Agency and the National Security Agency—and the National Reconnaissance Office. Colonel Lombardo previously served as the Military Assistant to Deputy Under Secretary of Defense for Intelligence, Portfolio, Programs & Resources, Office of the Under Secretary of Defense for Intelligence. In this capacity he assisted a Deputy Under Secretary in developing and implementing Department of Defense intelligence policy, planning and guidance and provided governance and oversight of Defense Intelligence resources. Prior to his current assignment, he commanded the 17th Training Group at Goodfellow Air Force Base Texas. He led the Air Force and DoD-directed intelligence and cryptologic training, basic and advanced fire protection training and special instruments training. Annually, he managed over 10,000 students for over 260 courses. He oversaw seven squadrons' facilities and budgets in excess of $55 million as well as a $40 million training system acquisition program.

Colonel Lombardo began his military career in 1985 when he was commissioned through the Air Force Officers Training School. His career includes assignments at a joint command, coalition air operations centers, an Air Force major command and field operating agency, and flying squadron and wing levels. He has been deployed or directly participated in ten named combat operations involving United States Air Force air power or joint and combined combat capabilities. In addition, he has served as an air intelligence officer for over 30 local combat exercises/inspections and over 35 NATO wartime exercises.

Donald Woodbury, Director, Strategic Technology Office, Defense Advanced Research Projects Agency (USA)

Mr. Donald Woodbury is the Director of the Strategic Technology Office (STO), in the Defense Advanced Research Projects Agency (DARPA). Mr. Woodbury manages programs that research and develop innovative technologies to support U.S. Combatant Commanders in current and emerging strategic areas including Finding Difficult Targets; Communications, Electronic Warfare, and Networks; Shaping the Environment; and Foundational Strategic Technologies.

Mr. Woodbury previously served as a program manager and senior scientist in DARPA’s Tactical Technology Office, where he managed programs that were focused on the development and demonstration of breakthrough capabilities in manned and unmanned systems, directed energy weapons, space supremacy, and tactical multipliers.

Prior to DARPA, Mr. Woodbury was a technology program manager within the Army Research Laboratory, where he developed and transitioned advanced technologies for aircraft, ground vehicle, and munitions programs.

Mr. Woodbury received a BS in Chemistry and an MS in Physical Chemistry from Clarkson University, and an MS in Technical Management from The Johns Hopkins University. He is a graduate of the Defense System Management College’s Program Manager Course.


Milton was appointed to his present position as head of the Night Vision and Electronic Sensors Directorate (NVESD) in 1998. He is responsible for a laboratory that develops all aspects of electro-optical technology for the Army to include Image Intensifiers, Infrared Sensors and Tactical Lasers. He is also responsible for the development of Countermeasures and Humanitarian Demining technology.

Previously, Dr. Milton served in the Pentagon as the Deputy Assistant Secretary for Research and Technology, Chief Scientist of the Army in the Office of the Assistant Secretary of the Army, Research, Development and Acquisition. He was responsible for the Army’s entire science and technology program spanning twenty-one (21) Laboratories and Research, Development and Engineering centers, with approximately 10,000 scientists/engineers and an annual budget of $1.4 billion. He was also the principal scientific advisor to the Secretary of the Army and the Assistant Secretary of the Army Research, Development and Acquisition.

He came to the Pentagon as a member of the Senior Executive Service in 1990 as Director for Technology in the Office of the Assistant Secretary of the Army for Research, Development and Acquisition. Dr. Milton received his Ph.D. in Applied Physics from Harvard University. He serves as Chairman of the Army Science Board, a scientific advisor to the Secretary of the Army and the Chief of Staff of the Army.

Richard S. Matlock, Program Executive for Advanced Technology, Missile Defense Agency (USA)

Mr. Richard Matlock, Program Executive for Advanced Technology, is leading the development of the next generation of cutting-edge missile defense technologies and proving their benefit to the warfighter through realistic experiments. Some of Mr. Matlock’s other Senior Executive assignments included the Program Director for the Ballistic Missile Defense System Kill Vehicles program, Program Director for Modeling and Simulation and Technical Director for Kinetic Energy Interceptor.

Mr. Matlock’s 35-year career in government service includes major acquisition and scientific positions with the U.S. Navy, the Ballistic Missile Defense Organization, the Strategic Defense Initiative Organization and the U.S. Air Force. At Naval Sea Systems Command, Mr. Matlock was the Program Manager for the Department of Defense’s U.S./Japan Cooperative Ballistic Missile Defense Research Project. He led the development and implementation of this joint missile defense research program with the Japan Defense Agency. Prior to employment with the Navy, Mr. Matlock was Program Manager for Interceptor Technology Integration in the Ballistic Missile Defense Organization (BMDO).

Mr. Matlock has also held positions in the Department of the Air Force, both as an officer and civil servant, including Chief of Integration and Analysis at the Air Force Rocket Propulsion Laboratory and Technology Director, Space Based Interceptor System Program Office at Air Force Systems Command’s Space Division.
WORKSHOP

Early Stage Technology Commercialization

Wednesday • 8:30 to 10:00 am • Conv. Ctr. 330

Panelists from U.S. government laboratories, the venture capital community, and industry discuss ways to speed the commercialization and deployment of early-stage Defense and Homeland Security applications focused on mid-infrared technologies. Listen and interact with the leaders in the IR community, and come to share your ideas.

Moderator:
Joseph X. Montemarano, Executive Director, MIRTHE, Princeton Univ. (USA)

Joseph X. Montemarano has been involved in state-of-the-art research and commercialization efforts related to health-care, defense and homeland security, advanced materials, computer science and photonic applications throughout his career. Mr. Montemarano has helped large and small companies, and government researchers access emerging technologies, faculty and other university resources resulting in a significant increase in sponsored research, the launch of several spin-off companies, and successful technology commercialization and fielded applications.

He joined Princeton University in July 1994, and currently serves as Executive Director for the NSF-Engineering Research Center on Mid-InfraRed Technologies for Health and Environment (MIRTHE) led by Princeton University, and Director for Industrial Enterprise for the Princeton Institute for Science and Technology of Materials (PRISM).

Panelists:
Randel Zeller, Department of Homeland Security (USA)
Ralph E. Taylor-Smith, General Partner, Battelle Ventures (USA)
Mark Phillips, Pacific Northwest National Lab. (USA)
Jerry Meyer, U.S. Naval Research Lab. (USA)

TECHNOLOGY SHOWCASE
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Presenters include:
Feather Sensors Inc.
Sentinel Photonics
MIRTHECtr., Princeton Univ.

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- Positive and negative temperature difference
- Absolute or differential control
- Large range of targets
- Passive head cooling to minimize convective turbulence
- Tilting touchscreen interface with speed jog knob
- Bluetooth handheld controller (optional)
Spend some time focusing on your career development while you’re at SPIE Defense, Security, and Sensing. These workshops and presentations will help you be more successful.

**Safely Navigating the Deep Waters of International Trade: Legal Best Practices**

**WS1074 · Course level: Introductory**

*CEU .35 $295 Member / $345 Non-member USD*

**Wednesday 1:30 to 5:30 pm**

If your company’s sales activities, products or services come in contact with foreign jurisdictions, this is a must attend program. The stakes have never been higher. Anyone who wants to answer questions such as, “what are the legal pitfalls of doing business internationally?” or “what are best practices for engaging in global trade?” will benefit from taking this course. During this fast-paced course you will be provided with cutting edge information designed to assist you in safely and effectively navigating the legal shoals of doing business internationally. Real world situations and lessons learned will be provided, as well as practical tips on best practices.

**Instructor:** Kerry Scarlott is a Director at the law firm of Goulston & Storrs, and is an industry leader in International Trade, Export Controls and Compliance.

**Essential Skills for Engineering Project Leaders**

**WS846 · Course level: Introductory**

*CEU .35 $295 Member / $345 Non-member USD*

**Thursday 1:30 to 5:30 pm**

This workshop teaches skills needed to lead technical projects, drive innovation, and influence others. Attendees learn the difference between leadership and management, and how to develop specific leadership skills that are important to technical professionals who lead projects or need assistance from others to get things done. Participants engage in exercises that assess their individual leadership abilities and provide guidance for further skill development.

**Instructor:** Gary Hinkle is President and founder of Auxilium, Inc. His experience includes a broad variety of management and staff assignments with small, medium, and large companies involved in the development and manufacturing of high-tech products.

**Complying with the ITAR: A Case Study**

**WS933 · Course level: Introductory**

*CEU .35 $295 Member / $345 Non-member USD*

**Thursday 8:30 am to 12:30 pm**

In the world of international trade, it’s what you don’t know that can hurt you. With the U.S. government’s focus on homeland security and its increasing reliance on photonics for the development and production of defense-related products and services, your activities may well be subject to the ITAR.

This workshop will begin with a brief contextual overview of U.S. export controls, including the Export Administration Regulations, the ITAR, and special sanction programs administered by the Treasury Department’s Office of Foreign Assets Control. We will then transition into a case study focused on the ITAR. Real world situations and lessons learned will be shared. Various aspects of the case study will likely be familiar to you in the context of your own experiences, allowing you to learn effectively how to spot ITAR issues before they negatively impact your business. You will also learn about current enforcement trends and best practices for avoiding violations.

**Instructor:** Kerry Scarlott is a Director at the law firm of Goulston & Storrs, and is an industry leader in International Trade, Export Controls and Compliance.

**Leading Successful Product Innovation**

**WS951 · Course level: Intermediate**

*CEU .35 $295 Member / $345 Non-member USD*

**Wednesday 8:30 am to 12:30 pm**

The fundamental goal of this course is to answer the question: “How do I take an idea off the white-board and turn it into a windfall product?” We will explore and apply the principles of good leadership to create a culture of excellence within your organization—the most basic ingredient for success. A special emphasis will be placed on learning how to develop and construct an effective new project pitch using the instructor’s “Disciplined Creativity” concept and framework. We will then describe the “Spiral Development Process” for rapid, effective, and successful prototype development, followed by an in-depth examination of the life-cycle approach to product development. This course will also enable you to conduct a “red teaming” exercise to identify competitive threats, identify weaknesses in your company, and most importantly, develop solution strategies. We will also place an emphasis on how to properly vet an idea and how to ask tough-minded questions designed to ferret out shortcomings.

**Instructor:** John Carrano is President of Carrano Consulting. Previously, he was the Vice President, Research & Development, Corporate Executive Officer, and Chairman of the Scientific Advisory Board for Luminex Corporation.
Basic Optics for Non-Optics Personnel

WS609 · Course level: Introductory
CEU .20 $100 Member / $150 Non-member USD
Tuesday 1:30 to 4:00 pm

This course will provide the technical manager, sales engineering, marketing staff, or other non-optics personnel with a basic understanding of the terms, specifications, and measurements used in optical technology to facilitate effective communication with optics professionals on a functional level. Topics to be covered include basic concepts such as interference, diffraction, polarization and aberrations, definitions relating to color and optical quality, and an overview of the basic measures of optical performance such as MTF and wavefront error. The material will be presented with a minimal amount of math, rather emphasizing working concepts, definitions, rules of thumb, and visual interpretation of specifications. Specific applications will include defining basic imaging needs such as magnification and depth-of-field, understanding MTF curves and interferograms, and interpreting radiometric terms.

Instructor: Kevin Harding has been active in the optics industry for over 30 years, and has taught machine vision and optical methods for over 25 years in over 70 workshops and tutorials.

To register for any course:
See SPIE Cashier, Pratt St. Lobby (Level 300).

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New Courses for 2012:

**NEW**

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<tr>
<th>Code</th>
<th>Title</th>
<th>Instructor(s)</th>
<th>Dates</th>
<th>Fee</th>
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<tbody>
<tr>
<td>SC547</td>
<td>Terahertz Wave Technology and Applications (Zhang)</td>
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<tr>
<td>SC967</td>
<td>High Dynamic Range Imaging: Sensors and Architectures (Darmont)</td>
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<tr>
<td>SC1052</td>
<td>Optical Systems Engineering (Kasunic)</td>
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<td>SC1068</td>
<td>Introduction to Night Vision (Browne)</td>
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<td>SC1069</td>
<td>GPU for Defense Applications (Humphrey)</td>
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<tr>
<td>SC1070</td>
<td>Radar Waveforms and Signal Processing (Welstead)</td>
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<tr>
<td>SC1071</td>
<td>Understanding Diffractive Optics (Soskind)</td>
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<tr>
<td>SC1072</td>
<td>Statistics for Imaging and Sensor Data (Bajorski)</td>
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<tr>
<td>SC1073</td>
<td>Radiometry and its Practical Applications (Grant)</td>
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<tr>
<td>SC1075</td>
<td>Methods of Energy Harvesting for Low-Power Sensors (Erturk)</td>
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<tr>
<td>SC1076</td>
<td>Analog-to-Digital Converters for Digital ROICs (Veeder)</td>
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<tr>
<td>WS1074</td>
<td>Safely Navigating the Deep Waters of International Trade: Legal Best Practices (Scarlett)</td>
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Defense, Homeland Security, and Law Enforcement

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<tr>
<td>SC719</td>
<td>Chemical &amp; Biological Detection: Overview of Point and Standoff Sensing Technologies (Gardner, Popa)</td>
<td></td>
<td>8:30 am to 5:30 pm, $565 / $660</td>
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<tr>
<td>SC952</td>
<td>Applications of Detection Theory (Carrano)</td>
<td></td>
<td>8:30 am to 5:30 pm, $565 / $660</td>
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<tr>
<td>SC789</td>
<td>Introduction to Optical and Infrared Sensor Systems (Shaw)</td>
<td></td>
<td>8:30 am to 5:30 pm, $565 / $670</td>
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<tr>
<td>SC993</td>
<td>Soil Physics For Non-Soil Engineers: Moisture, Thermal, and Dielectric Soil Properties Affecting IED Detection (Hendrickx)</td>
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<td>8:30 am to 5:30 pm, $565 / $660</td>
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<tr>
<td>SC1075</td>
<td>Methods of Energy Harvesting for Low-Power Sensors</td>
<td>(Erturk)</td>
<td>1:30 to 5:30 pm, $345 / $395</td>
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<tr>
<td>SC1068</td>
<td>Introduction to Night Vision (Browne)</td>
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<td>8:30 am to 12:30 pm, $345 / $395</td>
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<tr>
<td>SC1035</td>
<td>Military Laser Safety (Marshall)</td>
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<td>8:30 am to 5:30 pm, $565 / $660</td>
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<tr>
<td>SC995</td>
<td>Target Detection Algorithms for Hyperspectral Imagery (Nasrabadi)</td>
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<td>8:30 am to 5:30 pm, $565 / $660</td>
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<tr>
<td>SC547</td>
<td>Terahertz Wave Technology and Applications (Zhang)</td>
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<td>8:30 am to 12:30 pm, $345 / $395</td>
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Emerging Technologies

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<tr>
<td>SC1071</td>
<td>Understanding Diffractive Optics (Soskind)</td>
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<td>1:30 to 5:30 pm, $380 / $430</td>
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<tr>
<td>SC1076</td>
<td>Analog-to-Digital Converters for Digital ROICs (Veeder)</td>
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SPIE reserves the right to cancel a course due to insufficient advance registration.
Innovative Defense and Security Applications for Displays

SC159  Head-Mounted Displays: Design and Applications
Tues. (Mezler, Browne) 8:30 am to 5:30 pm, $600 / $695

SC1069  GPU for Defense Applications (Humphrey) 8:30 am to
Wed. 12:30 pm, $345 / $395

SC067  High Dynamic Range Imaging: Sensors and
Wed.  Architectures (Darmon) 1:30 to 5:30 pm,
NEW $345 / $395

SC1068  Introduction to Night Vision (Browne) 8:30 am to 12:30 pm,
NEW $345 / $395

IR Sensors and Systems

SC152  Infrared Focal Plane Arrays (Dereniak, Hubbs) 1:30 to
Mon.  5:30 pm, $345 / $395

SC278  Infrared Detectors (Dereniak) 8:30 am to 12:30 pm,
Mon.  $460 / $510

SC713  Engineering Approach to Imaging System Design (Holst)
Mon.-Tues. 8:30 am to 5:30 pm, $615 / $710

SC835  Infrared Systems - Technology & Design (Daniels)
Mon.-Tues. 8:30 am to 5:30 pm, $1085 / $1305

SC900  Uncooled Thermal Imaging Detectors and Systems
Mon.  (Hanson) 8:30 am to 5:30 pm, $605 / $700

SC1073  Radiometry and its Practical Applications (Grant)
Mon.  8:30 am to 5:30 pm, $640 / $735

SC1077  Introduction to Optical Oceanography (Hou)
Mon.  1:30 to 5:30 pm, $345 / $395

NEW SC720  Cost-Conscious Tolerancing of Optical Systems
Tues. (Youngworth) 8:30 am to 12:30 pm, $345 / $395

SC950  Infrared Imaging Radiometry (Richards)
Tues.  8:30 am to 5:30 pm, $345 / $395

SC067  Testing and Evaluation of E-O Imaging Systems (Holst)
Wed.  8:30 am to 12:30 pm, $620 / $715

SC1031  Radar Micro-Doppler Signatures - Principles and
Wed.  Applications (Chen, Tahmoush) 8:30 am to 12:30 pm,
NEW $345 / $395

SC1000  Introduction to Infrared and Ultraviolet Imaging
Wed.  Technology (Richards) 1:30 to 5:30 pm, $380 / $430

SC1070  Radar Waveforms and Signal Processing (Welstead)
Thurs.  8:30 am to 12:30 pm, $345 / $395

NEW SC901  Sensor Array Signal Processing (Rao) 8:30 am to 5:30 pm,
Thurs. 8:30 am to 5:30 pm, $655 / $660

NEW SC946  Super Resolution in Imaging Systems (Rao) 8:30 am to 5:30 pm,
Thurs. 8:30 am to 5:30 pm, $655 / $660

NEW SC995  Target Detection Algorithms for Hyperspectral Imagery
Thurs.  (Nasrabadi) 8:30 am to 5:30 pm, $655 / $660

NEW SC547  Terahertz Wave Technology and Applications (Zhang)
Thurs.  8:30 am to 12:30 pm, $345 / $395

SC154  Electro-Optical Imaging System Performance (Holst)
Fri.  8:30 am to 5:30 pm, $645 / $740

NEW SC993  Soil Physics For Non-Soil Engineers: Moisture, Thermal,
Wed.  and Dielectric Soil Properties Affecting IED Detection
(Hendrickx) 8:30 am to 5:30 pm, $655 / $660

SC1000  Introduction to Infrared and Ultraviolet Imaging
Wed.  Technology (Richards) 1:30 to 5:30 pm, $380 / $430

SC892  Infrared Search and Track Systems (Schwering)
Thurs.  8:30 am to 5:30 pm, $655 / $660

SC1068  Introduction to Night Vision (Browne) 8:30 am to 12:30 pm,
NEW $345 / $395

SC1035  Military Laser Safety (Marshall) 8:30 am to 5:30 pm,
Thurs.  $565 / $660

SC154  Electro-Optical Imaging System Performance (Holst)
Fri.  8:30 am to 5:30 pm, $645 / $740
SPIE Courses

Laser Sensors and Systems

SC1032 Direct Detection Laser Radar Systems for Imaging Applications (RichMon.d, Cain) 8:30 am to 5:30 pm, $610 / $705

SC167 Introduction to Laser Radar (Kameran) 8:30 am to 12:30 pm, $345 / $395

SC160 Precision Stabilized Pointing and Tracking Systems (Hilkert) 8:30 am to 12:30 pm, $565 / $660

SC720 Cost-Conscious Tolerancing of Optical Systems (Youngworth) 8:30 am to 12:30 pm, $345 / $395

SC1071 Understanding Diffractive Optics (Soskind) Tues. 1:30 to 5:30 pm, $380 / $430

NEW

SC789 Introduction to Optical and Infrared Sensor Systems (Shaw) 8:30 am to 5:30 pm, $565 / $660

SC1031 Radar Micro-Doppler Signatures - Principles and Applications (Chen, Tahmoush) 8:30 am to 12:30 pm, $345 / $395

SC997 High Power Laser Beam Quality (Ross) 8:30 am to 12:30 pm, $345 / $395

SC1035 Military Laser Safety (Marshall) 8:30 am to 5:30 pm, $565 / $660

Optical and Optomechanical Engineering

SC156 Basic Optics for Engineers (Ducharme) 8:30 am to 5:30 pm, $605 / $700

SC010 Introduction to Optical Alignment Techniques (Ruda) Mon.-Tues. 8:30 am to 5:30 pm, $940 / $1160

SC1073 Radiometry and its Practical Applications (Grant) Mon. 8:30 am to 5:30 pm, $640 / $735

NEW

SC1072 Statistics for Imaging and Sensor Data (Bajorski) Mon. 8:30 am to 5:30 pm, $665 / $760

NEW

SC157 MTF in Optical and Electro-Optical Systems (Ducharme) Tues. 8:30 am to 5:30 pm, $605 / $700

SC720 Cost-Conscious Tolerancing of Optical Systems (Youighworth) 8:30 am to 12:30 pm, $565 / $660

SC950 Infrared Imaging Radiometry (Richards) 8:30 am to 5:30 pm, $565 / $660

WS609 Basic Optics for Non-Optics Personnel (Harding) Tues. 1:30 to 4:00 pm, $150 / $200

SC1071 Understanding Diffractive Optics (Soskind) Tues. 1:30 to 5:30 pm, $380 / $430

NEW

SC254 Integrated Opto-Mechanical Analysis (Genberg, Doyle) Wed. 8:30 am to 5:30 pm, $615 / $710

SC014 Introduction to Optomechanical Design (Vukobratovich) Wed.-Thurs. 8:30 am to 5:30 pm, $940 / $1160

SC206 Polarized Light: A Practical Hands-on Introduction (Fisher) 8:30 am to 5:30 pm, $565 / $660

SC1000 Introduction to Infrared and Ultraviolet Imaging Wed. Technology (Richards) 1:30 to 5:30 pm, $380 / $430

SC1052 Optical Systems Engineering (Kasunic) Thurs. 8:30 am to 5:30 pm, $565 / $660

NEW

SC220 Optical Alignment Mechanisms (Guyer) 1:30 to 5:30 pm, $345 / $395

Sensing for Industry, Environment, and Health

SC719 Chemical & Biological Detection: Overview of Point and Mon. Standoff Sensing Technologies (Gardner, Popa) 8:30 am to 5:30 pm, $565 / $660

SC1077 Introduction to Optical Oceanography (Hou) Mon. 1:30 to 5:30 pm, $345 / $395

NEW

SC952 Applications of Detection Theory (Carrano) 8:30 am to Tues. 5:30 pm, $565 / $660

SC789 Introduction to Optical and Infrared Sensor Systems Wed. (Shaw) 8:30 am to 5:30 pm, $565 / $660

SC1075 Methods of Energy Harvesting for Low-Power Sensors Wed. (Erturk) 1:30 to 5:30 pm, $345 / $395

NEW

SC901 Sensor Array Signal Processing (Rao) 8:30 am to 5:30 pm, Thurs. $565 / $660

SC995 Target Detection Algorithms for Hyperspectral Imagery Thurs. (Nasrabadi) 8:30 am to 5:30 pm, $565 / $660

SC547 Terahertz Wave Technology and Applications (Zhang) Thurs. 8:30 am to 12:30 pm, $345 / $395

Sensor Data and Information Exploitation

SC160 Precision Stabilized Pointing and Tracking Systems Mon. (Hilkert) 8:30 am to 5:30 pm, $565 / $660

SC1072 Statistics for Imaging and Sensor Data (Bajorski) Mon. 8:30 am to 5:30 pm, $665 / $760

NEW

SC994 Multisensor Data Fusion for Object Detection, Mon. Classification and Identification (Klein) 8:30 am to 5:30 pm, $345 / $395

SC194 Multispectral and Hyperspectral Image Sensors Tues. (Lomhein) 1:30 to 5:30 pm, $425 / $475

SC1076 Analog-to-Digital Converters for Digital ROICs (Veer) Tues. 8:30 am to 12:30 pm, $345 / $395

NEW

SC158 Fundamentals of Automatic Target Recognition (Sadjadi) Wed. 8:30 am to 5:30 pm, $565 / $660

SC181 Predicting Target Acquisition Performance of Electro- Mon. Optical Imagers (Vollmerhausen) 8:30 am to 5:30 pm, $620 / $715

SC1031 Radar Micro-Doppler Signatures - Principles and Wed. Applications (Chen, Tahmoush) 8:30 am to 12:30 pm, $345 / $395

SC1035 Military Laser Safety (Marshall) 8:30 am to 5:30 pm, Thurs. $565 / $660

SC1070 Radar Waveforms and Signal Processing (Welstead) Thurs. 8:30 am to 12:30 pm, $345 / $395

NEW

SC901 Sensor Array Signal Processing (Rao) 8:30 am to 5:30 pm, Thurs. $565 / $660

SC995 Target Detection Algorithms for Hyperspectral Imagery Thurs. (Nasrabadi) 8:30 am to 5:30 pm, $565 / $660

26 SPIE Defense, Security, and Sensing 2012 · spie.org/dssexhibition
Signal, Image, and Neural Net Processing
SC066 Fundamentals of Electronic Image Processing (Weeks)
Mon. 8:30 am to 5:30 pm, $635 / $730
SC1072 Statistics for Imaging and Sensor Data (Bajorski)
Mon. 8:30 am to 5:30 pm, $665 / $760
NEW SC952 Applications of Detection Theory (Carrano) 8:30 am to Tues. 5:30 pm, $565 / $660
SC994 Multisensor Data Fusion for Object Detection,
Tues. Classification and Identification (Klein) 8:30 am to 5:30 pm, $635 / $730
SC1076 Analog-to-Digital Converters for Digital ROICs (Veeder)
Tues. 8:30 am to 12:30 pm, $345 / $395
NEW SC1070 Radar Waveforms and Signal Processing (Welstead)
Thurs. 8:30 am to 12:30 pm, $345 / $395
NEW
SC901 Sensor Array Signal Processing (Rao) 8:30 am to 5:30 pm,
Thurs. $565 / $660
SC946 Super Resolution in Imaging Systems (Bagheri, Javidi)
Thurs. 8:30 am to 5:30 pm, $565 / $660
SC995 Target Detection Algorithms for Hyperspectral Imagery
(Hasrabadli) 8:30 am to 5:30 pm, $565 / $660

Unmanned, Robotic, and Layered Systems
SC1077 Introduction to Optical Oceanography (Hou)
Mon. 1:30 to 5:30 pm, $345 / $395
NEW SC952 Applications of Detection Theory (Carrano) 8:30 am to Tues. 5:30 pm, $565 / $660
SC996 Introduction to GPS Receivers (Zhu) 8:30 am to 12:30 pm,
Tues. $345 / $395
SC993 Soil Physics For Non-Soil Engineers: Moisture, Thermal,
Wed. and Dielectric Soil Properties Affecting IED Detection
(Hendricks) 8:30 am to 5:30 pm, $565 / $660
SC1075 Methods of Energy Harvesting for Low-Power Sensors
Wed. (Erturk) 1:30 to 5:30 pm, $345 / $395
NEW

INDUSTRY WORKSHOPS

Business + Professional Development
WS609 Basic Optics for Non-Optics Personnel (Harding)
Tues. 1:30 to 4:00 pm, $150 / $200
WS951 Leading Successful Product Innovation (Carrano)
Wed. 8:30 am to 12:30 pm, $345 / $395
NEW WS1074 Safely Navigating the Deep Waters of International Trade:
Wed. Legal Best Practices (Scarlott) 1:30 to 5:30 pm,
NEW $345 / $395
WS933 Complying with the ITAR: A Case Study (Scarlott)
Thurs. 8:30 am to 12:30 pm, $345 / $395
WS846 Essential Skills for Engineering Project Leaders (Hinkle)
Thurs. 1:30 to 5:30 pm, $345 / $395

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### Tuesday 24 April

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00 am</td>
<td>Rugged cameras for situational awareness, gimbals and designators</td>
<td>Joost van Kuijk, Ph.D., Adimec</td>
</tr>
<tr>
<td></td>
<td>Adimec’s camera technology increases the safety around us. We’ll present a new series of ruggedized cameras designed for US Defense &amp; Security industry combining full HD color video with NIR sensitivity.</td>
<td></td>
</tr>
<tr>
<td>10:30 am</td>
<td>High resolution surveillance using Vieworks digital cameras</td>
<td>Kris Balch, Vision Systems Technology, LLC</td>
</tr>
<tr>
<td></td>
<td>Vieworks cameras have been successfully deployed in Aerial, ISR, and Security surveillance applications. Discussed will be which cameras are being used, how they are being used, and their benefits.</td>
<td></td>
</tr>
<tr>
<td>11:30 am</td>
<td>Imaging Infrared Polarimeter w/ Integrated Realtime Image Processing</td>
<td>Dr. Larry Pezzaniti, Polaris Sensor Technologies, Inc.</td>
</tr>
<tr>
<td></td>
<td>Demonstration of Polaris Sensor Technologies imaging infrared polarimeter with integrated real time data acquisition, processing and display software.</td>
<td></td>
</tr>
<tr>
<td>12:30 pm</td>
<td>MantaroBlocks, a new, modular, power-intelligent wireless sensor node architecture</td>
<td>David Riley, Mantaro</td>
</tr>
<tr>
<td></td>
<td>New modular, wireless sensor node architecture based on intelligent, stackable, autonomous peripheral modules and modern micropower switching power converters.</td>
<td></td>
</tr>
</tbody>
</table>

### Wednesday 25 April

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00 am</td>
<td>SPECIAL ITAR FORUM</td>
<td>Kerry T. Scarlott, Esq., Goulston &amp; Storrs, P.C.</td>
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<tr>
<td></td>
<td>Export Controls Highlights and Best Practices – An Open Forum</td>
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<tr>
<td></td>
<td>Is your business at risk? Join us for a forum on critical ITAR/export control issues for the optics industry. This will be an open discussion with the opportunity for audience input and questions.</td>
<td></td>
</tr>
<tr>
<td>10:30 am</td>
<td>Chalcogenide Materials and Aspheric Infrared Optics from SCHOTT produced in the United States</td>
<td>Dr. Nathan Carlie, SCHOTT</td>
</tr>
<tr>
<td></td>
<td>SCHOTT now produces the IG family of chalcogenide glasses in the United States with validated optical and physical properties for imaging in the NIR through LWIR.</td>
<td></td>
</tr>
<tr>
<td>11:30 am</td>
<td>Data from the Field: Riflescope Image Quality and MTF</td>
<td>Ben Wells, Wells Research</td>
</tr>
<tr>
<td></td>
<td>Riflescopes, telescopes, binoculars and night vision systems view a virtual image through an eyepiece. What is a “good” image? We compare commercial riflescopes using 3-bar tests, MTF, and SQF.</td>
<td></td>
</tr>
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<td>Dr. Larry Pezzaniti, Polaris Sensor Technologies, Inc.</td>
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</tbody>
</table>

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<thead>
<tr>
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<th>Session</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00 am</td>
<td>Broadband AR Coatings from SCHOTT</td>
<td>Jayson Nelson, SCHOTT</td>
</tr>
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<td></td>
<td>SCHOTT has added US capability for anti-reflective coating. Multiwavelength, Single wavelength, and Broadband Antireflection coatings for the UV, VIS, NIR are available.</td>
<td></td>
</tr>
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<td>TIME</td>
<td>Tuesday 24 April</td>
<td>Wednesday 25 April</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 2:30 pm| **Preventing condensation and corrosion in Optical and Electro OPTICAL instruments**  
Martin Partridge, AGM/Brownell  
Moisture adversely impacts the performance of sensitive electronics & electro-optical devices, resulting in short circuits & system failure. Desiccators & dry gas purging provide long-term protection. | **High resolution SWIR modules for passive night vision and image fusion applications**  
Hervé Copin, Xenics  
Xenics’ novel high resolution SWIR modules revolutionize for night vision applications in size, weight and power (SWAP). The modules are also very well suited for image fusion applications. | **EXHIBITION CLOSED** |
| 3:30 pm| **Optical Design and Assembly Capabilities by SCHOTT**  
Kevin Tabor, SCHOTT  
SCHOTT Defense now offers advanced optical design and assembly capabilities, including conventional optics as well as incorporating SCHOTT’s imaging fiber optics into optical and electro/optic design. | **Efficient Generation of Green and Mid-IR Laser Wavelengths for Defence Applications**  
Mark Middleton, Covesion Ltd  
With a non-linear coefficient 4x greater than KTP, PPLN is fast becoming the preferred non-linear material for efficient wavelength conversion of laser light. | **EXHIBITION CLOSED** |
| 4:30 pm| **New LG940 Laser Glass from SCHOTT**  
Matthew Roth, SCHOTT Defense  
SCHOTT continues to bring innovative laser glasses to the OEMs, enabling more efficient, higher rep-rate operations in “eye-safe” medical and range-finding applications at 1.54μm. | **Introducing New Multi-Application 931 Touchscreen Critical Point Dryer (CPD)**  
Yianni Tousimis, Tousimis Research Corporation  
The new tousimis 931 CPD Demo will show its ability to process Multi-Application Sample Types ranging from the traditional to the most complex in an easy manner. | **EXHIBITION CLOSED** |

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How to use this directory

SPIE Defense, Security, and Sensing exhibitors are indexed by booth number on pages 32–35, then listed in alphabetical order with details about products or services each is exhibiting. Booth numbers may be cross-referenced with the maps on pp. 32–33.

