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Thorlabs Welcomes OFR

Thorlabs, Inc. announced this January the acquisition of OFR, Inc. of Caldwell, New Jersey. OFR has a 30-year history as an important supplier of critical optical components, subsystems, and systems to the photonics market.

"I am thrilled to welcome OFR into the Thorlabs family of companies, which now includes seven entities, all with substantial manufacturing and design capabilities," said Alex Cable, President and Founder of Thorlabs, Inc. "OFR has a stellar reputation and an extensive history of providing important products to our industry. I used OFR-produced products before founding Thorlabs and have always been impressed with the OFR business model, as well as their approach to the world. I believe that the combination of OFR and Thorlabs will be quite powerful and will be highly beneficial to the customers we serve."



OFR brings to Thorlabs a broad array of products that include free-space and fiber-based optical isolators and circulators, high-performance objective lenses for

laser machining and marking, and the "FiberBench" series, which is a novel set of optomechanical building blocks used to prototype complex optical systems rapidly. OFR's products have been adopted by a number of key market segments identified as critical to Thorlabs' future, including the rapidly growing high-power fiber laser and advanced imaging markets.

"The union of OFR and Thorlabs makes good sense," said Donald Wilson, President and Founder of OFR. "Both companies manufacture and supply highest-quality products to the world's photonics markets, from the laboratory to product development to OEM supply. Thorlabs' outstanding manufacturing capacity will significantly increase OFR's ability to meet our OEM customers' delivery requirements, something we critically need. At the same time, we will continue doing what we do best here at OFR, fiber-optic product and isolator innovation and product development, thereby adding to the expanding product lines of both companies. Alex Cable and I have a longtime professional relationship built on mutual respect, and I think the fit is an excellent one."

OFR was established in 1976 to manufacture and market precision optical components and instruments for use in university, government and medical research, the military, research and development, and other industrial applications. In 1985, OFR developed the



first optical isolator in the United States. OFR manufactures more isolator models than any other producer in the world and is a major supplier of specialized fiber-optic devices and components for the R&D and OEM markets.



The FiberBench, FiberTable, Optics, and MicroSpot product lines are all represented in the new Thorlabs catalog. These OFR product lines are very complementary to the Thorlabs products, and the union will create a stronger user experience than either piece alone. Customers are the source of many product innovations, and they are often the ones that drive the development of a product line. The ever changing needs of our customers, as well as our own internal use of our own products, constantly pushes and challenges us to provide new and useful components. Projects typically start out on breadboards and migrate to enclosed miniaturized products. The pictures below represent a small number of the custom designs and devices that have been built.



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Hungry for Your Thoughts

Have you seen that little box on the Thorlabs Homepage that says, "Hunry for Your Thoughts?" Almost a year ago we posted a link on our homepage with those words and a picture of our Lab Snacks box. I wanted an easy way for our customers to send me feedback directly, and I made a commitment to personally answer these e-mails. I'd like to thank those of you who have taken me up on this invitation. It has proven to be a rewarding experience and has started many valuable discussions, ranging from product ideas and academic research to individual life stories.

I heard from several famished grad students who depended on the Lab Snacks for an occasional meal (we happily sent them extras), but many discussions which began with our Lab Snacks quickly morphed into interesting discussions concerning the science and



business of photonics. The "Hungry for Your Thoughts" initiative has reinforced my high appreciation and respect for the source of our success, our customers. Now more than ever I view photonics not just as our core industry but as my community.

I have also been intrigued over the past year or so by the concept explored in James Surowiecki's book, <u>The Wisdom of</u> <u>Crowds</u> (Doubleday, 2004). Surowiecki postulates that large groups of people are collectively smarter than a few individuals, no matter how brilliant those elite few may be. I wanted to find a way to access this source of knowledge and to tap the group wisdom, both internally at Thorlabs and within the larger community; our "Hungry for Your Thoughts" campaign was just one concept that we implemented with this idea in mind.

Internally, we have taken this a step further by creating an intranet interface, an internal on-line forum called "Brainwave." Brainwave is a tool to manage raw ideas, product development, and product vetting. More importantly, it was designed to tap the "wisdom of the crowds" by creating an open forum discussion available to all levels of our organization. Specifically designed to encourage participation and to break down traditional hierarchical corporate barriers, Brainwave includes a "skin in the game" betting pool to provide the mechanism for aggregating the available information. I hope to soon deploy a version of Brainwave that is open to our customers; I envision this last step as a significant way to broaden communication within the photonics community.