Companies are additionally cross-indexed by technology areas in the Product Category Index on pages 108–121, to allow you to quickly shop for products for your engineering and business needs, making this Exhibition Guide an excellent reference tool.
Exhibition Hours
Tuesday 24 April . . . . . . 10:00 am to 5:00 pm
Wednesday 25 April . . . . 10:00 am to 5:00 pm
Thursday 26 April . . . . . . 10:00 am to 2:00 pm
Spire Semiconductor, LLC

Kurt J. Lesker Co.

Nanomotion Inc.

Newcon Optik

E.R. Precision Optical Corp.

Boulder Nonlinear Systems

OptoSigma Corp.

NotPix Inc.

Electro Optics Magazine

StellarNet, Inc.

Photon Gear, Inc.

Block Engineering, LLC

Critical Link, LLC

Temmek Optics Ltd.

IRFlex Corp.

Siskiyou Corporation

Rochester Precision Optics, LLC

Daylight Solutions Inc.

LaCroix Optical Co.

Materion Corporation

DigitalOptics Corporation

Infinite Optics Inc.

Xactra Technologies

EM Photonics, Inc.

Evaporated Metal Films Corp.

Laser Technology, Inc.

Fairview Machine Co., Inc.

PLX Inc.

Excellitas Technologies

Coherent Logix, Inc.

Tower Optical Corp.

EDT (Engineering Design Team), Inc.

PENTAX RICOH Imaging Americas Corporation

Bodkin Design & Engineering, LLC

Applied Image, Inc.

Andover Corp.

Quoipaq, Inc.

Gurley Precision Instruments, Inc.

Anoplate Corp.

Vincent Associates

Infrascan Technologies

Avo Photonics, Inc.

Insaco Inc.

IRZoom.com - A division of Computer Optics, Inc.

PolarOnyx, Inc.

RPMC Lasers, Inc.

RPM Photonics, Inc.

 Defence Vision Systems Inc.

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Industrial Hygiene News / Rimbach Publishing Inc.

HMS Technology Sales

Photon Engineering LLC

PFG Precision Optics, Inc.

AdiOptica Optical Systems GmbH

MegaWatt Lasers, Inc.

Meadowlark Optics, Inc.

Sandia National Labs.

Photosens, Inc.

New Imaging Technologies

4D Technology Corp.

Reynard Corporation

IRD Glass

Hardin Optical Co.

Precision Optical Technologies

Photonic Cleaning Technologies

Alled Vision Technologies Inc.

Shellcast Foundries Inc.

Infinite Graphics Incorporated

Exelis Visual Information Solutions

CMPC Surface Finishes

Hardin Optical Co.

IRD Glass

Reynard Corporation

New Imaging Technologies SAS

EPTAM Plastics, Inc.

Phyisimetrics, Inc.

Denton Vacuum Inc.

Photonics Online

FluxData, Inc.

Solid Sealing Technology

Electron Microscopy Sciences

Research Electro-Optics, Inc.

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Polaris Sensor Technologies, Inc.

Midac Corp

CAISR Journal & Defense News

Nu-Cast, Inc.

Greenpak Development, Inc. (GDI)

IBM

Opto-Alignment Technology, Inc.

Vision Components GmbH

Sensics, Inc.

A3E Optics

Naval Surface Warfare Ctr.

Indian Head Div.

New England Photoconductor Corp.

Precision Armaments Laboratory (PAL), US Army

National Defense Industrial Association

New England Optical Systems

Advanced Laser Diode Systems A.L.S. GmbH

Onefive GmbH

IMT North America, Inc.

Omnemics Connector Corp.

Hoppe Tool Inc.

Spectrogon US, Inc.

AMETEK HCC Electronic Packaging

Precision Optical

Photonic Cleaning Technologies

Allied Vision Technologies Inc.

Shellcast Foundries Inc.
## Exhibitor Booth Index

<table>
<thead>
<tr>
<th>Booth</th>
<th>Company Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1420</td>
<td>EPIX, Inc.</td>
</tr>
<tr>
<td>1422</td>
<td>Spectroscopy Magazine</td>
</tr>
<tr>
<td>1424</td>
<td>TechnicaLaser</td>
</tr>
<tr>
<td>1426</td>
<td>Flexible Optical B.V.</td>
</tr>
<tr>
<td>1428</td>
<td>Glass Fab, Inc.</td>
</tr>
<tr>
<td>1519</td>
<td>SCHOTT Defense</td>
</tr>
<tr>
<td>1525</td>
<td>Ocean Optics, Inc.</td>
</tr>
<tr>
<td>1527</td>
<td>Photonic Sense GmbH</td>
</tr>
<tr>
<td>1529</td>
<td>Telops</td>
</tr>
<tr>
<td>1531</td>
<td>Hellma Materials GmbH</td>
</tr>
<tr>
<td>1533</td>
<td>Bid-Service LLC</td>
</tr>
<tr>
<td>1535</td>
<td>CalRamic Technologies, LLC</td>
</tr>
<tr>
<td>1537</td>
<td>Voltage Multipliers, Inc.</td>
</tr>
<tr>
<td>1602</td>
<td>L-3 Communications</td>
</tr>
<tr>
<td>1602</td>
<td>L-3 Communications - Tinsley</td>
</tr>
<tr>
<td>1602</td>
<td>L-3 Communications Advanced Laser Systems Technology (ALST)</td>
</tr>
<tr>
<td>1602</td>
<td>L-3 Communications Cincinnati Electronics</td>
</tr>
<tr>
<td>1610</td>
<td>Sensors Unlimited, Inc., part of Goodrich Corp.</td>
</tr>
<tr>
<td>1619</td>
<td>CVI Melles Griot</td>
</tr>
<tr>
<td>1624</td>
<td>Zygo Corporation</td>
</tr>
<tr>
<td>1625</td>
<td>Newport Corp.</td>
</tr>
<tr>
<td>1625</td>
<td>Ophir Optics, LLC</td>
</tr>
<tr>
<td>1628</td>
<td>Mindrum Precision, Inc.</td>
</tr>
<tr>
<td>1630</td>
<td>Optical Support, Inc.</td>
</tr>
<tr>
<td>1631</td>
<td>Aerotech, Inc.</td>
</tr>
<tr>
<td>1632</td>
<td>Threat Spectrum Inc.</td>
</tr>
<tr>
<td>1633</td>
<td>IINnova AB</td>
</tr>
<tr>
<td>1634</td>
<td>StingRay Optics, LLC</td>
</tr>
<tr>
<td>1635</td>
<td>Ural Optical and Mechanical Plant</td>
</tr>
<tr>
<td>1636</td>
<td>Pulse Instruments Co.</td>
</tr>
<tr>
<td>1637</td>
<td>LightWorks Optics, Inc.</td>
</tr>
<tr>
<td>1641</td>
<td>Brandywine Photonics LLC</td>
</tr>
<tr>
<td>1705</td>
<td>DRS Technologies, Inc.</td>
</tr>
<tr>
<td>1711</td>
<td>SOFRADIR</td>
</tr>
<tr>
<td>1711</td>
<td>Sofradir EC, Inc.</td>
</tr>
<tr>
<td>1711</td>
<td>ULIS</td>
</tr>
<tr>
<td>1719</td>
<td>Nova Sensors</td>
</tr>
<tr>
<td>1719</td>
<td>Teledyne DALSA</td>
</tr>
<tr>
<td>1719</td>
<td>Teledyne Digital Imaging</td>
</tr>
<tr>
<td>1719</td>
<td>Teledyne Imaging Sensors</td>
</tr>
<tr>
<td>1719</td>
<td>Teledyne Judson Technologies</td>
</tr>
<tr>
<td>1719</td>
<td>Teledyne Optimum Optical Systems</td>
</tr>
<tr>
<td>1725</td>
<td>AIM INFRAROT-MODULE GmbH</td>
</tr>
<tr>
<td>1729</td>
<td>Riegl USA Inc.</td>
</tr>
<tr>
<td>1730</td>
<td>Infrared Systems Development Corp.</td>
</tr>
<tr>
<td>1732</td>
<td>Laser Research Optics</td>
</tr>
<tr>
<td>1732</td>
<td>Meller Optics, Inc.</td>
</tr>
<tr>
<td>1734</td>
<td>Applied Technology Associates</td>
</tr>
<tr>
<td>1735</td>
<td>Clear Align</td>
</tr>
<tr>
<td>1738</td>
<td>IRCAM GmbH</td>
</tr>
<tr>
<td>1740</td>
<td>Entegris, Inc.</td>
</tr>
<tr>
<td>1741</td>
<td>Rainbow Research Optics, Inc.</td>
</tr>
<tr>
<td>1743</td>
<td>Spectralab, Inc.</td>
</tr>
<tr>
<td>1811</td>
<td>General Dynamics-GLOBAL Imaging Technologies</td>
</tr>
<tr>
<td>1819</td>
<td>Lockheed Martin Santa Barbara Focalplane</td>
</tr>
<tr>
<td>1824</td>
<td>OPTICS 1, Inc.</td>
</tr>
<tr>
<td>1827</td>
<td>Electro Optical Industries, Inc.</td>
</tr>
<tr>
<td>1828</td>
<td>Lambda Research Optics, Inc.</td>
</tr>
<tr>
<td>1829</td>
<td>Adimec Electronic Imaging, Inc.</td>
</tr>
<tr>
<td>1835</td>
<td>Elbit Systems of America</td>
</tr>
<tr>
<td>1840</td>
<td>Georgia Tech Research Institute and SENSIC Kowa Optimed Inc.</td>
</tr>
<tr>
<td>1902</td>
<td>IRCAMERS LLC</td>
</tr>
<tr>
<td>1902</td>
<td>Santa Barbara Infrared, Inc.</td>
</tr>
<tr>
<td>1921</td>
<td>Raytheon ELCAN Optical Technologies</td>
</tr>
<tr>
<td>1926</td>
<td>Photonics Media</td>
</tr>
<tr>
<td>1927</td>
<td>SCD USA, LLC</td>
</tr>
<tr>
<td>1933</td>
<td>GE Intelligent Platforms</td>
</tr>
<tr>
<td>1937</td>
<td>Solid State Cooling Systems</td>
</tr>
<tr>
<td>2010</td>
<td>FLIR Systems Inc.</td>
</tr>
<tr>
<td>2021</td>
<td>Umicore Optical Materials USA, Inc.</td>
</tr>
<tr>
<td>2027</td>
<td>Impex Inc.</td>
</tr>
<tr>
<td>2032</td>
<td>ABB Analytical Measurement</td>
</tr>
<tr>
<td>2036</td>
<td>Raptor Photonics Ltd.</td>
</tr>
<tr>
<td>2111</td>
<td>Janos Technology, LLC</td>
</tr>
<tr>
<td>2115</td>
<td>Univ. of Massachusetts Lowell</td>
</tr>
<tr>
<td>2117</td>
<td>Optikos Corp.</td>
</tr>
<tr>
<td>2120</td>
<td>Analog Modules, Inc.</td>
</tr>
<tr>
<td>2123</td>
<td>Quality Thin Films, Inc.</td>
</tr>
<tr>
<td>2124</td>
<td>CREOL, The College of Optics and Photonics, Univ. of Central Florida</td>
</tr>
<tr>
<td>2125</td>
<td>Florida Photonics Cluster</td>
</tr>
<tr>
<td>2125</td>
<td>Tecport Optics, Inc.</td>
</tr>
<tr>
<td>2127</td>
<td>WIBE Telescopic Mast Systems</td>
</tr>
<tr>
<td>2129</td>
<td>Electro-Optical Imaging, Inc.</td>
</tr>
<tr>
<td>2210</td>
<td>ASD, Inc.</td>
</tr>
<tr>
<td>2211</td>
<td>Ci Systems, Inc.</td>
</tr>
<tr>
<td>2212</td>
<td>Optimax Systems, Inc.</td>
</tr>
<tr>
<td>2214</td>
<td>McQ, Inc.</td>
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<td>ISP Optics Corp.</td>
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<td>OZ Optics Ltd.</td>
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<td>PI (Physik Instrumente) L.P.</td>
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<td>2321</td>
<td>Defense Tech Briefs</td>
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<td>Micro Laser Systems, Inc.</td>
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<td>Deposition Sciences, Inc.</td>
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<td>National Reconnaissance Office</td>
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<td>Dow Electronic Materials</td>
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<td>Delta Digital Video</td>
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<td>DILAS Diode Laser, Inc.</td>
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<td>Leybold Optics USA, Inc.</td>
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<td>Ampex Data Systems Corp.</td>
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<td>Davidson Optronics Inc.</td>
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<td>CPS Technologies Corp.</td>
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<td>Tactical Defense Media</td>
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<td>Earth Imaging Journal</td>
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<td>Photodigm, Inc.</td>
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<td>Vistec Electron Beam Lithography Group</td>
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<td>Snake Creek Lasers, LLC</td>
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<td>AdValue Photonics, Inc.</td>
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<td>The Optronics Co., Ltd.</td>
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<td>Avantes, Inc.</td>
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<td>NuPhoton Technologies, Inc.</td>
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<td>L.A. Gauge Co.</td>
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<td>C4ISR Journal &amp; Defense News</td>
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<td>Defense Tech Briefs</td>
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4D Technology Corp. #613
3280 E Hemisphere Loop Ste 146, Tucson, AZ, 85706-5024 USA
+1 520 294 5600; fax +1 520 294 5601
info@4dtechnology.com; www.4dtechnology.com

Featured Product: AccuFix compact laser interferometer, with highest available resolution at mid-spatial frequencies.
4D Technology designs and manufactures dynamic laser interferometers and optical profilometers for non-contact metrology of surface shape, wavefront quality and surface roughness, even in the presence of vibration and turbulence. 4D systems provide high resolution acquisition of phase data in as little as 1 microsec, for optical testing at wavelengths from DUV through NIR. Applications include astronomy, aerospace, general optics, directed energy and more. Contact: Don Roberts, Eastern Region Sales Manager, don.roberts@4dtechnology.com; Stephen J. Martinek, Director of Sales, stephen.martinek@4dtechnology.com

ABB Analytical Measurement #2032
585 Blvd Charest Est Ste 300, Quebec, QC, G1K 9H4 Canada
+1 418 877 2944; fax +1 418 877 2834
ftnll@ca.abb.com; www.abb.com/analytical

Featured Product: New MR-I a FT-IR hyperspectral imaging spectroradiometer offering radiometric accuracy for infrared.
ABB Analytical Measurements set the standards for FT-IR Spectroradiometer used in atmospheric sounding, military targets IR signature characterization and gas detection. ABB also develops solutions with reliable airborne and spaceborne optical instruments, infrared calibration systems, hyperspectral imagers, and software for ground segments and simulation. ABB counts several projects in Defense & Security and Space success stories, positioning her at the forefront of the Remote Sensing Industry. Contact: Christian Vallieres, Business Development Manager - Defence & Security, christian.a.vallieres@ca.abb.com

Access Laser Co. #204
917 134th St SW Unit A-1, Everett, WA, 98204-9377 USA
+1 425 582 8674; fax +1 425 582 8679
sales@accesslaser.com; www.accesslaser.com

Featured Product: Showcasing our new MiTEA laser
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Adimec Electronic Imaging, Inc. #1829
245 North St, Stoneham, MA, 02180 USA
+1 781 279 0770; fax +1 781 279 0571
salesus@adimec.com; www.adimec.com

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AdlOptica Optical Systems GmbH #1315
Rudower Chaussee 29, Berlin, 12489 Germany
+49 030 565908880; fax +49 030 56590881
info@adloptica.com; www.adloptica.com

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AdTech Optics, Inc.

18007 Cortney Ct, Rowland Heights, CA, 91748-1203 USA
+1 626 956 1000; fax +1 626 956 1000
sales@atoptics.com; www.atoptics.com

Located in Tucson, Arizona, AdValue Photonics is focused on being the worldwide leading developer and manufacturer of high-quality, cost-effective fiber lasers, fiber amplifiers, fiber based broadband light sources, and optical fiber passive components. Our current products in the 2 micron wavelength region have provided new capabilities and opportunities to our customers for LIDAR, sensing, spectroscopy, mid-IR generation, material processing, and medical applications. Contact: Craig Henry, Sales Manager, sales@advaluephotronics.com; Katherine Liu, Director of Business Development, sales@advaluephotronics.com

AdValue Photonics, Inc.

3708 E Columbia St Ste 100, Tucson, AZ, 85714 USA
+1 520 790 5468; fax +1 520 790 1158
sales@advaluephotronics.com; www.advaluephotronics.com


Advanced Cooling Technologies, Inc.

1046 New Holland Ave, Lancaster, PA, 17601-5606 USA
+1 717 295 6061; fax +1 717 295 6064
info@1-act.com; www.1-act.com

Advanced Laser Diode Systems

A.L.S. GmbH

Schwarzschildstr 6, Photonic Center, Berlin, D-12489 Germany
+49 30 6392 6522; fax +49 30 6392 6521
info@alsgmbh.de; www.alsgmbh.com

Featured Product: PiLas: Versatile 20 ps to few nanosecond laser diode with excellent pulse and jitter properties.

Advanced Laser Diode Systems (ALS GmbH), a subsidiary of Onefive GmbH, is a leading manufacturer of compact turn-key picosecond laser diode systems. The externally triggerable low time jitter picosecond laser diode systems offer wider choice of parameters: pulse durations from 20 picosecond to few nanoseconds, wavelengths between 375 and 2010 nm and variable repetition rates from single shot/pulse to demand on 120 MHz, and are available in free space or fiber output version up to watt level. Contact: Boris Khoury, boris.khoury@alsgmbh.de; Lalit Bhushan Sharma, Head of Sales & Marketing, lalit.sharma@onefive.com

Advanced Research Corp.

4459 White Bear Pkwy, Saint Paul, MN, 55110 USA
+1 651 789 9000; fax +1 651 789 9199
info@arcnano.com; www.arcnano.com

Featured Product: Hermetic FeedThroughs
Hermetic Multilayer Ceramic and Metal packaging technology for optoelectronics.
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101 Zeta Dr, Pittsburgh, PA 15238-2897 USA
+1 412 963 7470; fax +1 412 963 7459
sales@aerotech.com; www.aerotech.com
Aerotech manufactures motion simulators, multi-axis gimbals, single-/multi-axis positioning systems, and advanced controls. These include those for angular testing and calibration of satellite sensors, missile seeker gimbals, inertial navigation guidance units, optical pointing/target tracking, and more. High vacuum and cleanroom systems are available. Components include linear/rotary/lift stages; gimbals; gantries; nanopositioners; goniometers; motion controllers; drives; linear/rotary motors. Contact: Thomas Markel, Product Manager, Precision Positioning Group, tmarkel@aerotech.com; Byron Fruit, Application Engineer, Precision Positioning Group, bfruit@aerotech.com

Agilent Technologies, Inc.  #147
2850 Centerville Rd, Wilmington, DE, 19808-1610 USA
contact_us@agilent.com; www.agilent.com

AGM Container Controls, Inc.  #414
3526 E Fort Lowell Rd, Tucson, AZ, 85716 USA
+1 520 881 2130; fax +1 520 881 4983
sales@agmcontainer.com; www.agmcontainer.com
Featured Product: NEPS Advantage provides dry gas purge equipment w/automatic operation & dewpoint temperature display
The NEPS (Nitrogen Enhanced Purge System) provides easy purging with automatic operation & efficient use of nitrogen. It creates a dry environment within equipment or system by measuring the dryness of the purge gas as it leaves the system being dried, minimizing the amount of nitrogen needed per purge. Suitable for use with night vision goggles, cameras, imaging systems, sealed electro-optical equipment & to leak test equipment. Standard models use customer-supplied dry gas source.

AIM INFRAROT-MODULE GmbH  #1725
Theresienstr 2, Heilbronn, 74072 Germany
+49 7131 6212 0; fax +49 7131 6212 939
info@aim-ir.com; www.aim-ir.com
Featured Product: SL 384x288x2 MW/ MW, MCT 640x512 MWIR for HOT applications, MBE-grown MCT 640x512 MW or LW modules
AIM is a leading supplier of advanced IR-detectors and Stirling cryocoolers. Modules with outstanding E/O performance, stable NUC coefficients and minimum size, weight and power meet the requirements of most challenging military and space applications. AIM provides cooled detectors from VIS-NIR to VLWIR based on MCT- and T2SL-technology. MBE-technology is introduced for 3rd Gen or cost reduction by alternative substrates. Highly efficient coolers are available for HOT and 3rd Gen applications. Contact: Dr. Rolf Muenter, Head of Business Development, rolf.muenter@aim-ir.com; Dr. Ralf Scheibner, Sales Manager North America, ralf.scheibner@aim-ir.com

Allied Vision Technologies Inc.  #715
38 Washington St Ste 2, Newburyport, MA, 01950 USA
+1 978 225 2030; fax +1 978 225 2029
sales.americas@alliedvisiontec.com; www.alliedvisiontec.com

Alpes Lasers SA  #1202
Passage Max-Meuron 1-3, Neuchâtel, 2001 Switzerland
+41 32 729 95 10; fax +41 32 721 36 19
info@alpeslasers.ch; www.alpeslasers.ch
Featured Product: Quantum Cascade Lasers.
Alpes Lasers was founded in 1998 by J. Faist (co-inventor of the Quantum Cascade Laser), M. Beck and A. Müller. Alpes Lasers is the first company to offer Quantum Cascade Laser technology for spectroscopy applications. Alpes Lasers has a unique know how of more than thirty years of cumulated Unipolar Laser manufacturing. Contact: Antoine Müller, CEO, info@alpeslasers.ch; Olivier Landry, Customer Relations, info@alpeslasers.ch

AMETEK HCC Electronic Packaging  #709
50 Welby Rd, New Bedford, MA, 02745 USA
+1 508 998 3141; fax +1 508 995 7315
mike.brown@ametek.com; www.hcclnustdies.com
Leader in the design/manufacture of high reliability hermetic micro-electronic packages, headers & lids. Sealing/Insulation technology can be either Glass to Metal or Ceramic to Metal. Packages support many applications: Infrared, Hybrid Microprocessor & Optical Networking Components. Lids & Lids with Windows (metalized & A/R coated) are also offered. Capabilities: Custom design engineering, prototyping & high volume production. Businesses: HCC Aegis, Glasseal Products & General Ceramics. Contact: Keith Barclay, VP of Sales & Marketing, keith.barclay@ametek.com; Mike Brown, North American Sales Manager, mike.brown@ametek.com

Ampex Data Systems Corp.  #2410
500 Broadway, Redwood City, CA, 94063-3436 USA
+1 800 227 8333; fax +1 650 367 4669
www.ampex.com
Featured Product: TuffServ 100v AirborneVideo File Server - TuffServ 40 miniature Ethernet Recorder
Ampex Data Systems manufactures airborne and ground based high-performance data acquisition systems used in flight test, instrumentation and sensor collection applications. Our product line features a variety of harsh environment solid state recorders that incorporate multi-channel high-definition video and data format interfaces, as well as the family of TuffServ ruggedized Network File Servers. Ampex products are designed and manufactured in the U.S.A. Find further info. at www.ampex.com. Contact: John Hardy, Business Development Mgr., john_hardy@ampexdata.com; Don Downing, Business Development Mgr., don_downing@ampexdata.com

Amplification Technologies, Inc.  #203
50 Eisenhower Drive, Paramus, NJ, 07652 USA
+1 201 880 8111; fax +1 201 880 8110
info@ampti.net; www.ampti.net
Featured Product: NIRDAPD (second generation). High detection efficiency, self-quenched geiger mode APD.
Amplification Technologies seeks to transform the field of low-level signal detection. The company’s patented semiconductor technology has the potential to offer unparalleled benefits to industries such as medical diagnostics, remote sensing, aerospace, scientific instrumentation and homeland security. The technology has been successfully used to develop extremely sensitive detectors of low levels of light. Contact: Wayne Seemungal, VP Sales, wayne@ampti.net
Amuneal Manufacturing Corp. #245
4737 Darrah St, Philadelphia, PA, 19124 USA
+1 215 535 3000; fax +1 215 743 1715
info@amuneal.com; www.amuneal.com

Featured Product: Magnetic Shielding.
Since 1965, Amuneal has been serving highly technical markets, working with leaders in aerospace, electronics, cryogenics, healthcare, and research to develop cost-effective magnetic shielding strategies and products that outperform the most demanding requirements. We offer a number of standard component shields to our clients, however, our culture and capabilities allow us to manufacture and install unique custom shields ranging from prototypes and models to full-scale assemblies. Contact: Michael Adolf, Technical Sales Specialist, mkeal@amuneal.com

Analog Modules, Inc. #2120
126 Baywood Ave, Longwood, FL, 32750-3426 USA
+1 407 339 4355; fax +1 407 834 3806
ami@analogmodules.com; www.analogmodules.com

Analog Modules, Inc. (certified to ISO 9001:2008) designs and manufactures a wide range of analog electronic products for the laser and electro-optics industries. Products include capacitor charging power supplies, simmer supplies, Pockels cell drivers, hybrid laser rangefinder receivers, laser spot trackers, linear and logarithmic analogmodules.com; Tim Cable, Product Manager, tcable@analogmodules.com

Angstrom Precision Optics Inc. #3018
190 Bennington Dr, Rochester, NY, 14616-4754 USA
+1 585 663 7230; fax +1 585 663 7236
info@apoptics.com; www.apoptics.com

Featured Product: Optical Grade Germanium and Silicon windows.
Supplier of plano polished components. Windows, wedges, filters, mirrors and CNC dicing of coated optics. CNC shaping services also. APO stocks a complete inventory of UV, VIS and IR materials. Capabilities: CP, DSP and OD polishing to <0.5 arc sec wedge, <10^-5 SD and 1/20 wave flatness, Materials include optical glass, fused quartz/silica, filter glass, silicon, germanium, Borofloat and float glass. APO provides quality optics with our expedited 2-3 day delivery upon request. Contact: Ron Schulmerich, President, Ron@apoptics.com; Johnny O’Herron, VP Sales / Manufacturing, Johnny@apoptics.com

Angstrom Scientific Inc. #233
120 N. Central Ave, Ste 3, Ramsey, NJ, 07446 USA
+1 201 760 2524; fax +1 201 760 2525
info@angstrom.us; www.angstrom.us

Anoplate Corp. #919
459 Pulaski St, Syracuse, NY, 13204 USA
+1 315 471 6143; fax +1 315 471 7132
sales@anoplate.com; www.anoplate.com

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Providing metal finishing services to industry since 1960. As a partner in your design process, we understand the important aspect of surface engineering as it relates to: corrosion resistance, wear resistance, friction reduction, light reflection, joinability, aesthetics and surface preparation. Whether you have routine plating or complex finishing requirements, our staff of over 200 can help devise a customized coating suited to your particular application and delivery when you need it. Contact: Tim Stone, VP of Business Development, tstone@anoplate.com; Dave Edmonds, Sales Engineer, dedmonds@anoplate.com

Applied Diamond, Inc. #3050
3825 Lancaster Pke, Wilmington, DE, 19805 USA
+1 302 999 1132; fax +1 302 999 8320
services@usapplieddiamond.com; www.usapplieddiamond.com

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Aerotech, Inc.
Booth 1631
Product: APR Direct-Drive Rotary Stage
APR direct-drive rotary stages for precision testing and metrology.

Aerotech, Inc.
Booth 1631
Product: MPS Miniature Linear Stages
MPS miniature linear stages for confined laboratory or production environments.

AGM Container Controls, Inc.
Booth 414
Product: Nitrogen Enhanced Purge System (NEPS)
NEPs dry gas purging with automatic operation, dewpoint temperature display.
Araya's new class of consumer and OEM optical spectrometers from Arjae Spectral Enterprises is focused on customer’s products. From mechanical, electrical, thermal, and materials design for packaging/manufacturing, into fabricated prototypes, and finally high volume production. Arvo Photonics is a one-stop shop for photonic packaging services. Contact: Megan Arnone, Executive Sales Assistant, marnone@avophotonics.com; Sales, sales@avophotonics.com

Avantes, Inc. #3068

7969 W 119th Dr Ste 4, Broomfield, CO, 80021 USA
+1 303 410 8668; fax +1 303 410 8669
info@avantes.com; avantes.com

Avvo Photonics provides custom design and contract manufacturing services to customers in the military, aerospace, medical, communications, and commercial markets. Its unique pure service model assures Avvo is focused on customer’s products. From fundamental optical physics analysis, through mechanical, electrical, thermal, and materials design for packaging/manufacturing, into crafted prototypes, and finally high volume production, Avvo Photonics is a one-stop shop for photonic packaging services. Contact: Megan Arnone, Executive Sales Assistant, marnone@avophotonics.com; Sales, sales@avophotonics.com

Arroyo Instruments, LLC #332

624 Clarion Ct, San Luis Obispo, CA, 93401 USA
+1 805 543 1303; fax +1 805 543 1303
sales@arroyoinstruments.com; www.
arroyoinstruments.com

Featured Product: The new 286 TECMount, a 100W capable mount designed for high power laser and LED applications.

Arroyo Instruments is a supplier of precision current sources, temperature controllers, and device fixtures for laser and LED applications. Our diode drivers feature high stability and low noise, and range from 100mA to 20A, while our temperature controllers feature 0.004°C stability and output powers starting at 28W. We also offer a broad range of fixtures for a variety of laser and LED packages. Stop by our booth or visit our web site to learn more.

ASE Optics #647

850 John St, West Henrietta, NY, 14586 USA
+1 585 303 1574; fax +1 585 292 5459
sales@aseoptics.com; www.aseoptics.com

Arrow Thin Films, Inc. #3058

465 W Main St Ste 2, Wyckoff, NJ, 07481 USA
+1 201 977 1073
www.arrow-optf.com

Featured Product: Thin Films Coatings, Precision optics and assemblies.

Providing solutions, hitting your targets...Arrow can provide solutions for demanding industry applications from the UV to the LWIR. Including, coatings for custom optics, laser crystals and non-linear optical materials. Contact: Jon Herringer, President, jon.herringer@arrow-optf.com

Arjia Spectral Enterprises, Inc. #523

2350 N Trihammer Rd, Ithaca, NY, 14850 USA
+1 607 266 0100
sales@arjia-spectral.com; www.arjia-
spectral.com

Featured Product: A new class of spectrometers that eliminate the classic tradeoff between resolution and throughput.