Please allow me to take a few minutes to talk about another facet of community. Recently I have had the fortunate opportunity to step back and watch the ever growing community of Thorlabs employees, which is now almost 500 individuals worldwide. I am continually amazed at the level of ownership and dedication this group displays on a daily basis. I see Thorlabs employees living the mantra of the importance of community by caring for our customers in a very personal way. For example, just yesterday, one of our Newton Call Center representatives hand-delivered a package to a customer at Newark Liberty Airport, which is over an hour away.

I would also like to take this opportunity to thank all the members of our team. I have tremendous respect for the employees in all of our facilities. The Thorlabs organization has shown me that it has a true heart and a true soul. I am proud that this is a diverse community comprised of people of varying ethnic, educational, cultural, and economic backgrounds, truly working side by side.

I am committed to building a company that achieves its competitive advantage from its connection to community. I view Thorlabs as an integral part of the photonics community, and as such, I hope that Thorlabs will continue to foster the forward movement of the photonic sciences in cooperation with the amazing community of scientists we are privileged to serve.

Sincerely, Alex Cable

Founder & President Thorlabs

Thorlabs GmbH Germany

European Manufacturing Facility, Warehouse, and Logistics Center

- European Manufacturing Facility, Warehouse, and Logistics Center
- Enlarged Comprehensive Range of Beam Characterization Tools
- Polarization and PMD Measurement Products
- Laser Diode Drivers

The Thorlabs team in Munich is dedicated to providing exceptional solutions for photonics labs across Europe. The engineering team, originally formed under the "Profile" name, continues to develop stable and robust test and measurement equipment. The manufacturing and logistics teams ensure best delivery times, while the sales and technical support teams guarantee the communication of our customers' needs throughout the entire Thorlabs organization.

In January 2007, our European Warehouse and Logistics Center began operation and now provides more than 85% of our products via overnight service. Customers are able to order a product today and have it in the lab tomorrow.



Our Technical Support team takes great pride in providing excellent technical assistance. Feel free to email your questions to **europe@thorlabs.com**. We are, as always, dedicated to receiving your feedback on our new products via www.thorlabs.com.

New to Our Product Offerings

This Volume 19 catalog features an expanded Power Meter series as well as more beam characterization products, including a Wave Front Sensor and Beam Profilers. The Polarization Measurement product line is now more complete with the addition of the Extinction Ratio Meter. You will find more new helpful tools on the following pages.

As a final note, you will also find that most of the products now have a considerably lower euro price versus our last catalog. As in the past, we are committed to offering fair prices in all currencies. We also want to allow our customers to choose the speed and terms of the delivery service.





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Thorlabs Ltd. UK Manufacturing Facility

- Direct Sales Office Serving the UK and The Republic of Ireland
- Manufactures State-of-the-Art Nanopositioning Systems
- Offers a Variety of Complementary Product Lines

Our design and manufacturing facility in the United Kingdom now provides direct service to our customers in the UK and expands the range of Thorlabs products available worldwide. Thorlabs Ltd. manufactures an extensive line of nanopositioning products, a complete line of optical tables, and specialized vibration isolation products.



Thorlabs Ltd. Expands Our Offerings

Our manufacturing facility near Cambridge in the United Kingdom provides our customers a number of complementary product lines.

Large scale optical tables, both standard and custom sizes, are now available through the Thorlabs catalog. We hold stock in our warehouses in both Europe and the USA to ensure quick delivery.

Our ScienceDeskTM line of individual workstations, designed in application-specific configurations, is quickly being deployed throughout the photonics industry.

Thorlabs Ltd. is also the manufacturing facility for state-of-theart nanopositioning systems. These nanopositioning products for high-precision motion control applications, along with the vibration isolation systems, complement our catalog offering.

The motion control experts at our UK facility have recently introduced a new line of "T-Cube" Drivers. These products are very compact, single-channel controller/drivers for easy manual and



Thorlabs Custom Tables Were Specially Configured for the Max-Planck Institute.

automatic control of DC Servo Motors, Stepper Motors, Piezo Actuactors, and Solenoid Actuators.

Tables & Vibration Isolation

Nanopositioning Stages & Systems



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Thorlabs Sweden AB Manufacturing Facility

- Göteborg Sales Office Serves the Nordic Countries
- OCT Laser Manufacturing
- Extensive Cleanroom Manufacturing Facilities
- Test and Calibration Services

Thorlabs Sweden AB is a leading OEM provider of modular, continuously tunable

laser sources for optical coherence tomography, (OCT) telecom, sensing, and spectroscopy applications. The Thorlabs family of products is designed to offer an unmatched combination of features,



such as continuous high speed tuning, wavelength stability, and a rugged industrial package that allows operation 24 hours a day, 7 days a week, even in the harshest of environments.