A new class of consumer and OEM optical spectrometers from Arjia Spectral Enterprises eliminate the classic tradeoff between resolution and throughput using an innovative, proprietary optical design to achieve unprecedented high resolution and high throughput simultaneously. This disruptive technology delivers dramatic performance improvements at a reasonable cost making it suitable for all your demanding and routine spectroscopy applications. Contact: Aaron Weinroth, VP, Business Development, sales@arjia-spectral.com; Edward Alby, VP, Sales & Marketing, sales@arjia-spectral.com
Bid Service buys and sells high quality refurbished equipment used in the scientific community. All equipment is fully serviced by our in-house technical staff. We offer full demonstrations prior to shipment. All equipment sold includes a 30 day unconditional right to return, as well as a 90 day parts warranty. Contact: Robert Murphy, Sales Manager, bobm@bidservice.com; Roger Shupe, General Manager, roger@bidservice.com
Bridger Photonics, Inc.  #224
2310 University Way Bldg 4-4, Bozeman, MT, 59718 USA
+1 406 585 2774; fax +1 406 587 0808 info@bridger photonics.com; www.bridger photonics.com

Featured Product: The SLM-L Precision Absolute Distance Measurement System
Bridger Photonics, Inc. specializes in lasers and laser-based ranging and imaging systems. Our proprietary technologies lead to metrology products with unsurpassed resolution, gas detection, and 3D imaging capabilities. The company has developed the highest resolution distance measurement systems in the world, and the only affordable, compact, mid-infrared, high-energy pulsed laser for gas detection. Our technologies allow for remote measurement and detection of recognition of myriad targets. Contact: Pete Roos, CEO, roos@bridger photonics.com; Randy Reibel, COO, reibel@bridger photonics.com

Brimrose Technology Corp.  #312
19 Lovetoon Cir, Hunt Valley Lovetoon Ctr, Sparks Glencoe, MD, 21152-9201 USA
+1 410 472 2600; fax +1 410 472 7960 office@brimrosetechnology.com; www.brimrosetechnology.com

Featured Product: Passive IR UGS: SPOT (Silhouette Profiling Optical Tripwire) and AOTF SWIR Hyperspectral Imager
Brimrose Technology a Baltimore based Electro-Optics Company specializes in ruggedized, small, low power, military imaging equipment. Two major products will be demonstrated on site: (a) Low Cost, Low Power, Text Picture Message Capable, Passive IR UGS: SPOT (Silhouette Profiling Optical Tripwire) and (b) Hand Held, Light Weight, Low Power, AOTF SWIR Hyperspectral Imager. Contact: Dr. Jolanta Rosemeier, CTO, jroos@brimrosetechnology.com; Carla Green, Sales Mgr., cgreen@brimrose.com

Bristol Instruments, Inc.  #332
7947 Main Street Fishers, Victor, NY, 14564 USA
+1 585 924 2620; fax +1 585 924 2623 info@bristol-instr.com; www.bristol-instr.com

Featured Product: Model 8218-IR Laser Wavelength Meter for Pulsed and CW Lasers that operate from 1.5 to 5.0 μm.
Bristol Instruments offers a variety of wavelength meters and spectrum analyzers for characterization of CW and pulsed lasers that operate over the range of 375 nm to 12.0 μm. Absolute laser wavelength is measured to an accuracy as high as ±0.2 parts per million and a laser’s spectrum is determined to a resolution as high as 2 GHz. Bristol Instruments also provides accessories, repair services, and FREE technical support for old Burleigh products such as the RC Fabry-Perot interferometer. Contact: Walter Hersom, North American Sales Manager, whersom@bristol-instr.com; Sam Algera, International Sales Manager, salgera@bristol-instr.com

Bruker Corp.  #223
40 Manning Rd, Billerica, MA, 01821 USA
+1 978 663 3660; fax +1 978 667 4706 www.bruker.com

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6883 Commercial Dr, Springfield, VA, 22159 USA
+1 703 642 7330 jmccoy@gannettgov.com; www.defense news.com

C4ISR Journal and Defense News are leading sources for C4ISR, cyberspace and defense information worldwide. C4ISR Journal is the authoritative voice for the intelligence, surveillance, reconnaissance and cyberspace industries that shape modern warfare. Defense News is a weekly news publication covering the most important issues facing the worldwide defense industry. C4ISR Journal and Defense News are publication(s) of Gannett Government Media Corporation, a subsidiary of Gannett Co., Inc. Contact: Judy M, AVP, Advertising, jmccoy@gannettgov.com

EXHIBITION MAP/RESTAURANT GUIDE SPONSOR
CALCULEX, Inc.  #402
132 W Las Cruces Ave, Las Cruces, NM, 88001 USA
+1 505 525 0131; fax +1 505 524 4744 info@calculex.com; www.calculex.com

Featured Product: MONSSTR® Solid State Recorders
CALCULEX designs and manufactures the MONSSTR family of solid state recorders that feature a wide range of built-in multiplexer options and are compliant with IRIG 106 Chapter 10 standards. Interfaces include Standard Resolution video, High Definition video, Fibre Channel, GigE, PCM, and MIL-STD-1553. Customers for MONSSTR include the 46th Test Wing at Eglin AFB, FL; Lockheed Martin, Orlando, FL; Boeing, St. Louis, MO; Edwards AFB, CA; US Navy, Patuxent River, MD, and many others. Contact: Bill Taylor, National Sales Manager, billt@calculex.com

Arjae Spectral Enterprises, Inc.  #562
Booth 523
Product: SHEER 532 / SHEER 785
Arjae Spectral’s SHEER products improve spectral resolution without sacrificing throughput.

ASD, Inc.  #1535
Booth 2210
Product: FieldSpec 4 Standard-Res
New FieldSpec 4 Line – ASD’s fastest, most precise field spectroradiometers.

CalRamic Technologies, LLC  #1535
5462 Louie Ln, Reno, NV, 89511 USA
+1 775 851 3580; fax +1 775 851 3582 jday@calramic.com; www.calramic.com
We are a manufacturer of HIGH VOLTAGE CERAMIC CAPACITORS FOR MILITARY, SPACE AND COMMERCIAL. Contact: Jeff Day, President, jday@calramic.com

Cantronic Systems (Canada) Inc. #2312
67A Clipper St, Coquitlam, BC, V3K 6X2 Canada
+1 604 516 6667; fax +1 604 516 6618 info@cantronics.com; www.cantronics.com
Featured Product: TR3620S-C225 Uncooled Thermal Imager
Cantronic Systems (Canada) Inc. is a global technology leader in infrared thermal imaging and night vision systems. Cantronic manufactures and distributes active and passive CCTV infrared imaging and night vision cameras. These complex camera systems are used for monitoring, protecting and managing facilities and people. Cantronic has supplied systems for use in demanding military, homeland security, and industrial applications. Contact: Frank Fei, Regional Sales Manager, ffei@cantronics.com

Carl Hanser Verlag GmbH & Co. KG #625 Kölbergerstr 22, Muenchen, 81679 Germany +49 89 99830 0; fax +49 89 98480 9 info@hanser.de; www.hanser.de

Carl Zeiss Microscopy, LLC #403 One Zeiss Dr, Thornwood, NY, 10594-1939 USA +1 800 233 2343 micro@zeiss.com; www.zeiss.com/microscopy
Featured Product: Microscopes and image analysis software
Carl Zeiss is a leading provider of light, electron and ion beam microscopes and imaging solutions for biomedical, life science, materials research and industry. Its light microscopy product line includes routine microscopes, stereomicroscopes, research microscopes, digital cameras, confocal systems, superresolution and software solutions. The ZEISS charged particle systems span from SEMs, FESEMs, energy filtering TEMs and FIB workstations along with the newly invented helium ion microscopes. Contact: Karin Salerno, Marketing Communications Mgr., ksalerno@zeiss.com

Canon U.S.A., Inc. #333
1 Canon Pkz, Lake Success, NY, 11042-1198 USA +1 516 328 5000; fax +1 516 328 4601 www.usa.canon.com
Featured Product: GM Series Digital Optical Scanners and Scan Heads
Canon USA is a provider of High Resolution Digital Optical Scanners and Scan Head Devices, Rotary and Linear Encoders, Non Contact Doppler Sensors, and other Encoder Products. The GM Series and Scan Head Devices are used for Laser Marketing, Welding, Cutting, Medical and Rapid Prototyping. Contact: Ron Travis, Sales Manager, rtravis@usa.canon.com

Catalina Scientific Instruments, LLC #304
1870 W Prince Rd Ste 21, Tucson, AZ, 85705 USA +1 512 571 8000; fax +1 512 571 0120 info@catalinasci.com; www.catalinasci.com
Featured Product: EMU-65 Echelle spectrophotograph for use with EMCCD, CMOS and intensified cameras
Our products include an innovative cross-dispersing echelle spectrograph and KestrelSpec™ imaging spectroscopy software. Our portable Echelle Multiplex Unit (EMU) has high resolution with high throughput, and covers the entire UV-NIR spectral region in one image, without scanning. The echelle systems are ideal for Laser Induced Breakdown Spectroscopy (LIBS), OES, bioluminescence, photoluminescence, fluorescence, and Raman applications using multiple laser wavelengths. Contact: Burt Beardsley, info@catalinasci.com

China Germanium Co., Ltd. #219
No 718 Jianguin Ave Jiangning District, Nanjing City, 211165 China +86 25 5275 9450 chinagermanium@nange.com; www.nange.com
Featured Product: Germanium optical blanks, Silicon optical blanks, Germanium solar wafer.
China Germanium Co., Ltd. is the world leading manufacturer of germanium and silicon infrared optical blanks, including germanium blanks, germanium windows & lenses, silicon blanks, silicon windows & lenses, and germanium solar wafer. We are also supplying high purity germanium, indium and gallium, recycling service are available for germanium, indium and rare earth metals. Contact: Jiening Sun, sun@nange.com; Mingzhong Zhou, chinagermanium@yahoo.com.cn

CI Systems, Inc. #2211
759 Cochran St Ste A, Simi Valley, CA, 93065-1978 USA +1 805 520 2233 x107; fax +1 805 520 2234 info@cisystemsinc.com; www.ci-systems.com
CI Systems’ turnkey test stations leverage our expertise in infrared and visible sources, collimators, range simulators, laser measurement, motion control, software, and unit-under-test fixtureing to deliver reliable, highly accurate systems that are backed by knowledgeable and responsive service professionals. Contact: Garrick Matheson, Director, gmatheson@cisystemsinc.com; Kim Browne, Administrator, kbrowne@cisystemsinc.com

Clear Align #1735
2550 Blvd of the Generals Ste 280, Eagleville, PA, 19403 USA +484 956 0510; fax 484 956 0511 info@clearalign.com; www.clearalign.com Clear Align designs, prototypes and manufactures imaging and laser systems for UAV, rotary craft, aircraft, tank, and portable applications. We deliver lightweight imagers, illuminators, laser pointers and other integrated electro-optic sensors in UV, Visible, NIR, SWIR, MWIR and LWIR portions of the spectrum. Clear Align’s clients include the US Army, US Navy, Raytheon, Northrop Grumman, Lockheed Martin and L3 Communications. Clear Align is a Certified SB, 8(a) SDB & WOSB. Contact: David Huff, Vice President Business Development, david.huff@clearalign.com; Angelique Irvin, President & CEO
Axsys Technologies is now General Dynamics Global Imaging Technologies. Focused on the design and manufacture of high-performance cameras and optical systems, we provide our customers with the clarity, accuracy and reliability to successfully complete their mission.
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+1 877 386 3323; fax +1 515 280 1452
info@clearancejobs.com; www.clearancejobs.com
ClearanceJobs.com is the leading Internet-based career network dedicated to matching security-cleared professionals with the best hiring companies searching for new employees. www.clearancejobs.com Contact: Gretchen Uhlenhake, ClearanceJobs Sales, Gretchenuh@ dice.com; Deb Bissell, ClearanceJobs Customer Support, DebraB@dice.com

Coastal Connections #1329
2368 Eastman Ave Unit 11, Ventura, CA, 93003-5771 USA
+1 805 644 5051; fax +1 805 644 5355
sales@coastalcon.com; www. coastalcon.com
Coastal Connections is the leading provider of engineered fiber optic cables and terminations in the USA. Specializing in short (350-980nm) wavelengths and high power cables for all environments. Offering fiber End-Caps to extend the life of single-mode, polarization maintaining, and multimode cables. We can quickly design and build custom cables to your specification from our $100,000+ inventory of fiber and connectors. Please contact our experienced staff to discuss your requirements. Contact: Andy Devine, President, andy@ coastalcon.com; Aland Whitebook, Technical Sales Manager, sales@coastalcon.com

Cobham Mission Systems #2223
2734 Hickory Grove Rd, Davenport, IA, 52804-1203 USA
+1 563 383 6000; fax +1 563 383 6430
cms.ainfo@cobham.com; www.cobham.com
Featured Product: Cryogenic Coolers and Controllers
Carleton Life Support Systems Inc., part of the Cobham Mission Systems Division, is a world leader in the application of air separation technology for aviation applications; the design and manufacture of miniature stirling cycle cryogenic coolers; and the design and manufacture of military underwater rebreathers. Contact: Asif Ahmed, Business Development Manager, asif.ahmed@cobham.com; Lane Dicken, Engineering Manager, lane.dicken@cobham.com

Coherent Logix, Inc. #902
1120 S Capital of Texas Hwy Ste 310, Bldg 3, Austin, TX, 78746-6464 USA
+1 512 382 8940; fax +1 512 382 8941
clxinfo@coherentlogix.com; www. coherentlogix.com
Featured Product: HyperX 100-core processor for real-time hyperspectral image processing, stabilization, sensor fusion.
Coherent Logix, Inc. is the leader in ultra-low power, many-core processors for ISR and communications applications. Offering C-language programmability and re-configurability, the HyperX family of many-core processors achieves the lowest SWaP-C for sensors and communications links, enabling the implementation of computationally intensive algorithms at the sensor. The HyperX implements real-time hyperspectral, target detection, sensor fusion, H.264 encoding/ decoding, and user defined algorithms. Contact: John Irza, Solutions Architect, irza@coherentlogix.com; Martin Hunt, Program Manager, hunt@coherentlogix.com

Coherent, Inc. #303
5100 Patrick Henry Dr, Santa Clara, CA, 95054-1112 USA
+1 408 764 4000
tech.sales@coherent.com; www.coherent.com
Founded in 1966, Coherent, Inc. is one of the world's leading providers of lasers and laser-based solutions for scientific, commercial and industrial customers competing in the most demanding markets.

Cohu Electronics #553
12367 Crotchwaite Cir, Poway, CA, 92064 USA
+1 858 277 6700; fax +1 858 277 0221
www.cohu-cameras.com
Cohu has proudly manufactured its entire product line in the USA for the last 45+ years. Integrating the latest video compression and High Definition IP technology into its innovative, rugged video cameras systems. Cohu’s mix of high quality HD cameras, transmission equipment and management software can be found on the international space station, monitoring the busiest freeways and ports, military bases, nuclear reactors, and other critical installations protecting our safety around the globe.

Contact! Corp. #230
1818 Roberts St, Winchester, VA, 22601USA
+1 540 722 8716; fax +1 540 722 8717
info@contactcorp.net; www.contactcorp.net
Featured Product: Telescopic, composite, antenna masts for communications or surveillance.
Antenna Masts and Towers by Tim Price, Inc. doing business as Contact Corporation are tactical, telescopic, fiberglass and carbon-fiber mast systems currently in use by the military, emergency and first responder services. Contact is a systems integrator and the North American distributor of telescopic antenna masts manufactured by Cobham Mast Systems Of Finland. Contact designs, fabricates, and integrates complete systems of transportable antenna mast towers and trailer systems. Contact: Nathan Massie, Marketing Manager, nmassie@ contactcorp.net; Gary Groah, Director of Business Development, ggroah@contactcorp.net

CorActive High-Tech Inc. #1008
2700 Jean-Perrin Ste 121, Quebec, QC, G2C 1S9 Canada
+1 418 845 2466; fax +1 418 845 2609
sales@coractive.com; www.coractive.com
CorActive is a well financed independent developer and manufacturer of advanced Specialty Optical Fiber (SOF) products for OEM customers serving the industrial laser, telecommunications, sensor, defense, and aerospace industries. CorActive uniquely offers a full line of standard SOF products, including Double Clad, Erbium doped, Mid- to Far-IR transmission, UV sensitive and attenuating optical fibers, plus custom fiber development services for specific applications. Contact: Jean Dube, VP Sales, jean.dube@coractive.com

Covesion Ltd. #336
A7, Premier Centre, Premier Way, Romsey Hampshire, SO51 9QO United Kingdom
+44 1794 521638; fax +44 8709 289714
sales@covesion.com; www.covesion.com
Featured Product: PPLN crystals for ultra-efficient wavelength conversion across many visible and mid-IR applications.
A rapidly growing UK manufacturer of MgO:PPLN, supporting a wide range of applications such as: Laser Countermeasures (DIRCM), Green Laser Sighting / Dazzling, Terahertz Generation, Mid-IR Generation for Spectroscopy and Explosives Detection, and many others. Our patented production process results in a uniquely uniform poled domain structure (x, y and z axes), enhancing: Conversion Efficiency, Damage Thresholds, Stability and Ease-of-Use. Contact: Mark Middleton, Managing Director, mark.middleton@covesion.com; Christian Rahlf, Chief Operating Officer, christian.rahlf@covesion.com
CPS Technologies Corp.   #3030
111 S Worcester St, Norton, MA, 02766 USA
+1 508 222 0614; fax +1 508 222 0220 info@alsic.com; www.alsic.com

CREOL, The College of Optics and Photonics, Univ. of Central Florida   #2123
4000 Central Florida Blvd, Bldg 53 Univ of Central Florida, Orlando, FL, 32816-2700 USA
+1 407 823 6800; fax +1 407 823 6880 creol@creol.ucf.edu; www.creol.ucf.edu

Featured Product: Photonics graduate programs. Florida economic development incentives.
CREOL, The College of Optics & Photonics at the University of Central Florida is an internationally recognized academic and research institution, offering MS and PhD degrees in Optics, and serves as a scientific and technical resource to industry. The College has research programs covering all aspects of optics, lasers, and photonics and their many applications. The College works in partnership with the Florida High Tech Corridor Council and several Florida economic development organizations. Contact: Bahaa Saleh, Dean & Director, besaleh@creol.ucf.edu; Denise Whiteside, Asst. to the Dean, denise@creol.ucf.edu.

Criterion Instrument   #327
5349 W 161st St, Brook Park, OH, 44142 USA
+1 216 267 1733; fax +1 216 267 4542 office@criteriontool.com; www.criteriontool.com

Featured Product: Precision Machined Parts/Contract Manufacturing
Criterion Instrument, a Female Owned, ISO 9001-2008 certified manufacturer, has been providing custom precision machined parts for over 50 years to the medical, aerospace, defense and commercial industries. From prototype to production we can support your projects. Capabilities include CNC milling, turning and CNC Swiss turning. Criterion wants to be part of the solution, let us quote your next project. Contact: Tanya DiSalvo, President, tdsalvo@criteriontool.com. Dennis Ondercin, Sales Engineer, donnercin@criteriontool.com

Critical Link, LLC   #802
6712 Brooklawn Pkwy, Syracuse, NY, 13211-2158 USA
+1 315 425 4045; fax +1 315 425 4048 info@criticalink.com; www.criticalink.com
CL continues to innovate by helping our customers embed their application in their scientific and vision cameras. We will be demonstrating our Vision Development Kit (VDK) which is designed to accelerate your vision project and is based on TI’s OMAP processor (ARM + DSP) and Xilinx FPGA.

CVI Melles Griot   #1619
200 Dorado Pl SE, Albuquerque, NM, 87123-3605 USA
+1 505 296 9541; fax +1 505 298 9908 optics@cvimellesgriot.com; www.cvimellesgriot.com

Featured Product: IR optics, shutters, thermal imaging, domes, windows, prisms
CVI Melles Griot is excited to be your photonic technology partner! Learn about our new exciting filter and shutter products that will save you money, time and improve your system performance. Talk to us about your challenging requirements and see how our greatly expanded capabilities in diamond turning, CNC optical fabrication, and Build-Your-Own component manufacturing competencies will help you get to market quicker.

D&P Instruments   #2412
1280 Hopmeadow St Unit E, Simsbury, CT, 06070 USA
+1 860 658 0458; fax +1 860 651 0698 microfts@aol.com; www.dpinstruments.com

DataRay Inc.   #555
14505 Seaman Gulch Rd, Bella Vista, CA, 96008-9801 USA
+1 203 210 5065; fax +1 203 762 0551 sales@dataray.com; www.dataray.com

Featured Product: WinCamD-FIR2-16 IR camera for 2-16 microns for beam analysis
Manufacturer of Laser Profilers for lasers, laser assemblies, fiber optic, telcom and imaging to ISO 11146 standards. Sub-micron, UV-16 microns, cameras, slit scanners knife edge beam profiling, Focused beam-waist, alignment, Beam position, stability, M2, MTF, Wave-Front, Collimation and many other test parameters. Custom and stock systems and PC - based software. Contact: John Wilson, VP Sales and Marketing, jwilson@dataray.com
Defence Vision Systems Inc. #1303
Millham Mountfield, Robertbridge East Sussex, TN32 5LA United Kingdom
+44 1580881199; fax +44 1580880910
info@dvsml.com; www.dvsml.com

Featured Product: Ruggedized Intensified, EMCCD, sCMOS, SWIR

Defence Vision Systems (DVS) formed in the early 90’s, manufactures ruggedized night vision camera systems with daylight capability for the Defence Market. Our dedicated team of experts has a long experience in designing customized, ruggedized cameras for a broad range of defence surveillance applications. DVS provides compact, lightweight cameras which are designed for gimbals from 20 inch down to 10 inch with sensors including Intensified, EMCCD, sCMOS, SWIR.

Contact: John Staples, Sales Director, johns@dvsml.com; Diane Brau, Marketing Manager, diane@photonic-science.com

Delta Digital Video #2327
300 Welsh Rd, Bldg 3, Horsham, PA, 19044 USA
+1 215 657 5270; fax +1 215 657 5273
dv@delta-info.com; www.deltadigitalvideo.com

Delta Digital Video, key supplier of practical, cost-effective digital video solutions for the Military/Aerospace market, emphasizing Unmanned Vehicle applications. We design and manufacture video compression products for real time transmission of high quality video, audio and synchronized metadata. We will demonstrate the latest additions to our 6000 Series product line. Our new MISB-compliant HD/SD products were designed specifically for integration with advanced payloads and legacy data links.

Contact: George Nelson, Vice President, gnelson@delta-info.com; Ronda Diggs, Marketing Assistant, rdiggs@delta-info.com

DeltaNu #2414
5452 Aerospace Dr, Laramie, WY, 82070 USA
+1 307 745 9148; fax +1 307 475 9152
sales@deltanu.com; www.deltanu.com

Denton Vacuum Inc. #617
1259 N Church St Bldg 3, Mooresville, NC, 28117-1169 USA
+1 856 439 9100; fax +1 856 439 1111
info@dentonvacuum.com; www.dentonvacuum.com

Deployable Systems #153
PO Box 421, Oakton, VA, 22124 USA
+1 703 327 3620; fax +1 703 327 8971
www.dscases.com/DS

Deposition Sciences, Inc. #2324
3300 Coffey Ln, Santa Rosa, CA, 95403-1917 USA
+1 707 573 6700; fax +1 707 573 6748
solutions@depsci.com; www.depsci.com

Featured Product: Deposition Science’s MicroDyn® Sputtered Coatings Include Longwave Infrared (LWIR) Optical Filters

Since 1985, Deposition Sciences, Inc. has produced the most durable optical thin film filter coatings for industry, military, aerospace, and defense. DSI’s coating capability ranges from the ultraviolet (UV), through the visible, to near-infrared (NIR), mid-wave-infrared (MWIR), and out to the longwave infrared (LWIR) region. DSI’s technology is based on its proprietary MicroDyn™ reactive sputtering deposition process that enables superior, multi-layer thin film coatings for precision optics. Contact: Tatiana Atkinson, Inside Sales Supervisor, atkinsonnt@depsci.com

Dow Electronic Materials #2326
455 Forest St, Marlborough, MA, 01752 USA
+1 508 481 7950; fax +1 508 485 9113
www.dow.com

Featured Product: Infrared optics for military IR system: CLEARTRAN™, CVD ZINC SULFIDE™, CVD ZINC SELENIDE™. Dow Electronic Materials supplies high-quality infrared optical materials for military IR systems and commercial applications. We have pioneered the development and manufacture of CVD Zn-based optical materials such as CLEARTRAN™, CVD ZINC SULFIDE™, and CVD ZINC SELENIDE™.

Diverse Optics Inc. #307
10310 Regis Ct., Rancho Cucamonga, CA, 91730 USA
+1 909 593 9330; fax +1 909 596 1452
info@diverseoptics.com; www.diverseoptics.com

Contact: Erik Fleming, President/CEO, erik.fleming@diverseoptics.com; Letty De La Cruz, Sales Engineer, letty.delacruz@diverseoptics.com

DILAS Diode Laser, Inc. #2328
9070 S Rita Rd Ste 1500, Tucson, AZ, 85747 USA
+1 520 232 3480; fax +1 520 232 3499
sales@dilas-inc.com; www.dilas.com

Featured Product: DPAL diode lasers at 786nm, 780nm and 852nm on micro-channel heat sinks at 40W, 60W, and 100W.

Our high volume, ISO certified and ITAR compliant facility designs, develops, and manufactures high-power, high-brightness diode laser components, modules and systems, including fiber coupled products for the military and aerospace industries. Contact: Steve Patterson, GM/Director of Technology at st.patterson@dilas-inc.com

Discovery Semiconductors, Inc. #1002
119 Silvia St, Ewing, NJ, 08628-3200 USA
+1 609 434 1311
www.chipsat.com

Diverse Optics Inc. #307
10310 Regis Ct., Rancho Cucamonga, CA, 91730 USA
+1 909 593 9330; fax +1 909 596 1452
info@diverseoptics.com; www.diverseoptics.com

Contact: Erik Fleming, President/CEO, erik.fleming@diverseoptics.com; Letty De La Cruz, Sales Engineer, letty.delacruz@diverseoptics.com

Dow Electronic Materials #2326
455 Forest St, Marlborough, MA, 01752 USA
+1 508 481 7950; fax +1 508 485 9113
www.dow.com

Featured Product: Infrared optics for military IR system: CLEARTRAN™, CVD ZINC SULFIDE™, CVD ZINC SELENIDE™. Dow Electronic Materials supplies high-quality infrared optical materials for military IR systems and commercial applications. We have pioneered the development and manufacture of CVD Zn-based optical materials such as CLEARTRAN™, CVD ZINC SULFIDE™ and CVD ZINC SELENIDE™.

Dow Electronic Materials supplies high-quality infrared optical materials for military IR systems and commercial applications. We have pioneered the development and manufacture of CVD Zn-based optical materials such as CLEARTRAN™, CVD ZINC SULFIDE™ and CVD ZINC SELENIDE™. Dow offers best-in-class material solutions, as well as fabrication capabilities to suit most design and format needs. Electro-optical windows, domes, subassemblies, imaging lenses, other components and more. Contact: Rosanna Gizi, Business Manager Infrared Optics, rgizi@dow.com

DigitalOptics Corporation #814
9815 David Taylor Drive, Charlotte, NC, 28262 USA
+1 704 887 3100
micro-optics@dodc.com; www.doc.com

Featured Product: precision diffractive and refractive optics, integrated micro optics subassembly, MEMs autofocus

DigitalOptics Corporation (DOC), a wholly owned subsidiary of Tessera Technologies, delivers innovation in imaging & optics. DOC’s advanced Micro Optics technology enables the fabrication of precision diffractive & refractive optics – perfect complement for Heads-Up Displays, thermal imagers and todays most advanced optical systems. DOC also offers miniaturized camera module solutions with advanced features such as MEMS-based autofocus, extended depth of field and image enhancement. Contact: micro-optics@dodc.com; sales@dodc.com
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<table>
<thead>
<tr>
<th>Company Name</th>
<th>Product/Innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRS Technologies, Inc.</td>
<td>#1705</td>
</tr>
<tr>
<td>DST Control AB</td>
<td>#557</td>
</tr>
<tr>
<td>DYCONEX AG</td>
<td>#314</td>
</tr>
<tr>
<td>DynaVac</td>
<td>#404</td>
</tr>
<tr>
<td>E.R. Precision Optical Corp.</td>
<td>#452</td>
</tr>
<tr>
<td>e2v Aerospace and Defense, Inc</td>
<td>#212</td>
</tr>
<tr>
<td>Earth Imaging Journal</td>
<td>#3034</td>
</tr>
<tr>
<td>Eclipse Energy Systems, Inc.</td>
<td>#102</td>
</tr>
<tr>
<td>Edmund Optics Inc.</td>
<td>#1206</td>
</tr>
</tbody>
</table>

**E.R. Precision Optical Corp.**
805 W Central Blvd, Orlando, FL, 32805 USA
+1 407 292 5395; fax +1 407 292 7984
sales@eroptics.com; www.eroptics.com

**Featured Product:** Precision optics manufacturing with in-house germanium & silicon crystal growing capability.

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**e2v Aerospace and Defense, Inc.**
2945 Oakmead Village Ct, Santa Clara, CA, 95051 USA
+1 408 737 0992
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**Earth Imaging Journal**
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www.eijournal.com

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**Edmund Optics Inc.**
101 E Gloucester Pike, Barrington, NJ, 08007 USA
+1 856 547 3488; fax +1 856 573 6272
sales@edmundoptics.com; www.edmundoptics.com

**Featured Product:** EO offers COTS Imaging lenses optimized for SWIR wavelengths with 25 and 50mm Focal lengths.

Edmund Optics (EO) is a leading producer of optics, imaging, and photonics technology supporting the R&D, electronics, semiconductor, biotech, and defense markets around the globe. As one of the leading providers of optics and optical assemblies to defense contractors, EO has created a “World Class” compliance program and is ITAR compliant with US State Department guidelines. EO’s stock and custom night vision optics are 84% manufactured in the United States. Contact: Kirsten Bjork-Jones, Director of Global Marketing Communications, sales@edmundoptics.com; Anthony Artigliere, Dir. of Sales - North America, sales@edmundoptics.com
EDT (Engineering Design Team), Inc. #904
1400 NW Compton Dr., Ste. 315,
Beaverton, OR, 97006 USA
+1 503 690 1234; fax +1 503 690 1243
info@edt.com; www.edt.com
Featured Product: PCIe frame grabbers, simulators, extenders, recorders - send Camera Link up to 10 km over fiber.
EDT, Inc. (Beaverton, OR) designs and manufactures high-performance Camera Link frame grabbers, simulators, extenders, recorders (fiber or coax), and recorders for multiple modes (base through extended full), form factors (PCIe, PCI, PMC, cPCI), operating systems (Windows, Linux, Mac), and environments (desktops, workstations, embedded systems). Common API, full SDK, and generous engineer-to-engineer support are included free. Special design work and custom service contracts also are available. Contact: Cliff Hayes, Field Application Engineer, info@edt.com; John Dillon, VP of Business Development, info@edt.com

EGIDE USA Inc. #430
4 Washington St, Cambridge, MD,
21613-2802 USA
+1 410 901 6100; fax +1 410 901 6250
sales@egideusa.com; www.egide.fr
Featured Product: Hermetically Sealed Packaging Solutions
EGIDE was founded in 1986, with manufacturing plants in France and USA. The company designs, manufactures and sells hermetic Glass-to-Metal Seal (GTMS), Ceramic-to-Metal Seal (CTMS) and full ceramic packages for Telecommunications, Military, Security, Aeronautic, Space, Industrial and Medical applications. Contact: Kirk Williamson, Sales Manager, kirk.williamson@egideusa.com

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220 Daniel Webster Hwy, Merrimack,
NH, 03054-4898 USA
+1 603 889 2500
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859 Ward Dr, Santa Barbara,
CA, 93111-2920 USA
+1 805 964 6701; fax +1 805 967 8590
eoi@electro-optical.com; www.electro-optical.com
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Purbeck Rd, The Spectrum Bldg The Michael Young Ctr, Cambridge, CB2 8PD United Kingdom
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Featured Product: MEX: Turn Any SEM into a 3-D Measurement Device.

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Electro-Microscopy Sciences #623
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sgkccc@aol.com; www.emsdiasum.com/microscopy/company

Element Six Technologies U.S. Corporation #1005
3901 Burton Drive, Santa Clara, CA, 95054 USA
408 986 2411; fax 408 327 1300
brian.rossi@e6.com; www.e6.com

Featured Product: Precision polished industrial diamonds.

Element Six manufactures a wide range of diamond materials for advanced technology applications. Products are made from engineered synthetic diamond. Technologies incorporating diamond include: high power laser optics, output couplers, beam splitters, YAG cooling structures and infrared imaging. Other areas utilizing diamond include thermal management, novel electronics, sensing devices and scientific research. Standard and custom engineered solutions are available to meet your requirements. Contact: Peter Santini, VP Sales and Marketing, peter.santini@e6.com; Thomas Obeloe, Sales Thermal Management, thomas.obeloer@e6.com

Electro-Optical Imaging, Inc. #2129
4300 Fortune Pl Ste C, W Melbourne, FL, 32904-1527 USA
+1 321 435 8723; fax +1 321 435 8723
info@eoimaging.com; www.eoimaging.com

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sales@eotech.com; www.eotech.com

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2015 Chestnut Street, EMCORE Photonic Systems, Alhambra, CA, 91803 USA
626-293-3400; fax 626-293-3428
specialty-sales@emcore.com; www.emcorephotonicssystems.com

Featured Product: PB7200 Portable Frequency Domain Terahertz (THz) Spectrometer.

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51 E Main St, Newark, DE, 19711-4685 USA
info@enmet.com; www.enmet.com


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Entegris, Inc. #1740
300 Old Greenwood Rd, Decatur, TX, 76229-3068 USA
+1 940 627 2121; fax +1 940 393 8435
webrequest@entegris.com; www.entegris.com

Featured Product: Silicon carbide mirrors and optical components for laser, sensor, surveillance & astronomy.

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EOS Photonics #1323
30 Spinelli Place, Cambridge, MA, 02138 USA
+1 617 945 9137; fax +1 617 945 9143
info@eosphotronics.com; eosphotronics.com

Featured Product: DFB QCL Array with Controller
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+1 847 465 1818; fax +1 847 465 1919
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Exotic Electro-Optics, Inc. #337
36570 Briggs Rd, Murrieta, CA, 92563-2347 USA
+1 951 926 2994; fax +1 951 926 1984 sales@exotic-eo.com; www.exotic-eo.com

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Fairfield Crystal Technology, LLC #3060
8 South End Plz. New Milford, CT, 06776-4200 USA
+1 860 354 2111; fax +1 860 354 3093 info@fairfieldcrystal.com; www.fairfieldcrystal.com

Featured Product: CaF2, MgF2, BaF2, LiF, Si, ZnS, Ge, Precision Polishing.

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Fairview Machine Co., Inc. #822
427 Boston St, Topsfield, MA, 01983-1218 USA
+1 978 887 2141; fax +1 978 887 3689 edp@fairviewmachine.us; www.fairviewmachine.us

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1389 Moffett Park Dr, Sunnyvale, CA, 94089-1134 USA
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sales@finisar.com; www.finisar.com
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Contact: Thomas Long, National Account Sales Representative, tlong@fosta-tek.com; David Moriarty, National Account Sales Representative, dmoriarty@fosta-tek.com

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+1 603 472 5900; fax +1 603 472 8333
info@gavish.com; www.gavish.com
Featured Product: Sapphire Windows & Optics.
ISO 9001 approved and ITAR registered Gavish supplies sapphire optics that include windows, viewports, imaging arrays, optical lightpipes and lenses. Optics are produced to end user specifications for finish and flatness with full service support including AR filter and other specialty coatings and metallization. Gavish is also a vertically integrated sapphire producer with facilities for crystal growth, fabrication, polishing and metrology. Contact: Jeremiah Fitzgibbon, National Sales and Marketing Manager, jfitzgibbon@gavishitar.com; Cathy Schult, Account Manager, cschult@gavishitar.com

GE Intelligent Platforms  #1933
Larges Ln, Edenfield, Bracknell Berks, RG12 9AT United Kingdom
+44 1344 381281; fax +44 1344 381282
www.ge-ip.com
Featured Product: IPS5100 360
Situational Awareness Solution
GE Intelligent Platforms, a unit of General Electric, offers an extensive line of military and paramilitary real-time image processing systems for UAVs, ground vehicles, remote control gun platforms and many other opto-electrical applications. For over two decades, GE has used its domain expertise to become one of the leading suppliers of COTS real-time video tracking, image processing, and situational awareness solutions to the global defense, aerospace and security markets. Contact: Larry Schaffer, Business Development, larry.schaffer@ge.com; Chris Jobling, Product Manager, chris.jobling@ge.com

General Dynamics-Global Imaging Technologies  #1811
44 Simon St, Nashua, NH, 03060-3025 USA
+1 603 864 6300; fax +1 603 864 6400
IRSALES@gd-ais.com; www.gd-imaging.com
General Dynamics-Global Imaging Technologies is a global leader in the design and manufacture of high-performance imaging systems, optics, and related motion control technologies. The proven reliability and performance of General Dynamic’s products is evidenced by the company’s expanding role as a strategic supplier for defense and homeland security markets and related high performance commercial markets such as law enforcement, utilities, and broadcast and film production. Contact: Susan Benz, Business Development Manager, susan.benz@gd-ais.com; Fred Sheldon, Business Development Director, fred.sheldon@gd-ais.com

General Projections Systems, Inc  #231
707 Platinum Pt, Ste 201, Lake Mary, FL, 32746 USA
+1 407 936 7300; fax +1 407 833 4990
www.genproj.com

Genia Photonics Inc.  #134
500 Cartier Blvd. W Office 131, Laval, QC H7V 5B7, Canada
+1 450 680 3401
info@geniaphotonics.com; www.geniaphotonics.com
Featured Product: The Synchronized Programmable Picosecond Laser
Genia Photonics Inc. is an innovative high technology company specializing in multi-functional measurement systems based on its patented fiber-based lasers. Genia’s easy-to-use, portable and computer controlled systems will change the methodology of various applications in the medical, industrial and defense and security communities. Contact: Vinh N. Dang, Marketing Coordinator, vinh.dang@geniaphotonics.com; Joseph Salhany VP R&D Product Management, joseph.salhany@geniaphotonics.com

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Gentec Electro-Optics Inc. #132
445 Saint-Jean-Baptiste Ste 160, Quebec, QC, G2E 5N7 Canada
+1 418 651 8003; fax +1 418 651 1174
info@gentec-eo.com; www.gentec-eo.com

Featured Product: New M-LINK, Universal Laser Power & Energy Meter compatible with every type of head available.

Gentec Electro-Optics is a leader in the laser measurement field with 40 years of experience. In 2000, Gentec Electro-Optics, Inc. *focus is entirely on laser measurement. The company manufactures a complete range of laser power and energy meters, beam diagnostics and diffractive optics. Since the acquisition of Spectrum Detector in June 2010, they have added many products to the range, including high speed 130 kHz joulemeters and a unique industry leading line of THz sensors and instruments. Contact: Nathalie Becotte, Sales Manager, nbecotte@gentec-eo.com; Burt Mooney, Sales Development Manager, bmooney@gentec-eo.com

Georgia Tech Research Institute and SENSIC #1840
925 Dalney Street, Suite 102, Atlanta, GA, 30332-0870 USA
+1 404 407 7367; fax +1 404 407 9372
sensiac@grti.gatech.edu; www.sensiac.org

Featured Product: Adv Materials, Sensor Technology, Prof Dev Courses, SENSIC Library, UAVs, IRCM, EW, Sensor Fusion.

GTRI is a highly-regarded applied research & development organization and an integral part of Georgia Tech, and as such, provides access to one of America’s leading research universities and the world’s leading problem solvers. SENSIC is a DoD Information Analysis Center at Georgia Tech whose objective is to facilitate the use of scientific/technical information related to military sensing technologies, ie, EO/IR, LIDAR, Radar, Antennas, CBRNE, Syst Eng, MEMS, and Data Fusion, among others. Contact: John Devitt, SENSIC Director, john.devitt@grti.gatech.edu; Ben Medlin, TAT Manager, ben.medlin@grti.gatech.edu

Germanium and Applications Ltd. #149
2/4 Luzhnetskaya quay, Bldg 64, Moscow, 119270 Russian Federation
+7 495 926 5174; fax +7 495 639 9352
g@geappl@ru; www.geappl@ru

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Panelists from U.S. government laboratories, the venture capital community, and industry discuss ways to speed the commercialization and deployment of early-stage Defense and Homeland Security applications focused on mid-infrared technologies. Listen and interact with the leaders in the IR community, and come to share your ideas.
See p. 21 for details.
Hermann Sensor GmbH #1202
Grenzstr. 22, Dresden, 01109 Germany
+49 6123 605030; fax +49 6123 605039
sales@heimannsensor.com; www.heimannsensor.com

Featured Product: Infrared Thermopile Array Sensors.
Heimann Sensor manufactures infrared sensors and modules for remote temperature measurement and NDIR gas detection. We are also manufacturing uncooled infrared array sensors with element numbers ranging from 8x8 to 64x64 elements. These thermopile arrays are available as sensors or calibrated modules or as an application set with additional software and ready to use with your personal computer. Other products are vacuum sensors. Additionally we provide silicon micromachining services.

Contact: Marion Simon, Project Manager, simon@heimannsensor.com; Bodo Forg, Project Manager, forg@heimannsensor.com

HGH Infrared Systems #349
One Broadway, 14th Fl, Cambridge, MA, 02142 USA
+1 617 401 2196
www.hgh.fr

Featured Product: IR360 - IR Revolution 360 camera provides real-time panoramic detection and tracking.
HGH Infrared Systems is the manufacturer of the award-winning IR REVOLUTION 360, the world only real-time panoramic infrared camera with unlimited intrusions detection capability. Headquartered in France with subsidiaries in United States, India and China, HGH has 30 years of expertise and technical excellence in infrared technology. Contact: Vanessa Couturier, General Manager, vanessa.couturier@hgh-infrared.com; Briana Shea, sales and marketing assistant, briana.shea@hgh-infrared.com

Hitachi High Technologies America, Inc. #103
5100 Franklin Dr, Pleasanton, CA, 94589-3355 USA
+1 800 548 9001; fax +1 925 218 2900
Sales-LS@hitachi-hta.com; www.hitachi-hta.com

HMS Technology Sales #1309
5 Echo Pl, Larkspur, CA, 94939-1902 USA
+1 415 924 6399
harry@hmstechnologysales.com; www.hmstechnologysales.com

Hoppe Tool Inc. #707
107 First Ave, Chicopee, MA, 01020 USA
+1 413 592 9213; fax +1 413 592 4688
www.hoppetool.com

IBM #639
310 State Rte 956, Rocket Center, WV, 26726-9222 USA
+1 304 726 4457

ICA Corporation #514
12130 Brockton Ln, Minneapolis, MN, 55369 USA
+1 763 428 4230
sgoran@icacorp.com; www.icacorp.com
ISO 9001:2008 and ITAR registered custom manufacturer providing build-to-print metal component parts and assemblies to the optics, analytical instrumentation, medical, aerospace, and electronics industries. Capabilities include close tolerance CNC machining, opto-mechanical component machining, custom enclosures, design engineering support, and sheet metal fabrication. Learn why industry-leading OEMs cite our service and support to be as important as our quality and performance.
Contact: Susan Goran, National Sales Manager, sgoran@icacorp.com

+1 360 676 3290 · help@spie.org · (Twitter) #SPIEDSS
ID Quantique SA  #1202  
3 chemin de la Marbrerie, Carouge, 1227 Switzerland  
+41 22 301 83 71; fax +41 22 301 83 79  
info@idquantique.com; www.idquantique.com  

### Featured Product: id220: Free-running photon counter with very low dark count rate at telecom wavelength.  
IDQ offers photon-counters based on avalanche photodiodes in Geiger mode for the visible and infrared regions. It also includes Telecom short-pulse laser sources (id300). The id100 is a photon counter based on silicon APD for VIS wavelength. id210 and id220 are based on InGaAs/InP APD optimized for telecom wavelength. The id210 has a 100MHz max. trigger rate and can also operate in free running. The id220 offers the lowest dark count rate in free-running mode. The id400 is optimized for 1064nm. Contact: Michael Desert, Sales Engineer, michael.desert@idquantique.com

**Ideal Aerosmith, Inc.**  #2516  
3001 S Washington St, Grand Forks, ND, 58201-6716 USA  
+1 701 757 3400; fax +1 701 757 3459  
padams@ideal-aeros.com; www.ideal-aeros.com  

### Featured Product: Ideal Aerosmith introduced its fourth generation of motion control expertise with the AERO 4000.  
Ideal Aerosmith, Inc. innovatively engineers, manufactures & sustains world-class motion and electronic test solutions & services. Its cutting-edge products and services comprise precision inertial guidance test systems, rotational tables, centrigules, high dynamic Hardware-in-the-Loop flight motion simulators, test services including ATE system engineering and quality contract manufacturing. Ideal Aerosmith, Inc.; Providing solutions for mil-aero applications worldwide for more than 70 years. Contact: Greg Owens, Executive VP & Chief Operating Officer, gowens@ideal-aero.com; Pac Adams, Sales Assistant, padams@ideal-aero.com

**II-VI Infrared**  #439  
375 Saxonburg Blvd, Saxonburg, PA, 15065-9449 USA  
+1 724 352 1504; fax +1 724 352 4980  
info@infraredsystems.com; www.infraredsystems.com  

### IRXCAM-1024, INO is proud to introduce our 1024*768 pixel thermal camera module.  
INO is a world class center of expertise in optics dedicated to serving industry. We provide services such as feasibility studies, design, development, prototyping, and small scale production. INO is one of a small number of companies worldwide with infrared uncooled detector technology. We have complete in-house capabilities for detector design, simulation, fabrication, testing, and packaging. We offer standard focal plane arrays, custom detector development and detector foundry services. Contact: Pierre Talbot, Business Development Manager, pierre.talbot@ino.ca

**InfraTec GmbH**  #535  
Gostritzer Str 61-63, Dresden, 01217 Germany  
+49 351 871 8620; fax +49 351 871 8727  
info@infratec.de; www.infratec.de  

### Featured Product: IRXCAM-1024, INO is proud to introduce our 1024*768 pixel thermal camera module.  
INO is a world class center of expertise in optics dedicated to serving industry. We provide services such as feasibility studies, design, development, prototyping, and small scale production. INO is one of a small number of companies worldwide with infrared uncooled detector technology. We have complete in-house capabilities for detector design, simulation, fabrication, testing, and packaging. We offer standard focal plane arrays, custom detector development and detector foundry services. Contact: Pierre Talbot, Business Development Manager, pierre.talbot@ino.ca

**Infinite Optics Inc.**  #816  
1712 Newport Cir Ste F, Santa Ana, CA, 92705-5118 USA  
+1 714 557 2299; fax +1 714 557 2170  
info@infiniteoptics.com; www.  
infiniteoptics.com  

### Infinite Optics specializes in optical thin-film coatings ranging from 193nm’s to 20 microns.  
We support astronomical, industrial, medical and military markets by fabricating and coating optics required for telescopes, lasers and optoelectronic devices. Our services include special applications, development, production runs and quality control. We are DODT registered and ITAR compliant. Contact: Geza Keller, sales, geza@infiniteoptics.com; Stan King, sales, stan@infiniteoptics.com

**Infrared Associates, Inc.**  #109  
2851 SE Monroe St, Stuart, FL, 34997 USA  
+1 772 223 6670; fax +1 772 223 6671  
irassoc@gate.net; www.irassociates.com  

**Infrared Labs., Inc.**  #235  
1808E 17th St, Tucson, AZ, 85719-6505 USA  
+1 520 622 7074; fax +1 520 622 0765  
infrared@infraredlabs.com; www.infraredlaboratories.com  

**Infotel Inc.**  #131  
2740 rue Einstein, Quebec Metro High Tech Park, Quebec City, QC, G1P 4S4 Canada  
+1 418 657 7006  
info@infotel.ca; www.infratec.de  

### Featured Product: IRXCAM-1024, INO is proud to introduce our 1024*768 pixel thermal camera module.  
INO is a world class center of expertise in optics dedicated to serving industry. We provide services such as feasibility studies, design, development, prototyping, and small scale production. INO is one of a small number of companies worldwide with infrared uncooled detector technology. We have complete in-house capabilities for detector design, simulation, fabrication, testing, and packaging. We offer standard focal plane arrays, custom detector development and detector foundry services. Contact: Pierre Talbot, Business Development Manager, pierre.talbot@ino.ca
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Lockheed Martin Santa Barbara Focalplane is infrared imaging, delivering the most complete family of mid-wave infrared focal plane arrays. With maximum sensitivity, high frame rates, extreme megapixel resolution, and miniature packages. We’re helping bring mission-critical information into focus.

www.lockheedmartin.com/sbf
Inrad Optics, Inc  #2421
Inrad Optics manufactures exceptional crystalline materials, precision glass and metal optical components and photonic devices. Vertically integrated from growth through systems, products include BBO, KD*P, LiNbO3 Pockels Cells and Q-Switch elements, ZnGeP2 and UV crystal components, large precision transmission flats and mirrors, complex optical assemblies, X-ray monochromators, metal parabolas, and Be and AlBeMet mirrors. Contact: George Murray, West Coast Sales Manager, gmurray@inradoptics.com; Jeff Brunner, Sales Manager, Eastern US, jbrunner@inradoptics.com

Intelligent Optical Systems, Inc.  #556, 3048
2520 W 237th St, Torrance, CA, 90505-5217 USA
+1 242 263 6300; fax +1 242 263 6364
ksegura@intopsys.com; www.intopsys.com

Intevac Photonics, Inc.  #2414
3560 Bassett St, Santa Clara, CA, 95054-2704 USA
+1 408 986 9888; fax +1 408 654 9869
intevacphotronics@intevac.com; www.intevac.com

IO Industries, Inc.  #547
1510 Woodcock St Unit 12, London, ON, N6H 5S1 Canada
+1 519 663 9570; fax +1 519 663 9571
sales@ioindustries.com; www.ioindustries.com

ICAM GmbH  #1738
Nümberger Str 71, Erlangen, D-91052 Germany
+49 9131 970 0980; fax +49 9131 970 09899
info@ircam.de; www.ircam.de

Featured Product: “ICAM Gemini 110k MM pro” - first commercially available dual-color infrared camera (MW & MW).

IRCAM is a German manufacturer of advanced IR cameras and systems for IR imaging and thermography. IRCAM offers the dual-band and dual-color IR camera series IRCAM GEMINIS for synchronous, pixel-registered acquisition in two bands (MW&LW) or two small spectral ranges (MW&MW). Other camera series are the high-speed IRCAM VELOX, the scientific IRCAM EQUUS, the IRCAM TAURUS, the uncooled IRCAM CALEO and the security IRCAM Aquila. Filter wheel, Motor focus, CameraLink and GigE are available. Contact: Dr. Monica Lopez Saenz, Managing director, info@ircam.de; Dr. Oliver Scheer, Managing director, info@ircam.de

IRCMERAS LLC  #1902
30 S. Calle Cesar Chavez, Ste D, Santa Barbara, CA, 93103 USA
+1 805 965 9650; fax +1 805 965 3858
sales@ircameras.com; www.ircameras.com

IRCameras manufactures high performance infrared cameras for Science, R & D and Surveillance applications. We offer both cooled and uncooled sensors in the SWIR, MWIR, and LWIR spectral bands. We specialize in custom cold shield and IDCA designs. Contact: Elliott Rittenberg, Director Sales & Marketing, elliott@ircameras.com; Ann Adams, Director of Camera Development, ann.adams@ircameras.com

IRD Glass  #609
810 E St Paul St, Litchfield, MN, 55355 USA
+1 320 693 7217; fax +1 320 693 7216
info@irdglass.com; www.irdglass.com

IRflex Corp.  #804
300 Ringgold Industrial Pkwy, Danville, VA, 24540-5548 USA
+1 434 483 4304; fax +1 434 793 9200
info@irflex.com; www.irflex.com

Featured Product: nonlinear mid-IR fiber to generate and guide mid-IR source, transmission cable, switch, attenuator.

IRflex produces leading-edge fiber-optic devices that perform key functions in the mid-infrared (2-10 micron): transmission cable, fiber switch, attenuator and source. Our innovative nonlinear mid-infrared fiber is specifically designed and manufactured to generate and guide mid-infrared sources over long distances with minimum loss and very high power damage threshold for aircraft missile defense, chemical sensing, biomedical and environmental applications. Contact: Helen Gu, Sales Manager, helen.gu@irflex.com
Iridian Spectral Technologies Ltd. #256

1200 Montreal Rd, Bldg M-50, Ottawa, ON, K1A 0R6 Canada
+1 613 741 4513; fax +1 613 741 9986
inquiries@iridian.ca; http://www.iridian.ca

Featured Product: Now offering SWIR/MWIR/LWIR filters; coatings for NVIS applications; coatings on plastic

Iridian is the leader in optical filter solutions, providing more signal with less background. Covering wavelengths from the UV to LWIR, with sizes from <1mm to 300mm our reliable and durable dielectric filters, coatings (on glass or plastic), and beamsplitter cubes provide leading optical performance for: Sensing of environmental gases; Spectroscopic identification of biological components; Night vision; Hot/cold mirrors; Secure free space optical communications; Displays, lighting. Contact: Catherine Aldous, Sales Engineer, catherine.aldous@iridian.ca

ISP Optics Corp. #2314

50 S Buckhout St, Irvington, NY 10533 USA
+1 914 591 3070; fax +1 914 591 3715
sales@ispoptics.com; www.ispoptics.com

Featured Product: IR Zoom Lens Assemblies and Custom Precision Optics. SPDT and Conventional manufacturing and coating.

ISP Optics is a leading manufacturer of the off-the-shelf and custom MWIR & LIRW, Continuous and Fixed Focal Length Zoom Lens Assemblies for cooled and un-cooled cameras. Our capabilities include a complete range of in-house design and manufacturing; Diamond-turned and conventional optics manufacturing, optical coatings, opto-mechanical and electro-optical assemblies, all in-house. From prototype to volume production, offering high performance, versatile and durable solutions. Contact: Virginia Baker, Office Manager, vbaker@ispoptics.com; Devaunshi Sampat, VP Marketing & Sales, dsampat@ispoptics.com

IRnova AB #1633

Electrum 236, Kista, 164 40 Sweden
+46 8 793 66 00
info@ir-nova.se; www.ir-nova.se

IRnova develops and supplies high quality, high performance infrared detectors and related components to infrared module, camera and system manufacturers all over the world. IRnova can offer you various types of DDCAs (Detector Dewar Cooler Assemblies); compact integral solutions for small size/weight applications, as well as long life split cooler DDCAs. IRnova has a long track record with thousands of supplied detectors and well established manufacturing with high yield and capability. Contact: Lars Karlsson, VP Sales & Marketing, lars.karlsson@ir-nova.se

IRZoom.com - A division of Computer Optics, Inc. #1218

120 Derry Rd, PO Box 240, Hudson, NH, 03051 USA
+1 603 889 2116; fax +1 603 889 2393
sales@IRZoom.com; www.IRZoom.com

IRZoom is a US-based designer and manufacture of stock and custom SWIR, MWIR, LWIR, broadband and visible lenses. We are a division of Computer Optics, Inc. As a vertically-integrated company, our lenses are designed, manufactured and fully supported by an elite team, under one roof. We take each project from optical and optomechanical design through polishing, coating, machining and full integration with the camera. Please visit us to discuss your next project. Contact: Jonathan Kane, PhD, President, jori@computeroptics.com; Mark Chernosky, Optical Engineer / Technical Sales, mark@computeroptics.com

JAI Inc., USA #117

625 River Oaks Pkwy, San Jose, CA, 95134-1907 USA
+1 408 383 0300
camerasales.americas@jai.com; www.jai.com

JAI’s exhibit features innovative digital camera technology for use in demanding homeland security and defense applications. JAI and PULNiX-brands cameras are built and tested to perform in harsh field environments. Products include standard COTS TV format analog cameras, multi-megapixel digital cameras with Camera Link or GigE Vision interfaces, innovative 180-degree cameras, and advanced Gen III Ultra intensified systems capable of low-light imaging under cloudy starlight conditions. Contact: Vicki Stuart, Program Manager, vis@jai.com; Wesley Okeke, Senior Director of Sales, wo@jai.com

Janos Technology, LLC #2111

55 Black Brook Rd, Keene, NH, 03431-5044 USA
+1 603 757 0070 x163; fax +1 603 757 0069
sales@janostech.com; www.janostech.com

Janos Technology is a leader in the design and manufacture of high volume infrared imaging systems and components that meet the stringent performance and environmental requirements of defense and commercial applications. With a highly skilled engineering team, state of the art in-house coating capability and advanced lean manufacturing technology, Janos provides complete solutions from design through high volume production. Contact: Cheryl Aaron, Marketing/Sales, caaron@janostech.com

EPIX, Inc. #1420

50 S Buckhout St, Irvington, NY 10533 USA
+1 914 591 3070; fax +1 914 591 3715
sales@ispoptics.com; www.ispoptics.com

Featured Product: SILICON VIDEO 2KS

SILICON VIDEO 2KS camera for stereo 10bit / 340 fps image capture.
Jazz Semiconductor  #533
4321 Jamboree Rd, Newport Beach, CA, 92660 USA
+1 949 435 8181 www.jazzsemi.com

JENOPTIK Optical Systems GmbH  #539
Goeschwitzer Strasse 25, Jena, 07745 Germany
+49 3641 65-3148; fax +49 3641 65-3677 info@jenoptik-inc.com; joel.murphy@jenoptik-inc.com
JENOPTIK Optical Systems delivers a unique range of custom optical solutions ranging from precision assemblies to wafer scale microoptics and in materials ranging from glasses, to crystals and polymers. Competencies include optical test, optical polishing, diamond turning and lithographic etching of materials for applications covering DUV to LWIR. We combine design and engineering with high volume manufacture at US and Global manufacturing sites in Germany and Israel.

Kappa Optronics Inc.  #534
825 S Primrose Ave Unit 1, Monrovia, CA, 91016 USA
+1 626 256 4343; fax +1 626 256 6484 info@kappa-optronics.com; www.kappa-optronics.com
Featured Product: HD Camera with 1080p/30 resolution and HD-SDI interface as perfect basis for customized solutions.
Kappa designs and manufactures CCD and CMOS cameras and image processing solutions for the visible and near IR range. The extremely rugged cameras resist mechanical, climatic and electromagnetic stresses as well as surrounding matter and environmental impacts. They excel with their adaptability, durability and outstanding signal quality. We work closely together with our clients to develop the most fitting camera solution, and to produce it reliably, efficiently, and with quality assured. Contact: Christian Koziol, Director of Sales, c.koziol@kappa-optronics.com

Kelc Electronics System Co., Ltd  #252
37-7 Misasagi Ohtsubata-cho, Yamashina-ku, Kyoto-city, Kyoto, 607-8411 Japan
+ 81-75-593-2103; fax + 81-75-593-2868 szuz@kelc-e.jp; www.kelc-e.com
Featured Product: Flashlight Type Portable Digital Video Recorder “LDR-200PC LightCam”.
Lightweight Approx.16oz.(440g)Â All-In-One. LEDFlashlight+Camera+Digital Video Recorder”. 2 Mega Pixel CMOS Sensor Video Camara Integrated Into A High-intensity LED Flashlight. User-friendly Software Brings Easy Audio/Video Recording. Applications:Security, Patrol, Crime Investigation, Traffic. Contact: Shigetsugu Izu, Overseas Manager, szuz@kelc-e.jp

Kentek Corp.  #513
1 Elm St, Laser Safety Div, Pittsfield, NH, 03263-3349 USA
+1 603 223 4900; fax +1 603 435 7441 info@kenteklaserstore.com; www.kenteklaserstore.com

JML Optical Industries, LLC  #335
820 Linden Ave, Rochester, NY, 14625-2710 USA
+1 585 248 8900; fax +1 585 248 8924 jml@jmloptical.com; www.jmloptical.com
Featured Product: Custom Optics - Prototype to Production - Assemblies, Systems and Components.
JML Optical is a leading designer and manufacturer of custom precision optical assemblies, systems and components. JML serves OEM manufacturers in the defense, medical diagnostic, life sciences, semiconductor, graphic arts, metrology and biometrics industries. The Company develops and manufactures optical solutions that meet customer product development needs from prototype through production.

JDSU  #356, #2520
430 N McCarthy Blvd, Milpitas, CA, 95035-5116 USA
+1 561 881 7400; fax +1 561 881 1947 info@jdsu.com; www.jdsu.com
Featured Product: Flashlight Type Portable Digital Video Recorder “LDR-200PC LightCam”.
JML serves OEM manufacturers in the defense, medical diagnostic, life sciences, semiconductor, graphic arts, metrology and biometrics industries. The Company develops and manufactures optical solutions that meet customer product development needs from prototype through production.

Kappa Optronics Inc.  #534
825 S Primrose Ave Unit 1, Monrovia, CA, 91016 USA
+1 626 256 4343; fax +1 626 256 6484 info@kappa-optronics.com; www.kappa-optronics.com
Featured Product: HD Camera with 1080p/30 resolution and HD-SDI interface as perfect basis for customized solutions.
Kappa designs and manufactures CCD and CMOS cameras and image processing solutions for the visible and near IR range. The extremely rugged cameras resist mechanical, climatic and electromagnetic stresses as well as surrounding matter and environmental impacts. They excel with their adaptability, durability and outstanding signal quality. We work closely together with our clients to develop the most fitting camera solution, and to produce it reliably, efficiently, and with quality assured. Contact: Christian Koziol, Director of Sales, c.koziol@kappa-optronics.com

Kelc Electronics System Co., Ltd  #252
37-7 Misasagi Ohtsubata-cho, Yamashina-ku, Kyoto-city, Kyoto, 607-8411 Japan
+ 81-75-593-2103; fax + 81-75-593-2868 szuz@kelc-e.jp; www.kelc-e.com
Featured Product: Flashlight Type Portable Digital Video Recorder “LDR-200PC LightCam”.
Lightweight Approx.16oz.(440g)Â All-In-One. LEDFlashlight+Camera+Digital Video Recorder”. 2 Mega Pixel CMOS Sensor Video Camara Integrated Into A High-intensity LED Flashlight. User-friendly Software Brings Easy Audio/Video Recording. Applications:Security, Patrol, Crime Investigation, Traffic. Contact: Shigetsugu Izu, Overseas Manager, szuz@kelc-e.jp

Kentek Corp.  #513
1 Elm St, Laser Safety Div, Pittsfield, NH, 03263-3349 USA
+1 603 223 4900; fax +1 603 435 7441 info@kenteklaserstore.com; www.kenteklaserstore.com

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L-3 Communications
+1 510 222 8110; fax +1 510 223 4534
sales@asphere.com; www.asphere.com

Kigre, Inc. #1021
100 Marshland Rd, Hilton Head Island, SC, 29926-2368 USA
+1 843 681 5800; fax +1 843 681 4559
kigreinc@cs.com; www.kigre.com

Featured Product: HESP-E-AO compact eye-safe 10-15mj, 10-15Hz 1535nm laser suitable for range-finding, imaging & LIBS.

Kopin Corp. #1106
225 Technology Cir, Scotts Valley, CA, 95066-3525 USA
+1 831 430 0688; fax +1 831 430 0689
www.kopin.com

Featured Product: Kopin will be demonstrating our new plug and play Ruby SVGA display module.