Rapidly Swept Tunable Laser for OCT

Thorlabs is pleased to offer a variety of frequency swept laser sources based on an external cavity, semiconductor, tunable laser design. Models are now available with center wavelengths at 850nm, 1050nm, 1325nm, or 1550nm. The wide spectral tuning range and the high sweep speed make them ideal for Optical Coherence Tomography (OCT) and Optical Frequency Domain Reflectometry (OFDR) applications.



Tunable ECL

The µECL is a modular, hermetically sealed, and very sturdy tunable laser source. The µECL covers the C- and L- bands and is easily integrated into test and measurement instruments for use in either the optical telecom or optical fiber-sensing market. The PICO D Model is our robust, low SSE, high-end ECL, which is ideal for interferometric applications.



INTUNTM Free-Space Tunable Lasers, >770nm

Thorlabs' INTUN[™] family of tunable lasers is designed for demanding applications such as spectroscopy. With sixteen models spanning the wavelength ranges from 770nm to 1650nm and providing up to 20mW of output power, this family of tunable lasers covers the widest spectral range of any of our tunable products. Thorlabs offers optional fiber optic output on selected INTUN[™] models.



ECL5000DT Benchtop Tunable Laser

The ECL5000DT combines very fast tunability with high accuracy and repeatability for tuning across the available for C-, L-, and S- bands. Targeted customers are R&D departments of leading manufacturers in the sensing, fiber optic components, and spectroscopy field.

Thorlabs Japan Inc. Operations Facility

Core Competencies:

- New Japanese Language Catalog
- Exceptional Market Reach Within Japan and Asia
- Rare Earth Optical Fiber Specialists
- Laser Diode and Passive Component Sourcing

The Thorlabs Japan office is centrally located in Tokyo and headed by Dr. Tetsuya Nakai, former director of KDD FiberLabs. His extensive experience in the area of optical fiber devices, combined with his considerable market knowledge, provides our Asian customers with an exceptional product resource. The office is a crucial part of our commitment to the growing Asian market.

The Japanese office handles sales and customer service for all of Asia, including China and Korea. The ability of this office to handle technical support questions during Asian business hours greatly benefits the Thorlabs customer in this region.

In April 2007, Thorlabs Japan released a full Japanese language catalog in order to serve the OEM and commercial market in Japan better.

Our Japanese office also provides a source of fiber optic tools, instruments, specialty fibers, and laser diodes. Thorlabs Japan has a close cooperative relationship with many high technology suppliers, allowing easy access to small quantity purchasing for our customers worldwide. Contact our technical support group in the U.S. for sourcing information on Japanese-manufactured products.





STATISTICS TOLIS



Fiber Optic Facility

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Photonics in the **Fast** Lane

- 15,000 Products
- 5 Manufacturing Centers Worldwide
- Regional Sales Offices in 5 Countries
- Overnight Delivery in the United States and Europe
- Tools and Instrumentation for Every Photonics Application

1989 - Thorlabs, Inc., now a leading manufacturer of the building blocks for laser and fiber optic systems, began as a "basement" business. With just a small machine shop, Thorlabs embarked on an exponential growth period that continues today.

1993 - During the course of 1993, the number of employees grew from three to 25 as the company became a competitive force in the industry.

1994 - The Thorlabs catalog, which began as a 4-page flier, became a 65-page catalog full of product to serve the needs of the burgeoning photonics industry.

1995 - The company moved its headquarters to its current U.S. site in Andover Township, NJ.

1997 - Thorlabs Europe is established near Frankfurt, Germany, as the European regional sales office.

2002 - Thorlabs Japan is established in Tokyo to serve the Asian market.











Stop by www.thorlabs.com for our newest product developments

2003 - Thorlabs acquires Tektronix Munich GmbH, the former Profile Optische System GmbH, in March. Profile is known for advanced test and measurement, polarization, and PMD instrumentation.

2004 - Thorlabs acquires Radians Innova, AB in Göteborg, Sweden, in January. This group manufactures technology-leading tunable lasers.

April 2004 - Thorlabs acquires from Melles Griot Inc. extensive engineering and manufacturing capabilities for optical tables, workstations, and nano positioning systems.

2006 - Thorlabs' customer response program continues to grow and provide a venue for a customer-driven product roadmap.

October 2006 - Former partner company Nova Phase becomes a full member of the Thorlabs family.

January 1, 2007 - Optics for Research, Caldwell, NJ, is acquired by Thorlabs. Founder Don Wilson calls it "the perfect fit." Thorlabs' fully stocked European warehouse goes online, ensuring next day delivery to our European customers.

April 2007 – Thorlabs' first Japanese language catalog is released for distribution.

NOVA PHASE