Kopin is the leading U.S. manufacturer of ruggedized micro-displays for military applications with over 250,000 display systems fielded. Kopin's demonstrated expertise in electro-optical design and development combined with our high volume production capabilities is battlefield proven. All higher level assemblies are manufactured in a class 10 clean room environment providing image quality you can trust. Please visit us at: Kopin.com. Contact: Clay Sylvester, Director of Contracts, clay.sylvester@L-3com.com; Chris Duston, Fusion, Surveillance and Tactical applications. Contact: Clay Sylvester, Director of Contracts, clay.sylvester@L-3com.com; Chris Duston, Business Development Manager; Defense and Security, christopher.duston@L-3com.com

Kowa Optimized Inc. #1842
20001 S Vermont Ave, Torrance, CA, 90502 USA
+1 310 327 1913; fax +1 310 327 4177
kowa-usa-info@kowa.com; www.kowa-usa.com

Featured Product: LMZ20750AMPDC-XF: New 2MP 20-750mm zoom lens with high transmission coatings & bearing focus system.

Kowa is a manufacturer of high quality CCTV and Machine Vision lenses for applications that require the highest standards. With over 50 years of technical experience, Kowa continues in its tradition of providing innovative products that leave the competition behind. New products include a 10 megapixel lens series, a megapixel varifocal IR-corrected lens series, and a megapixel long range zoom lens series. Contact: Andrew Kam, Sales Consultant, andrew@kowa.com

Krell Technologies, Inc. #1331
1126 Campus Dr W, Morganville, NJ, 07751-1261 USA
+1 732 617 7091; fax +1 732 617 7092
sales@krelltech.com; www.krelltech.com

Featured Product: Rev2 Micro-Polisher with integrated and automated air-polish feature for connector processing.

Manufactures automated connector polishing/inspection systems, portable polished for FTTX/LAN/CATV installation and repair, retro-polishers for damaged connectors, Mil-Spec termini holding fixtures, waveguide polishers, in-line video inspection equipment, precision cleaving systems, and custom component jigs. Offers bare fiber polishers for lensing assemblies and beam control. Additionally, Krell supplies fiber optic cleaning products. Contact: A Cheswick, Vice President Sales/Marketing, acheswick@krelltech.com

Kurt J. Lesker Co. #503
1925 Route 51, Clairton, PA, 15025-3681 USA
+1 412 387 9200; fax +1 412 384 2745
salesus@lesker.com; www.lesker.com

Automated deposition systems for PVD & ALD, chambers, components, film deposition sources, & a wide range of deposition materials for optical applications including IR, AR, TCO & reflective. R&D & batch production tools for the defense, optical, & photonics industries. Also offering: e-beam sources; thermal evaporation sources, incl. low temp sources for organic films; R&D & production-sized sputter sources; a variety of feedthroughs; pumps; valves; & gauging. ITAR / ISO 9001:2008 certified. Contact: Bill Zinn, Marketing Specialist, salesus@lesker.com; Bart Merritt, Product Specialist, salesus@lesker.com

L. A. Gauge Co. #3072
7440 San Fernando Rd, Sun Valley, CA, 91352 United States
+1 818 767 7193; fax +1 818 767 4946
sales@lagauge.com; www.lagauge.com

Featured Product: Ultra-precision machining of Aerospace materials including Beryllium and polishing metal optics.

L. A. Gauge has set the standard for ultra precision machining of exotic materials including Beryllium. L. A. Gauge is the #1 worldwide manufacturer of Aluminum Beryllium components and a Mfg. leader of Beryllium components for the aerospace, defense and optics industries. Capabilities are: precision machining of substrates, nickel plating, and polishing metal optics to 1/10 wave, 10 angstroms surface roughness. Contact: Brian Walters, Sales Manager, sales@lagauge.com; Dale Hostetter, Contracts Administrator, dhostetter@lagauge.com

L-3 Communications #1602
600 Third Ave, New York, NY, 10016-1901 USA
+1 513 573 6744; fax +1 513 573 6290
www.l-3com.com

KVAH Industries, Inc. #306
50 Enterprise Ctr, Middletown, RI, 02842-5268 USA
+1 401 847 3327; fax +1 401 849 0045
info@kvh.com; www.kvh.com

Kyocera America, Inc. #148
8611 Balboa Ave, San Diego, CA, 92123-1580 USA
+1 858 695 5144
kaicorp@kyocera.com; www.kyocera.com/packaging

Kyocera has set the standard for ultra precision machining of exotic materials including Beryllium. Kyocera’s series of Optical Filters and Prisms are precision cut from Beryllium and coated to a wide variety of specifications. Kyocera is a leader in the production of precision optical components for the aerospace industry. Women owned Beryllium manufacturer.

L. A. Gauge has achieved the highest standards for Beryllium and polishing metal optics.

L. A. Gauge has set the standard for ultra precision machining of exotic materials including Beryllium. L. A. Gauge is the #1 worldwide manufacturer of Aluminum Beryllium components and a Mfg. leader of Beryllium components for the aerospace, defense and optics industries. Capabilities are: precision machining of substrates, nickel plating, and polishing metal optics to 1/10 wave, 10 angstroms surface roughness. Contact: Brian Walters, Sales Manager, sales@lagauge.com; Dale Hostetter, Contracts Administrator, dhostetter@lagauge.com

L-3 Communications - Tinsley #1602
4040 Lakeside Dr, Richmond, CA, 94806 USA
+1 510 222 8110; fax +1 510 223 4534
sales@asphere.com; www.asphere.com

Manufacturer of custom precision optical components, assemblies and sub-systems. Fabricates complex aspheric surfaces for reflective and refractive systems from 50mm to 1.5 meters in size and a wide variety of materials, including glass, Be, Al and SiC. Founded in 1926 and also known in the industry as the “Asphere Company”, Tinsley has many years of experience fabricating precision optics in such areas as Space and Astronomy, Laser Fusion, Surveillance and Tactical applications. Contact: Clay Sylvester, Director of Contracts, clay.sylvester@L-3com.com; Chris Duston, Business Development Manager; Defense and Security, christopher.duston@L-3com.com
L-3 Communications
Advanced Laser Systems Technology (ALST) #1602
2500 N Orange Blossom Trail, Orlando, FL, 32804 USA
+1 407 295 5878; fax +1 407 770 2984
marketing.alst@l-3com.com; www.l-3com.com/alst

L-3 Communications
Cincinnati Electronics #1602
7500 Innovation Way, Mason, OH, 45040-9899 USA
+1 513 573 6744; fax +1 513 573 6290
glenna.debo@l-3com.com; www.l-3com.com/ce

Supplies mission critical infrared imaging technologies for defense & homeland security.
CE’s advanced sensor technology provides the ability to detect threats thru obscurants, in adverse weather & under zero illumination. The inherent performance of our starring InSb MWIR sensors provides the strategic advantage to rapidly classify & engage emerging asymmetric threats offering smaller pixels on a tighter pitch for unmatched high def reconnaissance, persistent surveillance & target acquisition.
Contact: Glenna Debo, Manager, Marketing Administration, Glenna.Debo@L-3Com.com; Phil Hansel, Manager, Marketing Administration, Phil.Hansel@L-3Com.com

Labsphere, Inc. #2515
231 Shaker St, North Sutton, NH, 03260 USA
+1 603 927 4266; fax +1 603 927 4694
labsphere@lambda.cc; www.labsphere.com

Labsphere has provided innovative light measurement technology since 1979. Products include light measurement systems for LEDs, lasers, and traditional light sources; uniform light sources to calibrate imaging devices and camera systems in the visible and IR; and reflectance standards for calibrating spectrophotometric measurement systems. Labsphere also provides systems and components to OEMs in industries including spectroscopy, laser diode test and measurement, semiconductor, and medical.
Contact: Brian Lai, Western Regional Sales Manager, blai@labsphere.com; Jonathan Barletta, Eastern Regional Sales Manager, jbarletta@labsphere.com

Lambda Research Corp. #2228
25 Porter Rd, Littleton, MA, 01460-1434 USA
+1 978 486 0786; fax +1 978 486 0755
sales@lambdares.com; www.lambdares.com

Featured Product: Lambda’s TracePro 7.2 software and the Scattermaster ScatterScope3D will be demonstrated.
Lambda Research Corporation sets itself apart as a cost effective, single source solution for optical analysis and design. Lambda sells TracePro®, opto-mechanical software differentiated by its ease-of-use, CAD interface and accuracy in defense and security applications, OSLO®, renowned for its power and flexibility in lens design and the TracePro Bridge™, an integrated add-in for Solidworks. Lambda also distributes the ScatterScope3D™ scatterometer for fast and accurate surface measurement. Contact: Michael Gauvin, VP Sales & Marketing, sales@lambdares.com

Lambda Research Optics, Inc. #1828
1695 W MacArthur Blvd, Costa Mesa, CA, 92626-1440 USA
+1 714 327 0600; fax +1 714 327 0610
lambda@lambdashare.cc; www.lambdashare.com

Featured Product: BaF2 and CaF2 spherical lenses with up to 7.0” diameter, FLIR coating @ 3-5μm and 8-12μm regions.
Lambda is a leading manufacturer of optics for the aerospace and defense industries. Lambda offers custom prisms, coatings for thermal imaging optics, custom lenses and high power optics for 1064nm and 10.6μm. Lambda is committed to delivering high quality optics on time. Contact: James Choi, Sales Manager, jchoi@lambda.cc

LaCroix Optical Co. #812
PO Box 2556, Batesville, AR, 72503 USA
1 870 698 1881; fax 1 870 698 1880
lacroix@lacroxioptical.com; www.lacroixoptical.com

Contact: David Cossey, Manufacturing Engineer, david@lacroxioptical.com; Travis Hoggard, Quality Engineer, travis@lacroxioptical.com

Lake Shore Cryotronics, Inc. #321
575 McCorkle Blvd, Westerville, OH, 43082 USA
+1 614 891 2243; fax +1 614 818 1600
sales@lakeshore.com; www.lakeshore.com

Featured Product: Lake Shore will introduce its expanded line of Terahertz and IR bandpass filters.
Established1968, Lake Shore Cryotronics specializes in precision measurement in extreme environments. The company’s scientific sensors, instruments, and metrology systems are the choice of professionals requiring dependable, accurate measurement and control. Lake Shore is the world leader in cryogenic temperature sensors and expert in high precision metrology and materials characterization applications involving extreme temperature, magnetic field, radiation, vibration and pressure environments.

FLIR Systems, Inc. Booth 2010
Product: Tau 2
FLIR Tau 2 640x512 and 336x256 formats, 17μm pixels, 30Hz/60Hz many new features!

Gatan Inc. Booth 323
Gatan Ilion+™ Planar Surface Preparation for SEM Cross Section Viewing.

GE Intelligent Platforms Booth 1933
Product: ADEPT5000
3U VPX video tracker for high performance applications.

Gould Fiber Optics Booth 538
Product: Integrated Solutions
Gould manufactures fiber optic components and assembles them into Integrated Solutions

Featured Product Launches

LaCroix Optical Co.
LaCroix manufactures a variety of optical components and assemblies for semiconductor, security, and medical applications. Their products include custom prisms, coatings for thermal imaging optics, custom lenses and high power optics for 1064nm and 10.6μm. LaCroix is committed to delivering high quality optics on time. Contact: James Choi, Sales Manager, jchoi@lacroxioptical.com
Laser Components USA, Inc. #1109
9 River Rd, Hudson, NH, 03051-5217 USA
603-821-7040; fax 603-21-7041
king@laser-components.com; www.laser-components.com


Provides high power laser optics from 193nm to 10.6μm. IR lead salt diode lasers (3-25μm) & SPECDIALS diode lasers in the range of 750-2050nm, including VCSELs & DFBS. Quantum Cascade Lasers and Flexpoint miniature laser modules available. Glass polarizing filters, fiberoptic assemblies and color sensors. Spectroscopic instrumentation-NIR SPECTROMETERS, Echelle spectrum analyzers, Avalanche Photo Diodes and Pulsed Laser Diodes. Contact: Paul Buettner, Sales Engineer, buettner@laser-components.com; Bob Gulino, Sales Engineer, gulino@laser-components.com

Laser Research Optics #1732
120 Corliss St, Providence, RI, 02904-2602 USA
+1 401 331 3838; fax +1 401 331 4004
sales@laserresearch.net; www.laserresearch.net

Laser Research Optics supplies CO2 laser optics for 25 to 200 watt lasers, factory direct and optimized for 10.6 micron. Featured are ZnSe positive focusing lenses in plano-convex, plano-concave, and meniscus configurations in 1/2” to 2” dia., focal length 1” to 20”. CO2 laser turning mirrors offered are made from molybdenum for harsh environments; other mirrors include copper, dual band, silicon and phase retardation. These OEM quality replacement optics ship from stock within 12 hours. Contact: Craig Schweriner, Sales Mgr, craig@melleroptics.com

Laser Technology, Inc. #821
7070 S Tucson Way, Englewood, CO, 80112 USA
+1 303 649 1000; fax +1 303 649 9710
info@lasetech.com; www.lasetech.com

Featured Product: TruSense T-Series
Whether it’s liquid and solid leveling, inline positioning, scanning, counting or profiling, LTI laser measurement sensors can quickly deliver accurate distance, level and proximity measurements for the industrial arena. Our rugged lasers are made to perform time after time, even under the challenging conditions typically seen in industrial plants. Contact: Tom Girmann, Industrial Product Manager, tgirmann@lasetech.com

Lasertel, Inc. #2420
7775 N Casino Grande Hwy, Tucson, AZ, 85743-9317 USA
+1 520 744 5700; fax +1 520 744 5766
sales@lasertel.com; www.lasertel.com

Lasertel is a vertically-integrated high power semiconductor laser manufacturer. In-house epitaxy, wafer processing and packaging enables consistent delivery of a wide range of standard and customer-specific product solutions. Lasertel provides both edge emitting and vertical cavity surface emitting laser (VCSEL) diodes in single and array formats in multiple product configurations with peak wavelengths from 770nm to 1000nm, and peak powers from 200mW to several kW.

Latticematerials.com #214
516 E Tamarack St, Bozeman, MT, 59715-3050 USA
+1 406 586 2122; fax +1 406 557 9055
marketing@latticematerials.com; www.latticematerials.com

Lattice Materials is an American company that produces infrared optics out of silicon and germanium. The company also produces laser mirrors and thin film sputtering targets. We have the ability to create specific parts for the solar and semiconductor industries and perform crystal growth with custom resistivity to your specifications. Request a quote today or call one of our experienced technical sales people to discuss your requirements. Contact: Peter Brown, Sales & Marketing Manager, peterb@latticematerials.com

LEONI Fiber Optics, Inc. #2522
PO Box 615, Lightfoot, VA, 23090 USA
+1 757 258 4805; fax +1 757 258 4694
contact@leonifi.com; www.leonifi.com

Integrated global manufacturer of fiber optics, cables, assemblies, components, devices, class II medical probes, switches (MM and SM), planar light channels (PLC), and Fiber Bragg Grating sensors. Concept to product, prototype to OEM, for laser, sensor, spectroscopic, test, validation, datacom, systems, or device level interconnects, from Factory Automation, Petrochem, Pharmaceutical to Wind and Solar, with manufacturing sites in the USA, Germany and China, LEONI is simply your source. Contact: Lisa Young, Sales Manager Industrial, contact@leonifo.com

Leybold Optics USA, Inc. #2329
539 James Jackson Ave, Cary, NC, 27540 USA
+1 919 657 7100; fax +1 919 657 7101
phil.hatchett@leyboldoptics.com; www.leyboldoptics.com

Featured Product: Direct optical monitoring on a SYRUSpro box coater with double rotation planet.

Leybold Optics is a standard-setting, technologically innovative company in the business of vacuum coating systems used for coatings from the deep ultraviolet to the far infrared. The SYRUSpro is a high productivity electron beam gun coating tool with plasma ion assisted deposition for production of dense and shift free optical coatings. Contact: Phil Hatchett, Regional Sales Manager, phil.hatchett@leyboldoptics.com

LightPath Technologies, Inc. #2121
2603 Challenger Tech Ct Ste 100, Orlando, FL, 32826-2716 USA
+1 407 382 4003; fax +1 407 382 4007
sales@lightpath.com; www.lightpath.com

Featured Product: Geltech Molded Glass Aspheric Lenses, Molded Infrared Aspheric lenses.

LightPath Technologies is a world leading OEM manufacturer of optical components for the collection and manipulation of laser light. We specialize in the design and volume production of high performance optics and assemblies including advanced molded Geltech aspheric optics and infrared lenses to fused fiber optic collimators, optical isolators, and GRADIUM® (gradient index glass) lenses. LightPath Technologies’ aspheric optics and assemblies cover the spectral range from UV to LWIR. Contact: Rob Myers, Director of Sales, rmyers@lightpath.com; Ray Pini, Director of Marketing, rpini@lightpath.com

LightWorks Optics, Inc. #1637
142-42 Chambers Rd, Tustin, CA, 92780-6910 USA
+1 714 247 7100; fax +1 714 247 7101
lbelochoff@lightworks.com; www.lightworks.com

LightWorks Optics has long been the Defense industry’s top choice for the development of precision optics in mission-critical systems such as infrared search and track, missile launch detection, space-based laser communications, missile guidance, and RISTA. Our responsive design and production engineers deploy advanced design-for-manufacturing solutions to ensure that every assembly, system and component, meets quality standards, with “right-first-time” delivery - every time.
LITEYE SYSTEMS, INC #216
7060 S Tucson Way, Centennial, CO, 80112 USA
+1 720 974 1766; fax 720-596-5219
rsondag@liteye.com; www.liteye.com


Liteye Systems is an ISO Certified Designer and Manufacturer of Rugged, High-Resolution Helmet Mounted Displays (HMD) and Thermal Imaging Products for Security and Defense Industries. With the advantages of speed and flexibility, Liteye can help you with your unique requirements and thermal needs. Headquartered in the USA, with offices in the UK and representatives around the world, Liteye promises to provide you with innovative products, first-class quality and on-time delivery. Contact: Rick Sondag, VP, rsondag@liteye.com; Brad Garinger, Sales Engineer, bgaringer@liteye.com

Lockheed Martin Santa Barbara Focalplane #1819
346 Bollay Dr, Goleta, CA, 93117-5550 USA
+1 805 571 2300
sbfp@sbfp.com; www.sbfp.com

Luna Technologies #332
1 Riverside Circle, Suite 400, Roanoke, VA, 24016 USA
+1 540 769 8400; fax +1 540 769 8401
solutions@lunainnovations.com; www.lunatechnologies.com

Luna Technologies specializes in advanced fiber-optic test and measurement. Luna’s award-winning product line includes optical analyzers, reflectometers and tunable lasers. Luna’s instruments are flexible and easy to use tools for loss, dispersion, PMD, polarization, high-resolution OTDRs, and distributed temperature and strain analysis for optical fiber components, modules and networks.

Mantaro Product Development Services®, Inc. #248, 257
20410 Century Blvd Ste 120, Germantown, MD, 20874 USA
+1 301 528 2244; fax +1 301 528 1933
info@mantaro.com; www.mantaro.com

Featured Product: MantaroBlocks: a new family of modular, low-power wireless sensor nodes and peripherals.

A products and product development services firm founded in 2001, Mantaro develops and sells products for a wide range of markets. Mantaro also provides a full range of engineering design services to its clients. The technical staff comprises highly talented full-time professional engineers with a history of successful new product development and innovating design experience. Mantaro serves consumer, government, industrial, telecommunications, test & measurement, and transportation industries. Contact: Kamal Kapadia, Business Development Manager, kkapadia@mantaro.com; Jeremy Parsons, CEO, jparsons@mantaro.com

Max Levy Autograph, Inc. #337
2710 Commerce Way, Philadelphia, PA, 19154 USA
+1 215 842 3675; fax +1 215 842 3637
sales@maxlevy.com; www.maxlevy.com

Featured Product: Fine line randomized patterns applied to large format surfaces for EMI/FSS applications
Max Levy Autograph specializes in ultra-precision patterned components and 3D structures for the photonic, biomedical, mill-aerospace, semiconductor, and metrology industries. Applications range from the X-Ray out to Infrared. Major manufacturing process capabilities include: photolithography, electroforming, photochemical etching, film products, micro-contouring/machining, and NIST traceable calibration services. Contact: Thomas Cinque, Sales Manager, tcinque@maxlevy.com; Aaron Goldberg, General Manager, agoldberg@maxlevy.com

Materion Corporation #813
14710 W Portage River S Rd, Elmore, OH, 43416-9502 USA
+1 419 862 4173; fax +1 419 862 4174
www.materion.com

Materion Barr Precision Optics & Thin Film - Highly diverse and technologically advanced thin film coating company. We are a custom manufacturer and supplier of precision optical filters and coating services from the UV through the Far IR for commercial, medical, defense, space, and scientific applications. Materion Brush Beryllium & Composites is the premier integrated global producer of beryllium-based metals and metal matrix composites including Beryllium & BeO powder and chemicals. Contact: Kevin Downing, Product Manager - Barr Optics, Kevin.Downing@materion.com; Robert Michel, Product Manager - Beryllium, Robert.Michel@materion.com
Maxion Technologies, Inc. #422
5000 College Ave Ste 3121, College Park, MD, 20740-3817 USA
+1 301 405 6447; fax +1 301 405 1155
information@maxion.com; www.maxion.com

Featured Product: Model 900 Laser System.
Maxion Technologies manufactures and sells interband cascade (IC) and quantum cascade (QC) lasers emitting in the wavelength range between 3 and 12 microns. Our products include single mode or multimode IC or QC lasers at various levels of integration from chip-on-submount all the way to a turn key laser system with integrated current and temperature control. Contact: John Bruno, Research Physicist, bruno@maxion.com; John Bradshaw, Research Physicist, jbradshaw@maxion.com

McQ, Inc. #2214
1551 Forbes St, Fredericksburg, VA, 22405-1603 USA
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info@mcqinc.com; www.mcqinc.com

Meadowlark Optics, Inc. #1321
5964 Iris Pkwy / PO Box 1000, Frederick, CO, 80530 USA
+1 303 833 4333; fax +1 303 833 4335
sales@meadowlark.com; www.meadowlark.com

Featured Product: RAPtor Retarder...
Microns thin waveplate material which can be applied to customer substrates.
Polarization and Liquid Crystal Solutions for over 30 years! Meadowlark Optics is the source for Liquid Crystal devices, Polarizers, Retarders & systems. We provide cost-effective solutions by customizing our standard products and developing unique custom solutions. We are continually improving our products and capabilities, so please ask us what we can do for you. We believe we are unequaled when it comes to polarization. Contact Chris or Dan: sales@meadowlark.com or (303) 833-4333. ITAR Reg. Contact: Chris Toomey, Sales Engineer / Compliance Officer, chris@meadowlark.com; Dan Rodda, Sales Engineer, drodda@meadowlark.com

MegaWatt Lasers, Inc. #1317
PO Box 24190, Hilton Head Island, SC, 29925-4190 USA
+1 843 342 7221
sales@mwlasers.com; www.megawattlasers.com

MegaWatt Lasers provides solid-state laser consulting, R&D, and manufacturing capabilities for military, medical, and industrial applications. MegaWatt Lasers’ solid-state laser engineering consulting services have been provided to NVESD, ARL, ARDEC, PM Apache, DoD contractors, and other clients. MegaWatt Lasers has developed Laser Ordnance Ignition and Laser Isotope Breakdown Spectroscopy technology under numerous ARL supported R&D efforts. At MegaWatt Lasers, we specialize in eye-safe lasers. Contact: Bob McAllister, Director of Sales and Marketing, bob.mcallister@megawattlasers.com; Scott Hamlin, President, scott.hamlin@megawattlasers.com

Meller Optics, Inc. #1732
120 Corliss St, Providence, RI, 02904-2602 USA
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sales@melleroptics.com; www.melleroptics.com

Meller Optics has been providing high quality optics to defense, medical, laser and industrial markets for over 50 years. Specializing in grinding and polishing of hard, durable materials. Meller has developed high-speed, low-cost finishing processes for Saphire, Ruby, Laser Glasses, Fused Silica, Zinc Selenide, Germanium, Silicon, Fluorides and Ceramics. Configurations include windows, substrates, lenses, domes and prisms. Meller optics is an ISO9001:2008 certified company. Contact: Craig Schweriner, Sales Mgr, craig@melleroptics.com; Steve Lydon, Sales, steve@melleroptics.com

MET Labs., Inc. #552
914 W Patapsco Ave, Baltimore, MD, 21230-3415 USA
+1 410 354 3300; fax +1 410 354 3313
info@metlabs.com; www.metlabs.com

MicroDINIC, Inc. #138
301 Oxford Valley Rd, Suite 1100, Yardley, PA, 19067 USA
+1 215 321 9100; fax +1 215 321 9190
sales@microdisc.com; www.microdisc.com

MicroDINIC is a certified small business specializing in Micro-Based Systems designing and integrating computers, servers, RAID arrays and associated peripherals that operate with high reliability and mean time between failures in extreme operating environments. MicroDINIC specializes in ruggedized, hardened, industrial and MIL-810F rated systems to meet Government, Aerospace and Industrial customer requirements. Contact: Emmanuel Petritis, Operations Manager, eman@microdisc.com; William Petritis, Sales Manager, basil@microdisc.com

Micro Photon Devices S.r.l. #2517
Via Stradivari 4, Bolzano, 39100 Italy
+39 0471 051212; fax +39 0471 501524
nick.bertone@optoecomponents.com; www.microphotondinics.com

Micro Laser Systems, Inc.#2323
12841 Western Ave Ste H, Garden Grove, CA, 92841-4025 USA
+1 714 898 6001; fax +1 714 897 0979
sales@microlaser.com; www.microlaser.com

Featured Product: Large Beam Fiber Collimators and Fiber Coupled Lasers
Micro Laser Systems will be presenting higher power fiber coupled lasers from 375nm to 1653nm and up to few Watts. Fibers used are singlemode, PM or multimode with options for Fiber Collimators, splitters or wavelength combiners. All are matched for best performance. Free space lasers for OEM users provide very high stability, narrow linewidths and low noise. Custom Laser-Optical systems are designed for your application. Applications are in Aerospace, biomedical and general research. Contact: Norma Adachi, Marketing, norma@microlaser.com

Micro DISC, Inc. #138
301 Oxford Valley Rd, Suite 1100, Yardley, PA, 19067 USA
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sales@microdisc.com; www.microdisc.com

MicroDISC is a certified small business specializing in Micro-Based Systems designing and integrating computers, servers, RAID arrays and associated peripherals that operate with high reliability and mean time between failures in extreme operating environments. MicroDISC specializes in ruggedized, hardened, industrial and MIL-810F rated systems to meet Government, Aerospace and Industrial customer requirements. Contact: Emmanuel Petritis, Operations Manager, eman@microdisc.com; William Petritis, Sales Manager, basil@microdisc.com
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Micromechatronics, Inc.  #1416
200 Innovation Blvd Ste 155, State College, PA, 16803 USA
+1 814 861 5688; fax +1 814 861 1418
corporate.member@mmmech.com; mmmech.com

Featured Product: Piezoelectric Actuators, Piezoelectric Transformers and Ultrasonic Motors.

Micromechatronics (MMech) offers a full range of piezoelectric devices and piezoelectric design tools, such as ATILA FEA software. MMech product portfolio includes piezoelectric stack actuators, piezoelectric bending actuators, amplified piezoelectric actuators, metal case embedded actuators, ultrasonic motors, piezo-transformers, ultrasonic transducers, positioning stages, and a large variety of other piezoelectric devices. MMech is an active participant of the SBIR program. Contact: Alfredo Vazquez Carazo, President & CEO, avc@mmmech.com

Mindrum Precision, Inc.  #1628
10000 4th St, Rancho Cucamonga, CA, 91730-5723 USA
+1 909 989 1728; fax +1 909 987 3709
sales@mindrum.com; www.mindrum.com

Custom manufacturer of precision components. We specialize in low-volume, high-precision, complex parts on short timelines. 5-axis CNC machining and polishing in engineered materials including but not limited to glass, fused silica, quartz, sapphire and ceramics as well as conventional materials including but not limited to aluminum, stainless steel, titanium, Inconel and copper. Contact: Todd Van Son, Technical Sales, todd@mindrum.com; Linda Kondris, Technical Sales, linda@mindrum.com

MIRAS Group, Inc.  #1325
195 Clarksville Rd, Products & Systems Division, Princeton Junction, NJ, 08550-5392 USA
+1 609 716 0706
sales.systems@mistrasgroup.com; www.mistrasgroup.com/company

Featured Product: Line Scanning Thermography LST™. Mistras Group, Inc.-Providing Asset Protection Solutions. Thermography Technology. MISTRAS Products & Systems Division develops leading edge technologies and manufactures products for nondestructive testing and predictive maintenance. One of our leading technologies is our Line Scanning Thermography (LST™), a dynamic thermography technique that has been successfully used for detecting regional alterations composite defects by looking at in the thermal properties of the material inspected. Contact: Manny Butera, Ultrasonic & Thermography Product Manager, manny.butera@mistrasgroup.com; Dr. Obdulia Ley, PhD, Thermography Technologist, obdulia.ley@mistrasgroup.com

Moore Nanotechnology Systems LLC  #352
230 Old Homestead Hwy, Swanzey, NH, 03446 USA
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sales@nanotechsys.com; www.nanotechsys.com

Nanotech® Ultra-Precision Machining Systems are available in various models with 2 to 5 axes of CNC motion control for single point diamond turning, deterministic microgrinding, or glass press molding. All Nanotech machines utilize a programming resolution of 1.0 nanometer, and a system feedback resolution of 0.034 nanometer. All systems are capable of sub micron form accuracies and < 1.0 nm surface finishes. For more information please contact: Sam Bukovcan; Bob Cassin, Sales Manager, cassin@nanotechsys.com; Jeff Perra, Sales Engineer, perra@nanotechsys.com

Moxtek, Inc.  #322
452 W 1260 N, Orem, UT, 84057-2941 USA
+1 801 225 0930; fax +1 801 717 4214
info@moxtek.com; www.moxtek.com

Featured Product: ProFlux® Wire-Grid Polarizer and ProFlux® Nanowire UV Polarizers.

Moxtek is a leading supplier of optical and x-ray components for analytical instrumentation and display electronics. Moxtek is well known for advanced technology, innovative solutions, and excellent customer service. Moxtek works closely with customers to provide the best OEM solutions to the marketplace. Products include: ProFlux® wire-grid polarizer’s and beam splitters for UV, Visible, and IR spectroscopy. Contact: Roger Ketcheson, rketch@moxtek.com; Will Abraham, wabraham@moxtek.com

MPA Crystal Corp.  #222
1702-L Meridian Ave #234, San Jose, CA, 95125 USA
+1 408 300 0301; fax +1 408 300 0282
pmpa@mpa-crystal.com; www.mpa-crystal.com


We are the U.S. Branch of the manufacturer-Nanjing Sapphire Electro-Optics Co., Ltd. located in China. We specialized in producing Crystal optics made of SAPPHIRE, Fused Silica, Optical glass, optical glass, YAG and coatings. Products include Windows, Spherical Lenses, Cylindrical lenses, Substrates, waveguides, Rods, Tips and much more. Custom made optics and requirements from your designs are also available. Contact: pmpa@mpa-crystal.com; Ph.: +1 408 300 0301 Contact: Pauline Liang, CEO, pmpa@mpa-crystal.com

Mide Corp  #634
6 Coleman, Westfield, MA, 01085 USA
+1 413 642 5595; fax +1 413 579 5393
info@mide.com; www.mide.com

Featured Product: MIDAC’s M45XX series of active and passive remote sensors.

MIDAC is a sensing systems company with years of experience in designing, building, and using FTIR based remote passive sensing systems. Recent MIDAC advances include two types of Stirling coolers (split linear and integral rotary), and an ethernet interface. Previous MIDAC advancements include hermetically sealed cast housings for extreme environments, MIDAC’s patented dual ADC for the ultimate in sensitivity, and MIDAC’s high power mirror drive board for all attitude operation. Contact: Lori Joaquim, Sales Order Administrator, ljoaquim@mide.com; Carole Auth, Vice President, cauth@mide.com

Military & Aerospace Electronics #1004
98 Spitt Brook Rd, Nashua, NH, 03062-5737 USA
+1 603 891 0123; fax +1 603 579 9030
Featured Product: Business to business media.

Military & Aerospace Electronics is the leading media resource serving program and project managers, engineering managers, and engineers involved in electronic and electro-optic design for military, space, and aviation applications. It delivers news, analysis, and trends in the use of mi-spec, rugged, and commercial components, subsystems, and systems. Contact: Ernesto Burden, Publisher, ernestob@pennwell.com

Mirage Systems  #505
921 Thompson Pl, Sunnyvale, CA, 94085-4518 USA
+1 408 524 7900; fax +1 408 524 7903
info@miragesystems.com; www.miragegpr.com

Featured Product: Business to business media.

Mindrum Precision, Inc.  #1628
10000 4th St, Rancho Cucamonga, CA, 91730-5723 USA
+1 909 989 1728; fax +1 909 987 3709
sales@mindrum.com; www.mindrum.com

Custom manufacturer of precision components. We specialize in low-volume, high-precision, complex parts on short timelines. 5-axis CNC machining and polishing in engineered materials including but not limited to glass, fused silica, quartz, sapphire and ceramics as well as conventional materials including but not limited to aluminum, stainless steel, titanium, Inconel and copper. Contact: Todd Van Son, Technical Sales, todd@mindrum.com; Linda Kondris, Technical Sales, linda@mindrum.com

Mistras Group, Inc.  #1325
195 Clarksville Rd, Products & Systems Division, Princeton Junction, NJ, 08550-5392 USA
+1 609 716 0706
sales.sales@mmmech.com; www.mistrasgroup.com/company

Featured Product: Line Scanning Thermography LST™. Mistras Group, Inc.-Providing Asset Protection Solutions. Thermography Technology. MISTRAS Products & Systems Division develops leading edge technologies and manufactures products for nondestructive testing and predictive maintenance. One of our leading technologies is our Line Scanning Thermography (LST™), a dynamic thermography technique that has been successfully used for detecting regional alterations composite defects by looking at in the thermal properties of the material inspected. Contact: Manny Butera, Ultrasonic & Thermography Product Manager, manny.butera@mistrasgroup.com; Dr. Obdulia Ley, PhD, Thermography Technologist, obdulia.ley@mistrasgroup.com

MOPLEX, Inc.  #322
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We are the U.S. Branch of the manufacturer-Nanjing Sapphire Electro-Optics Co., Ltd. located in China. We specialized in producing Crystal optics made of SAPPHIRE, Fused Silica, Optical glass, optical glass, YAG and coatings. Products include Windows, Spherical Lenses, Cylindrical lenses, Substrates, waveguides, Rods, Tips and much more. Custom made optics and requirements from your designs are also available. Contact: pmpa@mpa-crystal.com; Ph.: +1 408 300 0301 Contact: Pauline Liang, CEO, pmpa@mpa-crystal.com
Multi IR Optoelectronics Co., Ltd  #512

# 6 XiuYuanQi Rd., XiHu T & E Zone, Hangzhou, Zhejiang, 310030 China
+86 571 899 05370; fax +86 571 899 05376
service@mirhz.com; www.mirhz.com

Featured Product: CH4, CO2, CO, SO2, SF6 gas filter, thermal imaging, body temperature application filter used in IR sensor.

Multi IR is the leading professional IR filter manufacturer. We are experienced on research, design & manufacturing high quality IR filters. Our products: IR Bandpass Filters, IR (AR) lens, windows, IR beamsplitter, filter wheels, etc., from prototyping to mass production. Applications: IR Thermal Imaging, Sensors, detectors, etc. Thousands of IR filters, windows, lens are in stock. Please check our website for availability. We can make various IR filters based on client's order requests. Contact: JING LU, CEO, jll@mirhz.com; Tom Zeiss, marketing manager, cgw@mirhz.com

Multisorb Technologies, Inc.  #1122

325 Harlem Rd, Buffalo, NY, 14224 USA
+1 716 824 8900; fax +1 716 824 4128
info@multisorb.com; www.multisorb.com

Featured Product: POLYSORB™, desiccant loaded polymer, can be molded to replace a structural component in a product.

Multisorb Technologies has been an innovator in sorbent technology for more than 50 years. Our technologies protect electronics from moisture, oxygen, or volatiles within the sealed environment. Our technologies are effective against equipment and materials degradation, corrosion, fogging on optics, or any other degradation caused by moisture, oxygen, or volatiles. If your product is experiencing performance degradation, corrosion, fogging on optics, or any other degradation caused by moisture, oxygen, or volatiles within the sealed product enclosure, call Multisorb to find out how we can improve your product's service life. Contact: Nathan Fischer, info@multisorb.com

Naked Optics Corp.  #448

1090 Delacroix Dr, Nokomis, FL, 34275 USA
+1 908 685 0352; fax +1 908 325 0250
sales@nakedoptics.com; www.nakedoptics.com

Featured Product: IR Lenses; ITO windows; IR Materials.

Supplier of IR optics and diamond-turned components with aspheric, diffractive & free-form surfaces in IR materials, plastics and metals; optical design services; Polished & coated windows and substrates from prototype to high-volume production; IR and glass blanks including ZnSe, Si, Ge, BaF2, CaF2, KRS-5 and optical glasses; Optical glass strip, molded and CNC-machined blanks of all optical materials
Contact: Buzz Nesti, buzz@nakedoptics.com; Anita Foss, anita.foss@nakedoptics.com

Nallatech  #413

759 Flynn Rd, Camarillo, CA, 93010 USA
+1 805 482 2870; fax +1 805 482 8470
sales@nallatech.com; www.nallatech.com

Featured Product: FPGA products for high performance computing applications and rugged embedded computing platforms.

Nallatech, a subsidiary of Interconnect Systems, Inc. (www.isipkg.com), is a leading supplier of accelerated-computing solutions. Nallatech designs and manufactures FPGA products for high performance computing applications and rugged embedded computing platforms. Customers benefit from lower costs, reduction in size, weight and power and improved performance. For further information, visit www.nallatech.com, or call (805) 383-8997 (North America) or +44 1236 789 567 (Europe).

Contact: Ken Roberson, Regional Sales Manager, ken.roberson@isipkg.com; Jon Mudrick, jon.mudrick@isipkg.com

Nanomotion Inc.  #502

1 Comac Loop Ste 14B, Ronkonkoma, NY, 11779 USA
+1 800 821 6266; fax +1 631 585 1947
nanous@nanomotion.com; www.nanomotion.com

Featured Product: NUC Shutter, Target acquisition devices, Auto Focus mechanisms.

Nanomotion is the leader in piezo based motors and modules for shutter & aperture control, auto focus and zoom, and optical image stabilization. Our motors / modules are supported by our ASIC or MCU for superior closed loop performance. Products are flight qualified and have passed thermal and vibration testing to meet the most demanding applications. Contact: Alan Feinstein, Feinstein@nanomotion.com

National Aperture, Inc.  #338

16 Northwestern Dr, Salem, NH, 03079-4810 USA
+1 603 893 7393; fax +1 603 893 7857
sales@nationalaperture.com; www.nationalaperture.com

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The NRO to participate in building the National
developers not traditionally associated with
capabilities. It presents an opportunity for
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boundaries of technology to dramatically

The National Reconnaissance Office's
A Federal Government R &D Funding Program
- The National Reconnaissance Office's
Director's Innovation Initiative invests in
advanced technologies, fosters innovation,
and provides seed funding to push the
boundaries of technology to dramatically
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New England Optical Systems

New England Optical Systems

New Infrared Technologies

New Imaging Technologies

Free Popcorn

Exhibition Hall / 2 Locations
Popcorn carts will be open
Tuesday and Wednesday from
11:00 am to 3:00 pm; Thursday
from 11:00 am to 2:00 pm.

Neoptix, Inc.

New England Optical Systems

National Reconnaissance Office

NDIA has roots dating back to
1919. Contact: Michael Kibler, mkibler@ndia.
go; Erica Utegaard, eutegaard@ndia.org

Corporate memberships are available. US
security, all branches of the US Military, and
industry. NDIA has local chapters, 36 divisions
corporate involvement, and numerous
conferences and trade shows. Individual and
Corporate memberships are available. US
government and military are welcome to join
free of charge. NDIA has roots dating back to
1919. Contact: Michael Kibler, mkibler@ndia.
org; Erica Utegaard, eutegaard@ndia.org

Neoptix designs manufactures and
commercializes a complete range of optical
temperature sensors, signal conditioners and
accessories for temperature monitoring in
electromagnetic and harsh environments. Being
entirely made out of dielectric material, Neoptix
optical temperature probes are not affected
by radiations including: Superconductor
environment, NMR,MRI, Microwaves or RF. The
temperature range is starting from cryogenic
until 300 degrees Celsius. (www.neoptix.com)
Contact: Marc Dore, Sales Manager, mdore@neoptix.com

New Imaging Technologies

SAS

New Infrared Technologies

Ltd.

New Imaging Technologies offers world
class CMOS imaging sensors based upon a
unique and patented pixel technology which
provides intrinsic high dynamic range response
of more than 140dB, no noticeable fixed
time and operability without image artifacts to
more than 90°C. NIT offers a complete range of
standard, customized and full custom CMOS
imaging sensors for a variety of applications
where performance, cost, quality and reliability
are of premium choice. Contact: Pierre POTET,
CEO, info@new-imaging-technologies.com;
Jean-Louis LAURONT, Sales Director, info@new-imaging-technologies.com

New Infrared Technologies manufactures PbSe
imaging FPA and high speed uncooled IR
systems. The MATRIX 1024 SERIES, based on
the only PbSe imaging FPA in the market, offers
uncooled performance, detection in the MWIR
band, high speed (> 1,700 fps) at an affordable
price. The series includes OEM modules. Other
products: LUXELL SERIES (linear arrays) and
the LEPTON SERIES (single element detectors
with several geometries + low noise preamp
stage & digital USB output), IR switch, custom
designs. Contact: Rodrigo Linares, Business
Development Mgr, sales@niteurope.com; Arturo
Baldasano, CEO, sales@niteurope.com

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Featured Product: Fiber Optic
Thermometer System.

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Newcon Optik #453
105 Sparks Ave, Toronto, ON, M2H 2S5 Canada
+1 416 663 6963; fax +1 416 663 9065
newconsales@newcon-optik.com; www.newcon-optik.com
Newcon Optik is a world leader in the design and manufacture of precision electro-optics. Headquartered in Toronto, Canada Newcon Optik’s dealer network is present on five continents. With a product portfolio consisting of industry-leading thermal imagers, night vision systems, laser rangefinders, laser aimers and tactical day optics, Newcon Optik’s products are relied upon by military, government and commercial customers in more than 60 countries. Contact: Aaron Buckstein, Director of Marketing & Business Development, abuckstein@newcon-optik.com; Alex Rudiy, Executive Vice President & COO, arudiy@newcon-optik.com

Newport Corp. #1625
1791 Deere Ave, Irvine, CA, 92606-4814 USA
+1 949 863 3144; fax +1 949 253 1680
sales@newport.com; www.newport.com
Newport has been enabling high-precision aerospace and defense technology development and production for over 30 years. We’re a global leader in precision motion systems, vibration control, optics, lasers, and photonics instrumentation, providing the foundation of many development, test, assembly and calibration systems that ensure the accuracy and reliability of our defense systems worldwide. Contact: Kim Abair, Director, Global Marketing, kim.abair@newport.com

Nextreme Thermal Solutions, Inc. #232
3908 Patriot Dr Ste 140, Durham, NC, 27703-8031 USA
+1 919 597 7300; fax +1 919 597 7501
info@nextreme.com; www.nextreme.com
Featured Product: Nextreme’s embedded thermoelectric cooling technology (eTEC) enables micro-scale thermal management.
Nextreme Thermal Solutions is a leading manufacturer of thin-film thermoelectric modules and sub-systems for growing markets worldwide. Micro-scale form factors, high power-pumping capabilities and a high-volume semiconductor manufacturing process enables low-cost, high-performance thermal management and energy harvesting solutions. For more information, visit www.nextreme.com. Contact: Karl von Gunten, Director of Marketing, kvongunten@nextreme.com

Yung Lun Ind. Co. Ltd. 57, Lane 42, Ta Feng Rd, Shen Kang Hsiang, Taichung 42946 - Taiwan, R.O.C.
Tel: +886-4-25229079 Fax: +886-4-25207482 yunglun@yunglun.com.tw
www.yunglun.com.tw

Newcon Optik is a world leader in the design and manufacture of precision electro-optics. Headquartered in Toronto, Canada Newcon Optik’s dealer network is present on five continents. With a product portfolio consisting of industry-leading thermal imagers, night vision systems, laser rangefinders, laser aimers and tactical day optics, Newcon Optik’s products are relied upon by military, government and commercial customers in more than 60 countries. Contact: Aaron Buckstein, Director of Marketing & Business Development, abuckstein@newcon-optik.com; Alex Rudiy, Executive Vice President & COO, arudiy@newcon-optik.com
NiCoForm, Inc.  #108
72 Cascade Dr, Rochester, NY, 14614-1109 USA
+1 585 454 5530; fax +1 585 454 5167
inform@nicoform.com; www.nicoform.com

Featured Product: Electroformed Infrared Radiation Cold Shields, Optical housings and high fidelity replications.

Electroformed as multilayer structures of copper, NiColoy®, and gold, sometimes containing internal baffles, the shields usually have tight dimensional and weight tolerances. NiCoForm offers as standard deep black and bright gold coatings, on par with the best in the industry. Our precision CNC machining capabilities and advanced electroforming technology allow us to deliver tight dimensional and weight tolerances with high process yields. Come see some of our most interesting accomplishments. Contact: Joe Jachlewski, Project Engineer, jachlewski@nicoform.com

Ningbo Sunny Infrared Technologies Co., Ltd.  #2525
66-68 Shuny Rd, Yuyao Zhejiang, 315402 China
+86 574 62530985; fax +86 574 62553000
sunnyir@sunnyoptical.com; www.sunnyoptical.com

Featured Product: thermal imaging lens
Ningbo Sunny Infrared Technologies Co., Ltd. specializes in the R&D of IR materials, and the design, process and sale of thermal imaging lenses. With excellent experts of infrared materials and decades of experience of lens design and process, the company has possessed complete technology of melting, polishing, turning and high precision molding of chalcogenide glass, and the design and process of high performance thermal imaging lenses. Contact: Liqun Lou, Sales, sunnyIR@sunnyoptical.com; Zifeng Meng, Sales manager, mengz@sunnyoptical.com

NorPix Inc.  #723
1751 Richardson St Ste 6117, Montreal, QC, H3K 1G6 Canada
+1 514 846 0009; fax +1 514 846 0117
sales@norpix.com; www.norpix.com

Featured Product: StreamPix 5 high speed digital video recording software.

StreamPix 5 is a high speed digital video recording software package that supports a wide choice of GigE Vision, HD-SDI, Camera Link, USB2, Analog and Firewire cameras. StreamPix 5 can capture from multiple cameras simultaneously. Individual images are time stamped with computer clock, also add GPS positioning or IrIGi timing. StreamPix also provides a wide choice of features such as synchronization, AWI or MOVI file compression, GUI customization, VCR like controls and much more. Contact: Luc Nocente, President, sales@norpix.com

Norsk Elektro Optikk AS  #1404
Solheimveien 62 A, Larenoskog, 1473 Norway
+47 67974700; fax +47 67974900
hysspek@neo.no; www.neo.no


Norsk Elektro Optikk (NEO) was established in ’85 as a private research oriented company within the field of electro optics. NEO has grown to be the largest independent research and development organization in electro optics in Norway, and is an established manufacturer of advanced electro optical products for an international market. HySpex is NEO’s line of hyperspectral cameras, which aims to offer compact, high performance and versatile instruments for all airborne, lab & field applications. Contact: Hallvard Skjerping, Product Manager, HySpex, hyспектtsales@neo.no

Northrop Grumman Cutting Edge Optronics  #1119
20 Point West Blvd, Saint Charles, MO, 63301 USA
+1 636 916 4900; fax +1 636 916 4994
st-ceolaser-info@ngc.com; www.as.northropgrumman.com/ceolaser

Northrop Grumman Cutting Edge Optronics is a leading supplier of advanced laser diode and DPSS laser technology. CEO specializes in developing & manufacturing high performance laser diode arrays, laser gain modules, control electronics and complete laser systems for military, aerospace and commercial applications. Applications include Laser Pumping, LIDAR, Ranging/Designation and Directed Energy. Discover why CEO diode arrays and DPSS lasers are used in many of the world’s most advanced systems. Contact: Wade Collins, Manager Military & Aerospace Laser, wade.f.collins@ngc.com

Nova Sensors  #1719
320 Alaisal Rd Ste 104, Solvang, CA, 93463 USA
+1 805 245 9979
tony@novasensors.com; www.novasensors.com

Incorporating low power and compact camera electronics, Nova Sensors® offers cameras covering a wide range of applications including Hostile Fire Identification (HFI), missile launch detection/classification, and dismount identification tracking. The flexible open architecture of Nova’s Versatile Infrared Electronics (NVIE) allows inexpensive adaptation of components to virtually any focal plane array. End users get maximum customization options with minimal non-recurring engineering costs. Contact: Tony Vengel, Vice President, Business Development, tony@novasensors.com

Novotech, Inc.  #531
916 Main St, Acton, MA, 01720-5808 USA
+1 978 929 9458; fax +1 978 929 9459
peters@novotech.net; www.novotech.net

Featured Product: Single Point Diamond Turned Aspheres & Diffractives.

Global manufacturer of infrared optical materials. Germanium is our core product, stocked in ingots to zone refined bars to sieved evaporation grade. Manufactured products include CNC generated Blanks, diamond turned Aspheres & Spheres, Windows, Dewars, Finished Optics, Substrates, SMTY and Flats. IR materials include optical grade Germanium & Silicon. Complete vertical integration from recycling-reclamation to precision fabrication, Novotech is ready to manufacture. Contact: Peter Schwarzar, Account Manager IR Materials. Tracy Snelling, VP Bus development, tsnelling@novotech.net

NP Photonics, Inc.  #348
9030 S Rita Rd Ste 120, Tucson, AZ, 85747-9102 USA
+1 520 799 7400; fax +1 520 799 7403
info@np photonics.com; www.np photonics.com

Featured Product: Mid-IR Transport Fibers transparent from 2 to 5 microns.

Founded in 1998 NP Photonics Inc. is a leading manufacturer of fiber lasers and specialty fiber for the sensing, defense, metrology and research markets. The NP Photonics proprietary fiber technology is used across a broad family of products including mid-IR transport fibers and narrow line-width, low phase-noise fiber lasers specifically designed for operation in an industrial environment. NP continues to grow through technology innovation and strategic partnerships.

nPoint, Inc.  #2226
3030 Laura Ln Ste 100, Middleton, WI, 53562-1872 USA
+1 608 824 1770; fax +1 608 824 1774
info@npoint.com; www.npoint.com

Designs & manufactures nanopositioning tools for OEM and research applications. Products include piezo actuated flexure stages and digital control electronics. Nanopositioner systems provide closed-loop translation in the X, Y, Z, XYZ and tilt/tilt. Enables high-speed, high-resolution, sub-nanometer precision for Optics, Semiconductor, Defense, Aerospace and Bio industries. Contact: Stacy Welford, Controller, stacy.welford@npoint.com; Justin Brink, Technical Sales Representative, justin.brink@npoint.com
NuPhoton Technologies, Inc. #3070

41810 Corning Pl, Murrieta, CA, 92562-7023 USA
+1 951 696 8366; fax +1 951 696 8394
info@nu photon.com; www.nuphoton.com

NuWaves Engineering #226

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support@nuwaves-ltd.com; http://nuwaves-ltd.com

NuWaves Engineering is a premier supplier of RF Systems, Subsystems, Products, and Engineering Services designed to customer requirements. NuWaves is an RF power house, serving the military, industrial and commercial markets, with the singular mission of delivering unsurpassed RF Products and Engineering Design Services to fit most any RF application requirement. Stop by our booth to learn more about our design capabilities, and to check out our complete line of commercially available products. Contact: Kevin Harrison, Business Development Engineer, kevin.harrison@nuwaves-ltd.com

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830 Douglas Ave, Dunedin, FL, 34698 USA
+1 727 733 2447; fax +1 727 733 3962
info@oceano ptics.com; www.oceanoptics.com

Ocean Thin Films, Inc. #419

16080 Table Mountain Pkwy Ste 100, Golden, CO, 80403-1669 USA
+1 303 273 9700; fax +1 303 273 2995
www.oceanthinfilms.com

OTF’s PixelTec™ patterned optical thin film coatings combined with patented microlithography technology deliver precision patterned optical filters to enable a variety of products and applications including compact solid-state spectral sensing & imaging. Optical coatings, components, assemblies & PixelTec technology will be showcased alongside our fully customizable multispectral camera – SpectroCam™. Contact: Mike Francis, Sales Engineer, mike.francis@oceanthinfilms.com; Randel Mercer, VP of Business Development, randel.mercer@oceanthinfilms.com

id Quantique SA

Booth 1202
Product: id220 Free-Running Module

InGaAs/InP Photon Counter with the lowest Dark Count Rate.
OmniPulse Technology

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+1 858 452 7700
sales@omnipulsetechnology.com; www.omnipulsetechnology.com

Featured Product: The PCD-3-20 Pockels cell driver delivers a 2-3.2 kV pulse to a 30 pF load in less than 20 ns.

OmniPulse Technology is a world class connector design and manufacturing company with over 25+ years of experience focused upon micro-miniature and nano-miniature high reliability electronic connectors and interconnection systems. OmniPulse connectors are ideal for critical, high reliability industries where size, weight and reliability are a major consideration. OmniPulse has approved QPL status for Mil-83513 and Mil-32139 connectors.

Onefive GmbH

In Böden 139, Zurich, 8046 Switzerland
+41 43 538 36 57; fax +41 43 538 36 86
contactus@onefive.com; www.onefive.com

Featured Product: Origami XP: 20μJ sub-picosecond laser with variable repetition rate for OEM & R&D applications.

Onefive is a leading global supplier of industry-proven low-noise ultrastable and narrow-linewidth single frequency lasers for OEM integration and R&D as well. Our compact maintenance-free air-cooled lasers stand out for high ease of use & 24/7 operation. The ultrastable lasers portfolio containing picosecond and femtosecond lasers offers wider choice of parameters: UV - wavelength range, picosecond to sub-100 fs pulse duration, single-shot to GHz repetition rate, and nJ to > 20 μJ pulse energy. Contact: Lalit Bhushan Sharma, Head of Sales & Marketing, lalit.sharma@onefive.com

Onexa Research Services, Inc.

8282 Halsey Rd, Whitesboro, NY, 13492-3400 USA
+1 315 736 5480; fax +1 315 736 9321
dadelluomo@ors-labs.com; www.ors-labs.com


ORS offers analytical techniques to maintain and improve the quality of microelectronic components. Instrumentation/services include: RGA/I/VA, Hermeticity (Helium and Kr-85), Failure Analysis, Construction Analysis, Destructive Physical Analysis, Surface Analysis, FTIR, GC/MS, C-SAM, FESEM, EDS, Auger Spectroscopy, Real Time X-ray Radiography, XRF, ICP/MS and Solder Relflow/Moisture Sensitivity, DLA Land & Maritime Suitability for Seal, Radiography, SEM, PIND Internal Water-Vapor Content. Contact: Daniel Rossiter, Senior Vice President, djrossiter@ors-labs.com; Deborah Delluomo, Customer Service Representative, dadelluomo@ors-labs.com

Ontar Corp.

9 Village Way, North Andover, MA, 01845-2000 USA
+1 978 689 9622; fax +1 978 681 4585
sales@ontar.com; www.ontar.com

Featured Product: PcModWin5, HITRAN PC, PcLnWin, PcNvMod, LIDAR PC, MODTRAN and ALTM.

Ontar Corporation est. 1981 is an R&D software company. We sell software for optical atmospheric remote sensing. Products calculate gas transmission and evaluate sensor performance. PcModWin5, HITRAN PC, PcLnWin, PcNvMod, LIDAR PC, MODTRAN and ALTM. Applications include; laser spectroscopy, atmospheric transmission, smart weapons for defense applications, EO sensors development/evaluations, ground and satellite image correction, hyper spectral imaging, laser comm. and LIDAR apps. Contact: Dylan Payne, Software Manager, dpayne@ontar.com

Onyx Optics Inc.

6551 Sierra Ln, Dublin, CA, 94568-2798 USA
+1 925 833 1969; fax +1 925 833 1759
sales@onyxoptics.com; www.onyxoptics.com

Onyx Optics’ product capabilities include Adhesive-Free Bonded (AFB®) crystal and glass laser components such as laser rods, slabs, disks, and waveguiding structures. We work with materials such as doped and undoped YAG, YLF, YVO₄, sapphire, diamond, and spinel, as well as many others. Our patented composite technology enables higher efficiency, more compact, and higher power solid state laser and photonic devices. Contact: Lesley Reo, Sales & Marketing Manager, lreo@onyxoptics.com

Opgal Optronic Industries Ltd.

PO Box 462, Industrial Area 5, Karmiel, 20101 Israel
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Ophir Optics, LLC

1600 Osgood St, North, North Andover, MA, 01845 USA
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Featured Product: SuprIR™ 15-300mm f/4, Motorized Continuous Zoom Lens for Cooled Cameras.

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With its new networking option, you'll find systems integration with this DVR a breeze.

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info@oksi.com; www.oksi.com
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Photek Ltd.  #923

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Tomorrow’s optical innovations start with the 64,000 researchers at government, industrial and university labs who read Physics Today. Physics Today is the foremost physics magazine in the world, delivered to more than 360,000 readers in four different media—120k subscribers in print (25k outside the USA); 68k pass-along; 140k unique visitors each month; 60k registered for e-mail alerts; and 15k signed up for RSS feeds. 52% of Physics Today readers list their primary job function as research. Contact: Randolph Nanna, Publisher, rnanna@aip.org; Jeff Bebee, Marketing Dir, Magazines, jbebee@aip.org

Plasma-Therm LLC #548
10050 16th St N, Saint Petersburg, FL, 33716-4219 USA
+1 727 577 4999 www.plasmatherm.com

PhoToMachining, Inc., #1926
2 South Street, Berkshire Common, Pittsfield, MA, 01201-6109 USA
+1 413 490 0514; fax +1 413 442 3180 photonics@laurin.com; www.photonics.com

Featured Product: Photonics Buyers’ Guide: stop by our booth and get your 2012 edition of this must-have resource.

Photonics – the Pulse of the Industry – invites you to explore the information leader and all that we have to offer. As the publisher of Photonics Spectra, BioPhotonics and EuroPhotonics magazines, Photonics Buyers’ Guide, Photonics.com, and more, we bring you the news, research and applications articles you need to succeed. Many of our offerings are available to you free-of-charge. Contact: Karen Newman, Group Publisher, editorial@photonics.com; Ken Tyburski, Director of Sales, advertising@photonics.com

Photron, Inc. #2224
9520 Padgett Street, Suite 110, San Diego, CA, 92126 USA
+1 858 684 3555; fax +1 858 684 3558 image@photon.com; www.photon.com

Featured Product: Photron FASTCAM SA-X - high speed camera providing mega pixel resolution to 12,500 frames per second.

The Photron Fastcam SA-X is a mega pixel (1K x 1K) high speed camera that utilized large twenty micron square 12-bit pixels to provide unmatched performance for light sensitivity and full frame resolution. Available with 8, 16, 32 and 64 GB memory options, the SA-X has an ISO rating (measured against ISO 12232 Ssat method) of 25,000 for the monochrome version. Available with a wide range of accessories, including lens remote control, the SA-X is the fastest mega pixel high speed camera. Contact: Andrew Bridges, Director, Sales & Marketing, abridges@photon.com; Shun Motoyama, Sales Manager, motoyama@photon.com

PicoQuant GmbH #2517
Rudower Chaussee 29, Berlin, 12489 Germany
+49 30 6392 6560; fax +49 30 6392 6561 nick.bertone@optoecomponents.com; www.picoquant.com

Featured Product: Yellow picosecond pulsed diode laser with variable repetition rate (595nm).

PicoQuant GmbH is a research and development company in the field of optoelectronics. Founded in 1996, the company is based in Berlin, Germany and is a worldwide leader in the field of single photon counting applications. The product line includes pulsed diode lasers and LEDs, photon counting instrumentation, fluorescence lifetime spectrometers and time-resolved confocal microscopes. Since April 2008, Sales and Support in North America is handled by PicoQuant Photonics North America Inc. Contact: Nick Bertone, nick.bertone@optoecomponents.com

Plasma-Therm, Inc., designs, manufactures, sells and supports plasma etch and plasma enhanced chemical vapor deposition (PECVD) equipment to semiconductor device manufacturers. These systems are used in applications ranging from leading edge R&D to high volume production. Our served markets include Photomask Etching, Wireless communication, MEMS, Nanotechnology, Data Storage, Solar Cells and LED/Photonics Processing. Contact: sales@plasmatherm.com...
Pleora Technologies Inc. #1020
359 Terry Fox Dr Ste 230, Kanata, ON, K2K 2E7 Canada
+1 613 270 0625; fax +1 613 270 1425
info@pleora.com; www.pleora.com

Featured Product: Include high-value analog cameras to your GigE Vision video network with iPORT™ Analog-Pro IP engine.

Pleora Technologies Inc. pioneered the use of Gigabit Ethernet for real-time video connectivity and revolutionized industrial imaging. Working from its rich portfolio of video network elements, Pleora engineers networked video connectivity solutions for mission-critical applications, from definition to deployment, with full integration support. Find out why more military, medical, and manufacturing integrators and OEMs choose Pleora and stay – visit www.pleora.com. Contact: John Butler, Business Manager, North America, john.butler@pleora.com; Rob Lee, Vice President Marketing & Sales, rob.lee@pleora.com

PLX Inc. #823
25 W Jefryn Blvd Ste A2, Deer Park, NY, 11729-5761 USA
+1 631 586 4190; fax +1 631 586 4196
info@plxinc.com; www.plxinc.com

Featured Product: The PLX Modern Boresight Module dramatically enhances targeting capabilities.

PLX designs and manufactures complex monolithic optical structures, which use flat, front -surface reflective systems, that achieve and maintain state-of-the-art accuracy. Our front surface reflector systems operate in all wavelengths, from UV to far IR. Our proprietary M.O.S.T.™ technology creates a sandwich structure that achieves superb thermal and mechanical stability. PLX’s Boresighting Technology is just one of the reasons for our long history with the defense and space industries. Contact: Jack Lipkins, CEO, jlipkins@plxinc.com; Zvi Bleier, CTO, zbleier@plxinc.com

PolarOnyx, Inc. #1222
2526 Quana Dr Ste 17&18, San Jose, CA, 95131-1870 USA
+1 408 573 0930; fax +1 408 573 0932
sales@polaronyx.com; www.polaronyx.com

Featured Product: compact 1 μm high energy, 2 μm high energy/power and 1.55 μm & 1 μm GHz ultrafast fiber lasers.

World leading company in high energy/power ultrashort (fs, ps, ns) fiber lasers. Excellent for material processing, micromachining, spectroscopy, microscopy, biomedical instrumentation & optical sensing applications. OEM and instrument version are available. Wavelength ranges from UV to Mid-IR. Contact: Lihmei Yang, Director Sales & Product; jliu@polaronyx.com; Jian Liu, President, jianliu@polaronyx.com

Polatis Inc. #332
One Tech Drive, Suite 101, Andover, MA, 01810 USA
+1 978 327 5080; fax +1 978 327 5081
FedSale@polatis.com; www.polatis.com

Featured Product: The New Series 6000, 192x192 All-Optical Switch. Port counts from 4x4 to 192x192.

Polatis delivers the world’s lowest loss all-optical switching solutions for remote fiberlayer provisioning, protection, monitoring, reconfiguration and test, with over 1,000 systems shipped worldwide. Dependable, field-proven DirectLight® optical matrix switch technology scales from 4x4 to 192x192 ports, applying leading-edge performance to provide dynamic optical networking for telecommunications, datacenter, government, test and video markets. Contact: Mike Bitting, AVP Federal Sales, mbitting@polatis.com; Jerry Chappell, Sales Representative, jchappell@teracomm.com

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+1 978 327 5080; fax +1 978 327 5081
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Power Technology, Inc. #2521

PO Box 191117, Little Rock, AR, 72219-1117 USA
+1 501 407 0712; fax +1 501 407 0036
Sales@powertechnology.com; www.powertechnology.com

Featured Product: 517nm 5mW Green Laser Diode Module for Weapons/Gun Sight Applications offering unmatched brightness.

Power Technology, est. in 1969, (ITAR Reg. Mfg.) designs, manufactures & distributes laser diode products including OEM analytical, biomedical, industrial, semiconductor inspection, defense & security & machine vision applications. Defense & Security applications include laser diode subassemblies built for target designation/pointing, range-finding, illumination for night vision (NVG, FLIR), aiming/sighting & defensive countermeasures that are UAV mounted, vehicle mounted or handheld. Contact: Walter Burgess, VP Sales and Engineering, wburgess@powertechnology.com; Glenn Sullivan, Sales Engineer, gsullivan@powertechnology.com

Pranalytica, Inc. #506

1101 Colorado Ave, Santa Monica, CA, 90401-3009 USA
+1 310 458 4493; fax +1 310 458 0171
www.pranalytica.com

Precision Asphere, Inc. #520

48860 Milmont Dr Unit 105-C, Fremont, CA, 94538 USA
+1 510 668 1508; fax +1 510 668 1595
sales@precisionasphere.com; www.precisionasphere.com


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sales@precisionoptical.com; www.precisionoptical.com

Precision Optics Gera #448

1090 Delacrocix Cir, Norkomia, FL, 34275 USA
+1 941 803 4927; fax +1 941 237 4800
info@pog.eu; www.pog.eu

Featured Product: OLED Active Displays.

POG is a leading manufacturer of custom and standard microstructures on glass and ceramics – reticules, scales, calibration targets and test patterns. In-house photolithographic processes result in the highest possible quality for serial production and small batch quantities. POG designs, develops and processes custom optical and EO-mechanical systems and components from the UV through IR for machine vision, semiconductor industry, aerospace and defense. Contact: Buzz Nesti, buzz.nesti@pog.eu

Precision Armaments Laboratory (PAL), US Army #651

Bldg 44, RDAR-MEF-S, Picatinny Arsenal, NJ, 07806-5000 USA
+1 973 724 2460; fax +1 973 724 8539
pica.pal@conus.army.mil; www.pica.army.mil/PAL

Featured Product: 215’ tower facility dedicated to testing and evaluating sensor/seeker performance in adverse weather.

The Precision Armaments Laboratory (PAL) is a DoD facility established to provide a cost effective means to investigate, experiment and evaluate the life cycle aspects of sensor/seeker devices with respect to all-weather performance requirements. Located in NJ at Picatinny, the PAL is a unique facility of the US Army’s ARDEC that provides laboratory grade infrared sensors, integrated MET instrumentation, and a fleet of autonomously heat controlled surrogate surrogate 2S3 self propelled howitzer targets. Contact: PAL Manager, Pica.Pal@conus.army.mil

Precitech, Inc. #2310

44 Blackbrook Road, Division of AMETEK, Keene, NH, 03431-5040 USA
+1 603-357-2511
precitech.machinesales@ametek.com; www.precitech.com

Precitech designs and manufactures ultra precision machine tools for turning, milling, & grinding. Our machines produce rotationally symmetric, asymmetric, freeform and sculpted geometries. We achieve form tolerances in the sub-micron range and nanometer surface finishes when equipped with diamond tooling. Precitech provides unmatched support to our customers from development, through installation and over life of the product. Our application engineers can solve the most demanding machining. Contact: Chris Stroshine, North American Sales Manager, chris.stroshine@ametek.com; Kirk Rogers, North American Sales Manager, kirk.rogers@ametek.com

Princetel, Inc. #415, 456

2560 East State Street EXT, Hamilton, NJ, 08619 USA
+1 609 895 9890; fax +1 609 895 9552
info@princetel.com; www.princetel.com

Precision Scientific Corp. #719

414 Wall Street, Princeton, NJ, 08540 USA
+1 609 924 3011; fax +1 609 924 3018
info@princetonscientific.com; www.princetonscientific.com

Princeton Lightwave, Inc. #530

2555 Rte 130 Ste 1, Cranbury, NJ, 08512 USA
+1 609 495 2600; fax +1 609 395 9113
sales@princetonlightwave.com; www.princetonlightwave.com

Feated Product: PLR-600 rangefinder receiver has a InGaAs APD & TIA for ranging, LADAR and scientific applications.

Princeton Lightwave produces high-performance InP photodetectors and laser diodes covering shortwave infrared wavelengths. Our extensive integration technologies enable solutions ranging from components to turn-key sub-systems for customers in defense, imaging, instrumentation, and optical communications markets. Key products include 1D and 2D focal plane arrays, FPAs and cameras for 3D LADAR, single photon detectors, avalanche photodiodes, high-power diode lasers, and superluminescent diodes. Contact: Joseph Poekert, Director of Business Operations, jpoekert@princetonlightwave.com; Jason De Luca, Customer Service Representative, jdeluca@princetonlightwave.com

Princeton Scientific Corp. #719

414 Wall Street, Princeton, NJ, 08540 USA
+1 609 924 3011; fax +1 609 924 3018
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The IEEE and SPIE Defense, Security, and Sensing Job Fair is a career event for those in the field of optics and photonics.

The job fair will be held on April 25, 2012 from 10:00 am to 5:00 pm in the Exhibition Hall.

The job fair is sponsored by SPIE Career Center.
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Featured Product: Low Noise Data Acquisition System, Transportable programmable camera electronics.
Pulse Instruments is a leading manufacturer of systems and equipment for characterization and production test of image sensors. In addition to high-profile science applications, our equipment and systems are also used to test visible and infrared imaging devices for defense, security, commercial and industrial automation, machine vision and biomedical imaging applications. Our integrated test systems provide a flexible, expandable and cost effective solution to your testing requirements. Contact: Scott Williams, Director of Engineering, scott@pulseinstruments.com; Steven Kan, Vice President Sales, steven@pulseinstruments.com
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+972 98656034
main@pi-sys.com; www.pi-sys.com
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PVP Advanced EO Systems, Inc. provides high reliability EO-IR system solutions directly to DOD, Homeland Security, and via associated defense and aerospace program and vehicle primes. Applications include very high performance vehicle based surveillance, mobile weapon and situational awareness systems, fixed location ultra-long range surveillance suites, gyro-stabilized solutions for electro-optical and RF systems, and eye-safe at the aperture laser pointers and imaging illuminators.
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Quality Thin Films, Inc. #2122
141 Burbank Rd, Oldsmar, FL, 34677-4900 USA
+1 813 855 1900; fax +1 813 855 5580
sales@qtf.com; www.qtf.com
Featured Product: Antireflective coating @ 1.064, 1.570 & 3.5-5.0μm on Calcium Fluoride passes acidified salt fog test.
Quality Thin Films supplies optics, laser crystals and thin film coatings. We specialize in ultra high damage threshold coatings on super polished crystals and optics, from the UV to the IR. State of the art equipment for substrate fabrication and leading edge coating chambers enable QTF to continuously improve on quality with emphasis on customer service. ISO 9001:2008 certified. Contact: Karl George Sr, President/CEO, sales@qtf.com; Karl George Jr, Vice President, sales@qtf.com
Raicol Crystals Ltd. #236
22 Hamelacha Str Park Cible New Industrial Area, Resh Ha’a’in, 48091 Israel
+972 3 936 7412; fax +972 3 906 8969
info@raicol.com; www.raicol.com
Featured Product: RTP crystals and RTP-based Electro-Optic Cells for high-repetition rate applications.
Raicol Crystals manufactures nonlinear optical elements, including KTP, HGT, KTP, RTP, LBO, BBO, PPKTP and PPSLT. Raicol provides broadband electro-optic cells for high power applications. Raicol’s newest products are the RTP electro-optic Q-switch for high-repetition rate applications and the monolithic KTP OPO. Contact: Alex Skilar, CTO, alexs@raicol.com
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+1 585 223 2370; fax +1 585 223 1999
www.qioptiq.com
Qioptiq designs and manufactures photonic products and solutions that serve a wide range of markets and applications in the areas of medical and life sciences, industrial manufacturing, defense and aerospace, and research and development. Qioptiq benefits from having integrated the knowledge and experience of Avizio, Geleker, LINOS, Optem, Pilkinson, Point Source, Rodenstock, Spindler & Hoyer and others. Qioptiq’s people work in Europe, Asia and the USA. More at www.qioptiq.com Contact: Patrick Gray, Business Development Director, patrick.gray@qdi.qioptiq.com
QmagIQ, LLC #2313
22 Cotton Rd Ste 180, Nashua, NH, 03063-4219 USA
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info@qmagiq.com; www.qmagiq.com
QmagIQ, LLC, designs and manufactures a variety of infrared focal plane arrays, sensor engines, and camera systems. Its products serve the commercial market for applications such as persistent surveillance, gas imaging, engines, and camera systems. Its products serve the commercial market for applications such as persistent surveillance, gas imaging, and radiometry. While the bulk of its products is currently based on Qwip detector arrays, QmagIQ is also vigorously pursuing the development of other promising technologies, notably strained-layer superlattices. Contact: Mani Sundaram, CEO/President, msundaram@qmagiq.com; Axel Reisinger, CTO, areisinger@qmagiq.com
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Millbrook Lanne, Willowbank Business Park, Lanne, BT40 2SF United Kingdom
+44 2828 270 141; fax +44 2828 275 685
info@raptorphotonics.com; www.raptorphotonics.com

Featured Product: HAWK EMCCD camera, OWL SWIR & Visible SWIR camera, Osprey SCMOS camera, KITE and FALCON EMCCD camera.

Raptor Photonics Ltd offers a full line of high performance, rugged ultra low light cameras, which are optimized for day/night surveillance, homeland security and scientific applications. Raptor specializes in complete cameras and core engine solutions using EMCCD, SCMOS and SWIR sensor technology. The extreme low light capability of Raptor’s cameras makes them ideal in a variety of applications, including Border & Coastal Surveillance, Airport & Port Surveillance and Airborne/Land EO systems.

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5277 Trillium Blvd, Marketing, Hoffman Estates, IL, 60192 USA
+1 847 286 9953; fax +1 847 286 9974
usa@renishaw.com; www.renishaw.com

Featured Product: High-Performance Encoders for Industry’s Toughest Applications.

Renishaw offers a comprehensive range of encoders used by OEMs globally for exact positioning, reliability, and superior performance-to-cost value. Three encoder technologies — optical, magnetic and laser interferometer, provide designers with proven solutions to difficult applications. All are engineered to deliver non-contact, friction-free operation, exceptional ease of installation, space savings, and application flexibility. Contact: Jeffrey Seliga, Marketing Manager, jeffrey.seliga@renishaw.com; Howard Salt, Encoder Business, howard.salt@renishaw.com

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+1 303 245 4306; fax +1 303 447 3279
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Kigre, Inc. #1921
450 Leitz Rd, Midland, ON, L4R 5B8 Canada
705 526 5401; fax 705 526 5831
info@elcan.com; www.elcan.com

Renishaw ELCAN Optical Technologies is a vertically integrated provider of precision optical assemblies for Defense & Security, Medical, Industrial, Commercial and Entertainment customers located in Midland Ontario Canada. Our Regional Sales Managers are positioned in major centers in Europe and North America to be available and dispatched to meet the most demanding production schedules and are supported by 360° Integrated Product Teams within the facility to support design and manufacture of your program. Contact: Wolf Glage, VP Engineering, info@elcan.com; Deborah Ratushniak, Communications Specialist, info@elcan.com

Kigre’s New Eye-Safe laser provides ~10-15μj 10Hz 6us@1534nm.

KiloLambda Technologies, Ltd. #612
1020 Calle Sombra, San Clemente, CA, 92673-6227 USA
+1 949 366 8866; fax +1 949 498 9528
sales@reynardcorp.com; www.reynardcorp.com

Featured Product: Gapless Photolithography: multiple filter coatings with no gap & overlap between filters.

Reynard Corporation supplies custom & standard optical components & thin film coatings 0.2μm to 50μm (UV-FAR IR) to demanding specs for military, aerospace, medical & telecom applications. Our expertise in these markets enables us to stay on the leading edge of technological advancements through research partnerships, commercial development programs, SBIR programs and internal R&D. Other services include Optical & Mech. Fabrication, Photolithography Patterns, Environmental Testing, & Sub-Assembly. Contact: Beth Kinchyk, sales@reynardcorp.com; Robyn Miller, sales@reynardcorp.com

Proven LCD performance and reliability in a compact, ultra-low power, FOD sealed package.

Krell Technologies, Inc. #332
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sales@rino-inc.com; www.rino-inc.com

Featured Product Launches

Featured Product: Ruby Module

Krell Technologies, Inc.
Booth 1331
Product: Rev² Micro Polisher

Automated micro-polisher for processing optical connectors and bare fibers.
Rocky Mountain Instrument Co.  
106 Laser Dr, Bldg 1, Lafayette, CO 80026-2930 USA  
+1 303 664 5000; fax +1 303 664 5001 sales@rmico.com; www.rmico.com

Rocky Mountain Instrument Co. (RMI) is a leading manufacturer of optical components, high power thin film coatings & assemblies. RMI offers design, fabrication and testing services in our 90,000 sq ft manufacturing facility in Lafayette, CO. Contact: Jensen Huddleston, Marketing Manager, jensenh@rmico.net; Heath Kirin, Business Development Manager, heath@rmico.com

Rubicon Technology Inc.  
545 900 Green St, Bensenville, IL 60106-2553 USA  
+1 847 295 7000; fax +1 847 295 7555 sales@rubicon-es2.com; www.rubicon-es2.com

Rubicon Technology Inc. featured Product: New F-Mount Lenses from Schneider feature lockable iris and focus, & cover the full 43.2mm sensor.

Sandvik Osprey Ltd.  
305 Millands Rd, Red Jacket Works, Neath W Glamorgan, SA11 1NJ United Kingdom  
+44 1639 634121; fax +44 1639 630100

SAES Getters USA, Inc.  
2526 1122 E Cheyenne Mountain Blvd, Colorado Springs, CO 80132 USA  
+1 719 576 3200; fax +1 719 576 5025 www.saesgetters.com

SAES Getters USA, Inc. offers high performance detectors and high performance lenses for machine vision & other image processing applications. Standard products include Compact C-mount lenses, Industrial F-Mount lenses, Telecentric lenses, a modular Macro system, large format lenses (area & line scan), and industrial filters. Custom lens solutions are also available. Key markets include Machine Vision, Document Scanning, Industrial Inspection, 2D/3D Metrology, Surveillance, & Hyperspectral Imaging. Contact: Stuart Singer, Vice President, ssinger@schneideroptics.com; Jim Sullivan, Director of Sales & Marketing, jsullivan@schneideroptics.com

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sul_info@goodrich.com; www.sensorsinc.com

Featured Product: New, compact, low power GA640C SWIR camera features 640x512 15µm pitch, 1.5W power, <1 cubic in vol.

Manufacturer of indium gallium arsenide (InGaAs) near-infrared (NIR) and shortwave infrared (SWIR) imagers and detectors (available fully packaged or as OEM imaging modules) for automated inspection, defense, security, biomedical, spectroscopy and solar cell inspection. Innovative InGaAs-based products include fast- and high-resolution cameras, linescan imagers, and focal plane arrays. Our NIR and SWIR products feature easy-integration, use standard glass optics and require no cooling. Contact: Bob Jones, Director of Sales, robert.jones@goodrich.com

Shellcast Foundries Inc.  #716
10645 Lamoureux, Montreal-Nord, QC, H1G 5L4 Canada
+1 514 322 3760; fax +1 514 322 7226
techsales@shellcast.com; www.shellcast.com


AS9100, ISO9001 and NADCAP certified. All casting processes are performed in-house. This includes a non-destructive test lab (NDT) for X-Ray and Penetrant inspection, a destructive test lab, a chemical test lab with arc emission spectrometer, heat treatment facility and CMM equipment. Shellcast offers RAPID PROTOTYPE castings to accommodate sample requirements without the need of hard tooling for functional verifications of new designs as well as fully machined and finished “turnkey” products. Contact: Joe Khouzam, Marketing Director, joek@shellcast.com; Francois Desrochers, Product Development Engineer, francois@shellcast.com

Sierra Precision Optics  #1408
12830 Earhart Ave, Auburn, CA, 95602-9027 USA
+1 530 885 6979; fax +1 530 885 1037
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Simphotek Inc.  #718
211 Warren St Ste 202, Newark, NJ, 07103-3568 USA
+1 973 621 2340
info@simphotek.com; www.simphotek.com

Featured Product: SimphoSOFT CAD-based software simulates laser beam propagation through complex nonlinear materials.

Simphotek is a global leader in simulation of laser-material interactions, with strong expertise in nonlinear materials. Simphotek’s team of photonics experts optimizes its versatile SimphoSOFT simulation platform to model your particular photonics applications to minimize development time and maximize your ultimate product performance. SimphoSOFT supports multi-photon absorption, stimulated emission, transmission, Ken, diffraction, energy transfer, energy level diagrams of arbitrary shape.
Manager, marc.larive@sofradir.com
43-47 rue Camille Pelletan, Chatenay-Malabry, 92290 France
+ 33 1 41 13 45 35; fax +33 1 46 61 58 84
marc.larive@sofradir.com; www.sofradir.com

Featured Product: Come to see our Technology corner to discover the future.
Sofradir is the No. 1 supplier in Europe for 2nd and 3rd generation IR MCT detectors and the No. 2 ranking worldwide. Sofradir and its subsidiaries, ULIS and Sofradir EC, employ 500 people. Sofradir’s detectors have been integrated in battlefield proven equipments as well as in space observation missions. They include linear arrays and staring arrays, from ultracompact and low power Epsilon (384x288 15μm pitch) to JUPITER (1280x1024 15μm pitch). Contact: Marc Larive, Marketing Manager, marc.larive@sofradir.com

Sofradir EC, Inc. 
373 US HWY 46 W, Fairfield, NJ, 07004-2442 USA
+1 973 882 0211; fax +1 973 882 0997
info@sofradir-ec.com; www.sofradir-ec.com

Featured Product: ATOM 1024 High Resolution, 1024 x 768 Uncooled Infrared Imaging Camera.
The Sofradir EC product line includes its US-made cooled and uncooled infrared imaging cores and engines for military, commercial and research applications. The products are available for SWIR, MWIR, LWIR and VLWIR spectral ranges in various array formats. In addition, the company’s Electrophysics product line includes AstroScope night vision modules for low-light photography/videoography as well as high performance, high-speed infrared research infrared cameras. Contact: Christopher Alicandro, VP - Infrared Research, info@sofradir-ec.com

L-3 Communications
Cincinnati Electronics
Booth 1602
Product: IR Micro Cam

L-3 CE announces the Infrared MicroCamera featuring high resolution and small size.

Lake Shore Cryotronics, Inc.
Booth 321
Product: Terahertz and Infrared Band Pass Filters

Lake Shore’s flight-proven THz band pass filters enhance signal detection.

Solid Sealing Technology #622
44 Dalibla Ave, Watervliet, NY, 12189 USA
+1 518 874 3600; fax +1 518 874 3610
info@solidsealing.com; www.solidsealing.com

Featured Product Launches

Lambda Research Corp.
Booth 2228
Product: TracePro 7.1

TracePro 7.1 features 3D irradiance maps on all selected surfaces!

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Featured Product: ThermoRack 800W  
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Solid State Scientific Corp.  
27-2 Wright Rd, Hollis, NH, 03049-6129 USA  
+1 603 598 1194; fax +1 603 598 1197  
sssc@solidstatescientific.com; www.solidstatescientific.com

Sony Electronics Inc.  
One Sony Dr, Visual Imaging Products Group, Park Ridge, NJ, 07656-8003 USA  
+1 201 930 7000; fax 201-358-4401  
sony.cameras@am.sony.com; www.sony.com/videocameras


Sony Visual Imaging Products, a renowned leader in camera technology, will be demonstrating its new Color GigE Cameras and its latest High Definition Block Cameras. Sony will also be displaying its ultra-compact and discreet XC-505 color camera. Sony's industrial cameras are known for their outstanding picture quality and reliability. These cameras are ideal for remote monitoring and surveillance applications. By air, sea or ground, Sony has you covered. Contact: Terry Huber, Sr. Marketing Manager, terry.huber@am.sony.com; George Minakas, Product Manager, george.minakas@am.sony.com

Souriau PA&E  
434 Olds Station Rd, Wenatchee, WA, 98801 USA  
+1 509 667 5480; fax +1 509 663 5039  
sales@pacaero.com; www.pacaero.com  
Featured Product: SOURIAU PA&E's hermetic RF/Microwave connectors deliver reliable, harsh environment performance. SOURIAU PA&E specializes in the custom design and manufacture of hermetic connectors and electronic packaging. Our technology is proven in the harshest environments – from deep beneath the earth's surface to deep space and even within the human body. We work directly with engineers to custom design and manufacture electronic packaging and connector products that meet the exacting standards for the reliability satellite, missile, fighter aircraft and other mission-critical systems require. Contact: Rick Kalkowski, Marketing Mgr., rikalkowski@pacaero.com

Special Optics, Inc.  
315 Richard Mine Rd, Wharton, NJ, 07885-1659 USA  
+1 973 366 7289; fax +1 973 366 7407  
sales@specialoptics.com; www.specialoptics.com  
Featured Product: Special Optics’ teleconverter lenses are ideal for border security and surveillance. Special Optics specializes in rapidly designing, prototyping, and manufacturing the most innovative and highest performing custom optical systems. We provide state-of-the-art optical solutions that are typically found in applications that demand the finest optical surfaces, highest accuracy and tightest tolerances. In addition to our custom solutions, we carry a complete line of standard "off-the-shelf" products, like Scan Lenses and Beam Expanders all available for quick delivery. Contact: Charles Rafoth, Vice President, Sales and Business Development, crafoth@navitar.com; Kurt Van Hout, Sales Manager, kvanhout@navitar.com

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Contact: Steve Finn, Sales Manager, sales.us@spectrogon.com; Kelly Koerber, Sales Admin., sales.us@spectrogon.com

Spectrolab, Inc.  
12500 Gladiadove Ave, Sylmar, CA, 91342-5322 USA  
+1 818 365 4611; fax +1 818 361 5102  
customerservice@spectrolab.com; www.spectrolab.com  

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Souriau PA&E specializes in the custom design and manufacture of hermetic connectors and electronic packaging. Our technology is proven in the harshest environments – from deep beneath the earth's surface to deep space and even within the human body. We work directly with engineers to custom design and manufacture electronic packaging and connector products that meet the exacting standards for the reliability satellite, missile, fighter aircraft and other mission-critical systems require. Contact: Rick Kalkowski, Marketing Mgr., rikalkowski@pacaero.com

Sony Visual Imaging Products, a renowned leader in camera technology, will be demonstrating its new Color GigE Cameras and its latest High Definition Block Cameras. Sony will also be displaying its ultra-compact and discreet XC-505 color camera. Sony's industrial cameras are known for their outstanding picture quality and reliability. These cameras are ideal for remote monitoring and surveillance applications. By air, sea or ground, Sony has you covered. Contact: Terry Huber, Sr. Marketing Manager, terry.huber@am.sony.com; George Minakas, Product Manager, george.minakas@am.sony.com
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+1 585 768 2513
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System Control Technologies (SCT) #331
1801 SE Commerce Avenue, Battle Ground, WA, 98604 USA
+1 360 723 0091; fax +1 360 723 5368
sales@sctec.com; www.sctec.com
Featured Product: Sputtering, evaporation and PECVD coaters for precision optics, plastics and metals.
Designs and manufactures custom web, drum, in-line & batch sputtering and evaporation coating systems. SCT offers patented CFM sputtering systems for precision optical coating applications. This technology allows for cold multi-layer coatings with high ion current & energy. Systems span from 15 - 60 inch sources so product throughput will vary from R&D scale to high volumes. We also offer coaters for ultra-high oxide and thick ferro-magnetic materials. Contact: Jerry Martin, Director, jmartin@sctec.com

Systematic Vision Corp. #118
PO Box 490, Ashland, MA, 01721 USA
+1 508 532 1116
info@systematicvision.com; www.systematicvision.com
Featured Product: Photonfocus DR1-D1312-200-G2-8 High-Speed CMOS GigE Camera. 1312x1082 @ 135fps, VGA @ 577fps.
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info@technicalaser.com; www.technicalaser.com
Featured Product Launches

Laser Components USA, Inc.
Booth 1109
Product: Low-noise Si- and InGaAs- Avalanche Photodiode
Low-noise Si- and InGaAs-APD receivers with bandwidths up to 80MHz.

Lasertel, Inc.
Booth 2420
Product: T6 High Brightness Multi-kW CW Array
Lasertel’s T6 is a compact multi-kW class scalable CW array.

Liteye Systems, Inc.
Booth 216
Product: AQUILA PTZ Camera Systems
Liteye’s New AQUILA line of customizable PTZ cameras.

Maxion Technologies, Inc.
Booth 422
Product: Model 900 Laser System
Model 900 Laser System with QCL or ICL Laser.
Teledyne Imaging Sensors
5212 Verdugo Way, Camarillo, CA, 93012 USA
+1 805 373 4558; fax +1 805 373 4775
www.teledyne-si.com

Teledyne Imaging Sensors (TIS) is a market leader, engaged in the design, development and production of high operating temperature, high performance, visible and infrared focal plane arrays, cameras, and sensor subsystems utilizing Mercury Cadmium Telluride and Strained Layer Super Lattice materials for use in DoD, government, tactical, commercial, and space applications as well as astronomy and civil space applications. TIS also designs and manufactures custom laser eye protection products. Contact: Robert Koeble, Program Manager; rkoegle@teledyne.com; Louis Kilmer, Vice President & General Manager, lkilmer@teledyne.com

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information@judsontechologies.com; www.judsontechologies.com

Teledyne Judson Technologies (TJT) is a global leader for IR sensors from the VIS to VLWIR spectrum used in military, space, & commercial markets. TJT has added 2D focal plane arrays (InGaAs, InSb, MCT) to its legacy product suite which may be integrated with the IDCA’s TJT offers. Products are used in surveillance, law enforcement/security, laser beam diagnostics, range finding, and chemical/biological detection. We offer supplemental electronics, Peltier cooling, and cryo-cooled modules. Contact: Mark Sediva, Sales Engineer, msediva@teledynejudson.com; Jim Dell, Standard Product Technical Sales & Marketing Mgr., jdell@teledynejudson.com

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605 Murray Rd, Waterloo, ON, N2V 2E9 Canada
+1 519 886 6001; fax +1 519 886 5317
www.teledyne-dalsa.com

Teledyne DALSA is uniquely positioned to provide state-of-art imaging components and subsystems to the D&S Industry. Our commitment to innovation and performance has led us to build an extensive technology portfolio in UV, VIS and NIR imaging, from advanced detectors through our innovative camera platforms. Also with our world class MEMS foundry and technology partners, we have a unique capability and access to short wavelength and uncooled infrared detector technologies.

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Threat Spectrum is an R&D focused innovator in robotics and sensor systems for military, homeland security, intelligence and industrial surveillance. Our newly developed PTZ surveillance gimbal has been designed to survive the harsh conditions of mobile surveillance. Our newly developed PTZ surveillance system is complete OCT, multiphoton, confocal, and multi-photon imaging for Night Vision & Thermography. Infrared Lens Modules for IR Cameras. Thermal Imaging Cameras—Night Vision: TICA-K010 & TICA-K020: Thermography: TICA-K030 & TICA-M010. Infrared Lens Modules for Thermal Imaging Cameras: Single FOV; Dual FOVs; Continuous Zoom; Uni-axis (Visible & IR). Contact: Nancy Hamar, Marketing Assistant, nancy.hamar@thertispectrum.com; Cathy Boles, Marketing Manager, cathyb@thertispectrum.com

Topins Co, Ltd 

103-6 Moodyong, Yuseoung, F714, faculty wing, KAIST ICC, Daejeon, Taejon, 305-732 Korea, Republic of. +82 42 488 0916; fax +82 42 864 0917 hnykykim@topins.co.kr; www.topins.co.kr

Featured Product: Man-portable PTZ surveillance system

Threat Spectrum is an R&D focused innovator of robotics and sensor systems for military, homeland security, intelligence and industrial surveillance. Our newly developed PTZ surveillance gimbal has been designed to survive the harsh conditions of mobile deployment inside a soldier’s ruck or atop the photonic mast of an off-road vehicle. A patent-pending chassis and UAV grade hermetic sealing promises reliability through high shock, vibration, temperature, and electromagnetic disturbances. Contact: Mike Shannahan, CEO, mike.shannahan@threatspectrum.com

Timbercon, Inc.

17387 SW 63rd Ave, Lake Oswego, OR, 97035 USA +1 503 827 8141; fax +1 503 228 6747 info@timbercon.com; www.timbercon.com

Featured Product: Fiber Bragg Grating (FBG) Sensor System

Timbercon is a fiber optic products manufacturing company providing an array of custom and standard connectivity solutions. Products include: armadillo cables, ruggedized cables, military cables, broadcast cables, high density interconnects, ruggedized optical and electrical loopbacks, netsim modules, attenuators, coupler/splitters, Fiber Bragg Grating Sensors, and PM assemblies. Timbercon has pioneered multiple new proprietary products, many of which are now considered to be industry standards. Contact: Nancy Hamar, Marketing Assistant, nancy.hamar@thertispectrum.com; Cathy Boles, Marketing Manager, cathyb@thertispectrum.com

Tousimis research corp.

2211 Lewis Ave, Rockville, MD, 20851-2333 USA +1 301 881 2450; fax +1 301 881 5374 trc@tousimis.com; http://tousimis.com


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Tower Optical Corp.

3600 S Congress Ave, Boynton Beach, FL, 33426 USA +1 561 740 2525; fax +1 561 740 2518 sales@toweroptical.com; www.toweroptical.com

Featured Product: Automatic, self-erecting towers, used for surveillance, telecommunications and lifting.

Tower Solutions creates totally automatic self-erecting towers. 1) 80 foot tower with a 2,000 lb. payload capacity; 2) 40 foot tower with a 250 lb. payload capacity; 3) 20 foot tower with a 140 lb. payload capacity — it can be mounted on the bumber or roof of a HUMVEE while being operated in the cab. All versions (portable or stationary) rise to full height in minutes at the “push of a button”, can stop at any height, have high wind ratings and options and customization are available. Contact: Allen Karson, President, akarson@towersolutionsinc.com

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Multi IR Optoelectronics Co., Ltd.
Booth 512
Product: Bp 10.6 μm SF6 gas filter

SF6 filter, gas sensor and detector, exact and high efficient.

Nallatech
Booth 413
Product: NSC-625

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Nanomotion Inc.
Booth 502
Product: PTZ Motor

PZT motor eliminates gears/backlash, providing holding force without power.

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Contact: Hien Pham Gia, Sales Director, ulis@ulis-ir.com; Jean-Luc Tissot, Marketing and Technical Director, ulis@ulis-ir.com
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info@wavelength-tech.com; www.wavelength-tech.com
Featured Product: IR Dual Field Imaging Lens (IR2FV44176320)

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Ningbo Sunny Infrared Technologies Co., Ltd.
Booth 2525
Product: Thermal Imaging Lens Assemblies

Nova Sensors
Booth 1719
Product: Cameras by Teledyne

nPoint, Inc.
Booth 2226
Product: nPfocus

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Booth 226
Product: L- & S-Band Power Amplifier

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Featured Product: Harsh Environment Optical Interconnects.

Focused on using innovative patented VCSEL technology to develop custom harsh-environment photonic solutions critical to homeland security and national defense. Contact: Terry Thomas, EVP Business Development, tthomas@zephyr photonics.com; Tim McAllister, VP Product Marketing, tmcallister@zephyr photonics.com
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Booth 1327
Product: GPZ, metallic
germanium, germanium ingots,
blanks for optical components

GPZ – alloys production,
Germanium monocrystalline –
Radio-electronics, Optical blanks
– IR optics

Omnetics Connector
Corp.
Booth 706
Product: Nano Circular

Pinched for space? Omnetics Nano
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Opgal Optronic
Industries Ltd.
Booth 1113
Golan™ is an uncooled camera
with a 640X480 17/25μ sensor,
70/220mm dual FOV or 25-225mm
continuous zoom.

Ophir Optics, LLC
Booth 1625
Product: SupIR 45/135mm f/1.1
f/1.6, Motorized Focus, 2-FOV
Lens, 680020.

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Booth 318

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OptiPro Systems
Booth 2222

PRO 80 Series: Grind, Hi-Speed
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Optometrics Corp.
Booth 433
Product: Gratings ruled in gold.

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<tr>
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</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Souriau PA&amp;E</th>
<th>Spectra-Mat, Inc.</th>
<th>TeraComm, LLC</th>
<th>Tower Solutions</th>
</tr>
</thead>
</table>

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|----------------------|--------------------|--------------------------|--------------------------|---------------------------------------------|-------------------|-----------------------------|--------------|-----------------------|

### Computing, Data Processing Hardware

|----------------------|------------------------------------|--------------------------|---------------------|--------------------------|---------------------------------------------|-----------------------------|--------------|-----------------------|

### Consumer Electronics

<table>
<thead>
<tr>
<th>Micromechatronics, Inc.</th>
<th>Opnext, Inc.</th>
<th>Proto Labs, Inc</th>
</tr>
</thead>
</table>

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<thead>
<tr>
<th>Company</th>
<th>Booth Number</th>
<th>Product Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orbel Corp.</td>
<td>437</td>
<td>Product: SNAP – SHIELD MICRO™ Orbel’s micro™ - Low Profile two-piece board level shielding for EMI compliance.</td>
</tr>
<tr>
<td>PD-LD, Inc.</td>
<td>308</td>
<td>Product: LabSource – LS-1 and LS-2 Benchtop module available with single or dual laser sources. LS1 can be used to add Raman spectroscopy capabilities to analytical equipment. LS2 can be used for SERDS analysis.</td>
</tr>
<tr>
<td>PENTAX RICOH Imaging Americas Corp.</td>
<td>905</td>
<td>Product: PAIR02 55X Zoom Lens Reduces Atmospheric Interference (including heat haze) in long-range video surveillance.</td>
</tr>
<tr>
<td>Photron, Inc</td>
<td>2224</td>
<td>Product: Photron Fastcam SA-X The 12,500fps Fastcam SA-X is the world’s fastest mega-pixel high speed camera.</td>
</tr>
</tbody>
</table>

**Displays**
- Covesion Ltd.
- CREOL, The College of Optics and Photonics, Univ. of Central Florida
- Kopin Corp.
- Leybold Optics USA, Inc.
- LITEYE SYSTEMS, INC
- Nu-Cast, Inc.
- Photonics Online
- SCHOTT Defense
- Shellcast Foundries Inc.

**Displays: Consumer, Information, Entertainment**
- Great River Technology, Inc.
- Iridian Spectral Technologies Ltd.
- Kopin Corp.
- Leybold Optics USA, Inc.
- Opnext, Inc.
- SCHOTT Defense
- Westboro Photonics

**Distributor, Reseller, Integrator**
- Cantronic Systems (Canada) Inc.
- Contact! Corp.
- LITEYE SYSTEMS, INC
- Nova Sensors
- Systematic Vision Corp.
- Universal Photonics Inc.

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**Infrared Systems Development Corp.**
- INO
- iRflex Corp.
- KVH Industries, Inc.
- L-3 Communications Cincinnati Electronics
- Lake Shore Cryotronics, Inc.
- Laser Components USA, Inc.
- Lattice Materials LLC
- LEONI Fiber Optics, Inc.
- Mantaro Product Development Services®, Inc.
- Meadowlark Optics, Inc.
- MISTRAS Group, Inc.
- Moog QuickSet
- Multi IR Optoelectronics Co., Ltd
- Multisorb Technologies, Inc.
- New Imaging Technologies SAS
- Newcon Optik
- Nova Sensors
- Nu-Cast, Inc.
- Nufern
- OZ Optics Ltd.
- PHASICS
- Photek Ltd.
- Photonics Online
- PHOTONIS USA
- Photron, Inc.
- Precision Armaments Laboratory (PAL), US Army
- Princeton Lightwave, Inc.
- Raptor Photonics Ltd.
- Raytheon ELGAN Optical Technologies
- Renishaw Inc.
- Santa Barbara Infrared, Inc.
- SELEX Galileo
- Sensors Unlimited, Inc., part of Goodrich Corp.
- Shellcast Foundries Inc.
- Siskiyou Corporation
- SOFRADIR
- Spectrolab, Inc.
- Teledyne Imaging Sensors
- Teledyne Judson Technologies Tower Solutions
- ULIS
- Vision Systems Technology, LLC
- Xenics NV
### Earth Sciences, Environmental Monitoring, Climate

AIM INFRAROT-MODULE GmbH  
Alpes Lasers SA  
Arjae Spectral Enterprises, Inc.  
BEI Precision Systems & Space Co., Inc.  
Block Engineering, LLC  
Brandywine Photonics LLC  
Bridger Photonics, Inc.  
Exelix Visual Information Solutions  
Hellma Materials GmbH  
Krell Technologies, Inc.  
KVH Industries, Inc.  
Micro Laser Systems, Inc.  
Multi IR Optoelectronics Co., Ltd  
OZ Optics Ltd.  
Photon, Inc.

### Education and Training

CREOL, The College of Optics and Photonics, Univ. of Central Florida  
Florida Photonics Cluster  
Georgia Tech Research Institute and SENSIAAC  
ID Quantique SA  
National Defense Industrial Association  
Photon Engineering LLC

### Electronic Components

AdTech Ceramics  
AMETEK HCC Electronic Packaging  
Analog Modules, Inc.  
Arroyo Instruments, LLC  
BEI Precision Systems & Space Co., Inc.  
DYCONEX AG  
EDIT (Engineering Design Team), Inc.  
Eltek USA Inc.  
Gooch & Housego Plc  
Heimann Sensor GmbH  
IMT North America, Inc.  
Mantaro Product Development Services®, Inc.  
NSCA & TRA-CAL, LLC  
Nu-Cast, Inc.  
NuWaves Engineering  
SCHOTT Defense  
Sensors Unlimited, Inc., part of Goodrich Corp.  
Souriau PA&E  
Spectra-Mat, Inc.  
TeraComm, LLC  
Vergason Technology Inc

### Electronic, Digital Imaging

Active Silicon, Inc.  
AdTech Ceramics  
Brimrose Technology Corp.  
Cantronic Systems (Canada) Inc.  
e2v Aerospace and Defense, Inc  
EDIT (Engineering Design Team), Inc.  
Fotofab  
Gatan, Inc.  
GE Intelligent Platforms  
Great River Technology, Inc.  
IMT North America, Inc.  
IO Industries, Inc.  
IRCAM GmbH  
Multisorb Technologies, Inc.  
Nova Sensors  
PENTAX RICOH Imaging Americas Corporation  
Photon, Inc.  
Sensors Unlimited, Inc., part of Goodrich Corp.  
Sony Electronics Inc.  
StingRay Optics, LLC  
Systematic Vision Corp.  
Teledyne Imaging Sensors  
ULIS  
Vision Components GmbH

### Emerging Photonics Technologies

AdTech Ceramics  
Alpes Lasers SA  
Arjae Spectral Enterprises, Inc.  
CREOL, The College of Optics and Photonics, Univ. of Central Florida

### Fiber Optics and Accessories

Aerotech, Inc.  
Analog Modules, Inc.  
Avantes, Inc.  
Brandywine Photonics LLC  
Brimrose Technology Corp.  
CREOL, The College of Optics and Photonics, Univ. of Central Florida  
EDIT (Engineering Design Team), Inc.  
Electro-Optics Technology, Inc.  
EMCORE Corporation  
Fibercore Ltd.  
FJW Optical Systems, Inc.  
Fotofab  
Gooch & Housego Plc  
Gould Fiber Optics  
INO  
IRflex Corp.  
Krell Technologies, Inc.  
KVH Industries, Inc.  
LEONI Fiber Optics, Inc.  
Micro Laser Systems, Inc.  
Micromachtronics, Inc.  
Nufern  
NuWaves Engineering  
OZ Optics Ltd.  
Polatis Inc.  
Power Technology, Inc.  
SCHOTT Defense  
Souriau PA&E  
Spectra-Mat, Inc.  
TeraComm, LLC

### Industrial Sensing and Measurement

Advanced Laser Diode Systems A.L.S. GmbH  
Alpes Lasers SA  
AMETEK HCC Electronic Packaging  
Bodkin Design & Engineering, LLC  
Canon U.S.A., Inc.  
Catalina Scientific Instruments, LLC  
Covesion Ltd.  
DataRay Inc.  
Defence Vision Systems Inc.  
Eltek USA Inc.  
ENMET Corporation  
FJW Optical Systems, Inc.  
Gurley Precision Instruments, Inc.  
Heimann Sensor GmbH  
Hitachi High Technologies America, Inc.  
ID Quantique SA  
IRCAM GmbH  
Labsphere, Inc.
Pleora Technologies Inc.
Booth 1020
Product: iPort™ Analog-Pro Video Transmitters

PLX Inc.
Booth 823
Product: PLX Modified Boresight Module for the Apache Helicopter

Polaris Sensor Technologies, Inc.
Booth 630
Product: Multispectral Imaging Polarimeter

Pranalytica, Inc.
Booth 506
Product: Ultra Compact High Power Quantum Cascade Laser

Princeton Lightwave, Inc.
Booth 530
Product: Eyesafe range finder receiver

Riegl USA Inc.
Booth 1729
Product: RIEGL VQ – 820 – G Bathymetric Green Laser

SAES Getters USA, Inc.
Booth 2526
Product: Thin-film getter deposited on lids and wafers.

Laser Components USA, Inc.
LEONI Fiber Optics, Inc.
Luna Technologies
Mantaro Product Development Services®, Inc.
Meadowlark Optics, Inc.
Multi IR Optoelectronics Co., Ltd
Oneida Research Services, Inc.
Opnext, Inc.
Optometrics Corp.
PHASICS
Polatis Inc.
Renishaw Inc.
Sensors Unlimited, Inc., part of Goodrich Corp.
SOFRADIR
Sony Electronics Inc.
StingRay Optics, LLC
Systematic Vision Corp.
Teledyne Judson Technologies
TRIÖPTICS GmbH
Vision Components GmbH
Zygo Corporation

Laser Industry
Access Laser Co.
Advanced Laser Diode Systems A.L.S. GmbH
Arrow Thin Films, Inc.
Arroyo Instruments, LLC
Covesion Ltd.
CVI Melles Griot
DataRay Inc.
Element Six Technologies U.S. Corporation
FJW Optical Systems, Inc.
Gentec Electro-Optics Inc.
Gooch & Housego Plc
Hellma Materials GmbH
Heraeus Quartz America LLC
Intevac Photonics, Inc.
Labsphere, Inc.
Laser Components USA, Inc.
Leybold Optics USA, Inc.
Maxion Technologies, Inc.
Micromechatronics, Inc.
Newcon Optik
Nufern
OmniPulse Technology
Onfive GmbH
PolarOnyx, Inc.
Power Technology, Inc.
Pulse Intecco Systems Ltd.
Reynard Corporation
Shanghai Optics Inc.
Simphotek Inc.
Solid State Cooling Systems
Spectra-Mat, Inc.
Teledyne Judson Technologies
Z & Z Optoelectronics Tech. Co., Ltd.
Lasers and Systems
Access Laser Co.
AdValue Photonics, Inc.
Advanced Laser Diode Systems
A.L.S. GmbH
Alpes Lasers SA
Avo Photonics, Inc.
Boston Electronics Corp.
Canon U.S.A., Inc.
CREOL, The College of Optics and Photonics, Univ. of Central Florida
CVI Melles Griot
Georgia Tech Research Institute and SENSIAC
Gooch & Housego Plc
ID Quantique SA
INO
IRflex Corp.
Lasertel, Inc.
LEONI Fiber Optics, Inc.
Maxion Technologies, Inc.
Micro Laser Systems, Inc.
Northrop Grumman Cutting Edge Optronics
Nufern
OmniPulse Technology
Onelfive GmbH
PolarOnyx, Inc.
Power Technology, Inc.
Precision Armaments Laboratory (PAL), US Army
Princeton Lightwave, Inc.
Pulse Intecno Systems Ltd.
Santa Barbara Infrared, Inc.
Snake Creek Lasers, LLC
Proto Labs, Inc
Reynard Corporation
Schneider Optics, Inc.
SCHOTT Defense
Spectrolab, Inc.
Tower Solutions
Vergason Technology Inc
Westboro Photonics

Lithographic Equipment
Advance Reproductions Corp.
Bid-Service LLC

Machine Vision, Factory Automation
Active Silicon, Inc.
Aerotech, Inc.
Aerotech, Inc.
Brandywine Photonics LLC
Bridger Photonics, Inc.
EDT (Engineering Design Team), Inc.
Gurley Precision Instruments, Inc.
IMT North America, Inc.
IRCAM GmbH
JAI Inc., USA
Max Levy Autograph, Inc.
MISTRAS Group, Inc.
MPS Crystal Corp.
Nanomotion Inc.
New Imaging Technologies SAS
Nova Sensors
Optikos Corp.
PENTAX RICOH Imaging Americas Corporation
Physimetrics, Inc.
Pleora Technologies Inc.
Power Technology, Inc.
Raytheon ELCAN Optical Technologies
Schneider Optics, Inc.
Sensors Unlimited, Inc., part of Goodrich Corp.
Sony Electronics Inc.
Systematic Vision Corp.
ULIS
Vision Components GmbH
Xenics NV

Manufacturing, Assembly, Quality Inspection
Aerotech, Inc.

Materials Processing, Lasers in Manufacturing
AdValue Photonics, Inc.
Santa Barbara Infrared, Inc.
Booth 1902
Product: Common EO Laser Tester


Simphotek Inc.
Booth 718
Product: SimphoSOFT – Multiple Pulse

Accurate simulation and optimization of photo-activated materials; fit experimental data.

Sofradir EC, Inc.
Booth 1711
Product: ATOM 1024

Sofradir 1024x768 Produces Stunning Thermal Images.

Solid State Cooling Systems
Booth 1937
Product: Thermo Rack 1000W PAO

ThermoRack 1000 watt rack-mount chiller for leak-free use with PAO.

Featured Product Launches

misc consumables and equipment
Krell Technologies, Inc.
Power Technology, Inc.
System Control Technologies (SCT)
tousimis research corp.

mounts, tables, vibration isolation
4D Technology Corp.
Aerotech, Inc.
Arroyo Instruments, LLC
CVI Melles Griot
Micromechatronics, Inc.
NSCA & TRA-CAL, LLC
tousimis research corp.

Nanotechnology products
Aerotech, Inc.
Arjaa Spectral Enterprises, Inc.
Bid-Service LLC
Georgia Tech Research Institute and SENSAC
Hitachi High Technologies America, Inc.
Krell Technologies, Inc.
Max Levy Autograph, Inc.
Nanomotion Inc.
PolarOnyx, Inc.
Raytheon ELGAN Optical Technologies
Universal Photonics Inc.

Optical Coatings, Thin Films
Advance Reproductions Corp.
Andover Corp.
Arrow Thin Films, Inc.
Entergris, Inc.
Gurley Precision Instruments, Inc.
Hardin Optical Co.
IMT North America, Inc.
Infinite Optics Inc.
Iridian Spectral Technologies Ltd.
JML Optical Industries, LLC
Laser Components USA, Inc.
Lattice Materials LLC
Leybold Optics USA, Inc.
Max Levy Autograph, Inc.
MPA Crystal Corp.
Multi IR Optoelectronics Co., Ltd
Optometrics Corp.
OZ Optics Ltd.
PFG Precision Optics, Inc.
Reynard Corporation
SCHOTT Defense
Shanghai Optics Inc.

Misc Consumables and Equipment
Krell Technologies, Inc.
Power Technology, Inc.
System Control Technologies (SCT)
tousimis research corp.

Mounts, Tables, Vibration Isolation
4D Technology Corp.
Aerotech, Inc.
Arroyo Instruments, LLC
CVI Melles Griot
Micromechatronics, Inc.
NSCA & TRA-CAL, LLC
tousimis research corp.

Nanotechnology products
Aerotech, Inc.
Arjaa Spectral Enterprises, Inc.
Bid-Service LLC
Georgia Tech Research Institute and SENSAC
Hitachi High Technologies America, Inc.
Krell Technologies, Inc.
Max Levy Autograph, Inc.
Nanomotion Inc.
PolarOnyx, Inc.
Raytheon ELGAN Optical Technologies
Universal Photonics Inc.

Optical Coatings, Thin Films
Advance Reproductions Corp.
Andover Corp.
Arrow Thin Films, Inc.
Entergris, Inc.
Gurley Precision Instruments, Inc.
Hardin Optical Co.
IMT North America, Inc.
Infinite Optics Inc.
Iridian Spectral Technologies Ltd.
JML Optical Industries, LLC
Laser Components USA, Inc.
Lattice Materials LLC
Leybold Optics USA, Inc.
Max Levy Autograph, Inc.
MPA Crystal Corp.
Multi IR Optoelectronics Co., Ltd
Optometrics Corp.
OZ Optics Ltd.
PFG Precision Optics, Inc.
Reynard Corporation
SCHOTT Defense
Shanghai Optics Inc.
System Control Technologies (SCT)
TwinStar Optics & Coatings, Inc.
Vergason Technology Inc
VLOC

Optical Communication, Networking Devices
AMETEK HCC Electronic Packaging
EMCORE Corporation
Gooch & Housego Plc
PHOTONIS USA
Pleora Technologies Inc.
Polatis Inc.
TeraComm, LLC
Z & Z Optoelectronics Tech. Co., Ltd.

Optical Components - Filters, Mirrors, Other
Arrow Thin Films, Inc.
Avo Photonics, Inc.
CVI Melles Griot
Diverse Optics Inc.
E.R. Precision Optical Corp.
Eltek USA Inc.
Infi nite Optics Inc.
IRCAM GmbH
JML Optical Industries, LLC
Krell Technologies, Inc.
Laser Components USA, Inc.
Lattice Materials LLC
LEONI Fiber Optics, Inc.
Max Levy Autograph, Inc.
MPA Crystal Corp.
Multi IR Optoelectronics Co., Ltd
Naked Optics Corp.
Optometrics Corp.
PFG Precision Optics, Inc.
Photon Sense GmbH
Raytheon ELCAN Optical Technologies
Schneider Optics, Inc.
Shanghai Optics Inc.
SiSiKyou Corporation
StingRay Optics, LLC
Swiss Jewel Co.
Syntec Optics
Systematic Vision Corp.
Teledyne Imaging Sensors
TwinStar Optics & Coatings, Inc.
Wavelength Technology
Z & Z Optoelectronics Tech. Co., Ltd.
Zygo Corporation

Optical Design and Engineering
Avo Photonics, Inc.
Bodkin Design & Engineering, LLC
Brandywine Photonics LLC
Diverse Optics Inc.
Element Six Technologies U.S. Corporation
Entegris, Inc.
Entegris, Inc.
Infrared Systems Development Corp.
INO
Kopin Corp.
LabSphere, Inc.
Lambda Research Corp.
LEONI Fiber Optics, Inc.
LITEYE SYSTEMS, INC
Lumicon, Inc.
MGL Photonics
New Imaging Technologies SAS
Optikos Corp.
Opto-Alignment Technology, Inc.
PHASICS
Photon Engineering LLC

Optics Manufacturing
4D Technology Corp.
AdTech Ceramics
Aerotech, Inc.
Andover Corp.
Arrow Thin Films, Inc.
Canon U.S.A., Inc.
CVI Melles Griot

Photonics Online
PolarOnyx, Inc.
Raytheon ELCAN Optical Technologies
Schneider Optics, Inc.
SCHOTT Defense
Shanghai Optics Inc.
Simphotek Inc.
Special Optics, Inc.
StingRay Optics, LLC
Wavelength Technology Singapore Pte. Ltd.
Xenics NV
Z & Z Optoelectronics Tech. Co., Ltd.
Zygo Corporation
Diverse Optics Inc.
E.R. Precision Optical Corp.
Entegris, Inc.
Fotofab
Gooch & Housego Plc
Gurley Precision Instruments, Inc.
Hardin Optical Co.
Heraeus Quartz America LLC
Infinite Optics Inc.
IRflex Corp.
JML Optical Industries, LLC
L.A. Gauge Co.
Laser Components USA, Inc.
Lattice Materials LLC
Leybold Optics USA, Inc.
Max Levy Autograph, Inc.
Micromechatronics, Inc.
MPA Crystal Corp.
Naked Optics Corp.
Optikos Corp.
OptiPro Systems
Opto-Alignment Technology, Inc.
PFG Precision Optics, Inc.
Photonic Sense GmbH
Photonics Online
Precitech, Inc.
Raytheon EL CAN Optical Technologies
Reynard Corporation
SCHOTT Defense
Shanghai Optics Inc.
Syntec Optics
System Control Technologies (SCT)
Teledyne Imaging Sensors
TwinStar Optics & Coatings, Inc.
Vergason Technology Inc
VLOC
Wavelength Technology
Singapore Pte. Ltd.
Welch Mechanical Designs, LLC
Z & Z Optoelectronics Tech. Co., Ltd.
Zygo Corporation

Optomechanical Components, Devices
AdTech Ceramics
Advance Reproductions Corp.
AIM INFRAROT-MODULE GmbH
Canon U.S.A., Inc.
Element Six Technologies U.S. Corporation
Gatan, Inc.
Gentec Electro-Optics Inc.
Gooch & Housego Plc
Nova Sensors
PhySimetrics, Inc.
SOFRADIR
Solid State Cooling Systems

Special Optics, Inc.
Spectra-Mat, Inc.
Welch Mechanical Designs, LLC

Positioning Equipment, Motion Control and Accessories
Aerotech, Inc.
BEI Precision Systems & Space Co., Inc.
Bid-Service LLC
Canon U.S.A., Inc.
Contact! Corp.
CVI Melles Griot
Gurley Precision Instruments, Inc.
KVK Industries, Inc.
Micromechatronics, Inc.
Nanomotion Inc.
PI (Physik Instrumente) L.P.
Renishaw Inc.
Special Optics, Inc.
Vision Components GmbH
Welch Mechanical Designs, LLC

Teledyne Judson Technologies
Booth 1719
Product: Integrated Detector Cooler Assembly with 640x480 Mid Wave FPA

TDK-Lambda Americas Inc.
Booth 412
Product: GENESYS™ 10 2.4 kw AC/DC Supply

The first 1000 FPS high performance cooled infrared camera.

Thermo Fisher Scientific Inc.
Booth 3054
Raman spectrometer, featuring the Law Enforcement and Security (LEnS) Raman library
Analyze Chemical Weapons, Explosives, Illicit Drugs, Chemicals and Trace Unknowns

Thorlabs Inc.
Booth 2512
Product: PM200
Thorlabs’ PM200 Touch Screen Power and Energy Meter Console.

Timbercon, Inc.
Booth 603
Product; FBG Sensor System
Ultra High Speed Bragg Grating Measurement System.

Telops
Booth 1529
Product: Telops Fast-IR 1000
The first 1000 FPS high performance cooled infrared camera.

Teledyne Imaging Sensors
Booth 550
Product: High Speed High Resolution Camera (n HSC-3x-s)
TTC’s High Speed High Resolution Camera includes an internal recorder.

Telops
Booth 1634
Product: Fuchia Motorized SWIR Zoom Lens
SWIR Continuous Zoom, with motorized FOV, focus, aperture, filter wheel.

TTC’s High Speed High Resolution Camera includes an internal recorder.
Product Index

Spectra-Mat, Inc.
Stellar Microelectronics

Software
4D Technology Corp.
Active Silicon, Inc.
Exelis Visual Information Solutions
IO Industries, Inc.
IRCAM GmbH
Lambda Research Corp.
Mantarao Product Development Services®, Inc.
Photon Engineering LLC
Pleora Technologies Inc.
Santa Barbara Infrared, Inc.
Simphtek Inc.
Teledyne Imaging Sensors
Vision Components GmbH

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Avantes, Inc.
Avo Photonics, Inc.

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Micromecharotronics, Inc.
Nova Sensors
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Westboro Photonics

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L.A. Gauge Co.
Luna Technologies
MISTRAS Group, Inc.
Moog QuickSet
Multi IR Optoelectronics Co., Ltd
Nova Sensors
Pleora Technologies Inc.
Shellcast Foundries Inc.
TeraComml, LLC

Test and Measurement, Metrology
4D Technology Corp.
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Arjaje Spectral Enterprises, Inc.
Arroyo Instruments, LLC
Block Engineering, LLC
Bodkin Design & Engineering, LLC
Bridge Photonics, Inc.
Bristol Instruments, Inc.
Canon U.S.A., Inc.
DataRay Inc.
Gentec Electro-Optics Inc.
Great River Technology, Inc.
Hitachi High Technologies America, Inc.
IRCAM GmbH
Labsphere, Inc.
Lake Shore Cryotronics, Inc.
Lambda Research Corp.
Luna Technologies
Max Levy Autograph, Inc.
MISTRAS Group, Inc.

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- Astronomy
- Biomedical Optics & Medical Imaging
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- Illumination & Displays
- Lasers & Sources
- Micro/Nano Lithography
- Nanotechnology
- Optical Design & Engineering
- Optoelectronics & Communications
- Remote Sensing
- Sensing & Measurement
- Solar & Alternative Energy
Featured Product Launches

**Topins Co, Ltd.**
Booth 326
Product: TICA-K030

Thermal Imaging Camera & Infrared Lens Module for Security and Thermography.

**Universal Photonics Inc.**
Booth 1019
Product: SOMOS MDF400

High Speed/Pressure, Double-Sided Processing. Plate diameter to 90.55°

**Wavelength Technology Singapore Pte. Ltd.**
Booth 315
Product: IR Dual Field Imaging Lens

IR Dual Field Imaging Lens is for zooming functionality with two distinct fields.

**Tousimis Research Corp.**
Booth 2529
Product: tousimis® 931 Series Critical Point Dryer – “Multi-App”

The tousimis® 931 is a programmable multi-application critical point dryer.

**Vision Systems Technology, LLC**
Booth 302
Product: VA-29MC-M5

29 million pixel digital camera for Aerial Imaging, surveillance, and Remote Sensing applications.

**Xenics NV**
Booth 1013
Product: XSW-640 OEM SWIR module

Xenics’ SWIR OEM module, ready-to-integrate for night vision surveillance.

**TRIOPTICS GmbH**
Booth 2426
Product: OptiCentric® 3D IR

Precise Optomechanical Characterization for the Perfectly Aligned Assembly of LWIR Optics.

**Vision4ce LLC**
Booth 113
Product: Grip Epsilon Rugged PC

Rugged Real-Time Image Processor with i7 and Fermi CPU/GPU.

**Voltage Multipliers, Inc.**
Booth 1535
Product: PVM Miniature High Voltage Multipliers

3KV/6KV single/double output miniature High Voltage Multipliers from VMI

**Ultralife Corp.**
Booth 107
Product: UKT0037 Solar Charger Kit

Man-portable solar charger kit for UBBL06/UBBL08 batteries.

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Vacuum, Cooling, Gas Handling Equipment

- AIM INFRAROT-MODULE GmbH
- Bid-Service LLC
- ENMET Corporation
- Leybold Optics USA, Inc.
- Solid State Cooling Systems
- System Control Technologies (SCT)
- Vergason Technology Inc

Vehicle Sensing and Control

- Andover Corp.
- Defence Vision Systems Inc.
- E.R. Precision Optical Corp.
- GE Intelligent Platforms
- Georgia Tech Research Institute and SENSIC
- Kappa optronics Inc.
- Moog QuickSet
- Pleora Technologies Inc.
- Proto Labs, Inc
- Renishaw Inc.
- Shellcast Foundries Inc.
- SpectroLab, Inc.
- Vergason Technology Inc
- Vision Components GmbH
- Westboro Photonics

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For more detailed information, please refer to the SPIE Defense, Security, and Sensing Exhibition: 24–26 April 2012.
Through collaboration, companies large and small, steer the latest innovations toward practical relevance in the global marketplace.

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SPIE provided over $2.5 million in support of education and outreach programs in 2011

SPIE Scholarships
Science Fairs
Education Outreach Grants
Optics Education Directory
Student Chapters
Free SPIE Journal Access in developing nations
Student Activities
Active Learning in Optics and Photonics (ALOP): Teacher Training
Best Student Paper Prizes
International Centre for Theoretical Physics (ICTP) Winter College
Free Posters
Visiting Lecturers Program
Free Educational CDs, DVDs, and Videos
Women in Optics
Spectral Evolution, Inc.
Education and Training in Optics and Photonics Conference (ETOP)
SensL
Student Outreach
SemiNex Corp.
Scientific and Technical Information Institute
Semirock Inc.
Z & Z Optoelectronics Tech. Co., Ltd.
SensL
Z-LASER Optoelectronic GmbH
SensL
Z-LASER-America Inc.
Seric Optics
Zaber Technologies Inc.
Sergion AG
ZBW-Jena
Sinosafe Optoelectronic Technology Co., Ltd.
Zilog Inc.
Siring Optoelectronics Co., Ltd.
ZiNIR Ltd.
Sirox Optics
Zebra Technologies
Sira Optics
ZetCode.
Sirona Medical Systems
Zettler Optical Systems
Siskiyou Corporation
Zephyr Photonics, Inc.
Siskiyou Corporation
ZiNIR Ltd.
Siskiyou Corporation
Zigma Systems, Inc.
Siskiyou Corporation
Zilco Technologies
Siskiyou Corporation
ZoeTech Inc.
Siskiyou Corporation
Ziow Tech.
Siskiyou Corporation
ZiowTech
Siskiyou Corporation
Zoerric Corp.
Siskiyou Corporation
Zoerric Systems.
Siskiyou Corporation
Zoerric Systems.
Siskiyou Corporation
Zoerric Systems.
Siskiyou Corporation
Winning the battle against night, bullets and mediocrity.

SCHOTT component technologies lead the way in armor, night vision, electronic packaging and optics.

Component failure is not an option. That’s why SCHOTT fights the laws of physics every day to achieve the very highest levels of success. It’s why the defense industry consistently chooses our components for critical equipment and systems. Our SCHOTT Resistan® transparent vehicle armor, currently deployed in Afghanistan, is lighter than competing armor. It provides multi-hit ballistic performance while still allowing soldiers to use night vision equipment – a key factor in their safety. We’ve expanded and enhanced our capabilities in fiber optics and lighting, IR and eye-safe laser materials and electronic packaging. Insist on components that are SCHOTT stronger, SCHOTT safer, SCHOTT smarter.

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