Alexei  
Glebov

OptiGrate

## OPTICS INNOVATIONS

# OptiGrate Corp.

## Converting University Science into Real-World Technology

Meagan Hoffheimer

OptiGrate began when a Russian scientist seized a ripe opportunity in the U.S. market. This University of Central Florida spinoff designs and manufactures volume Bragg gratings that boost laser performance and advance spectroscopy.

**W**hen Leonid Glebov was growing up in the Soviet Union, he was not exposed to any small businesses. Now he co-owns a successful U.S. company that produces a full range of volume Bragg gratings for optoelectronic, medical, semiconductor and other industries. His transformation was made possible with the help of the University of Central Florida's (UCF) College of Optics and Photonics (CREOL).

Leonid Glebov received his doctoral degree at the State Optical Institute in St. Petersburg (then Leningrad), where he remained for 20 years and came

to specialize in photosensitive glass. After his family immigrated to the United States 17 years ago, he did a brief stint at the Ford Motor Company before joining CREOL as a research professor.

He realized right away the niche his company would come to fill: "No person in Florida could make photosensitive optical glass and holographic elements to be used in optical systems," he said.

When he decided to try his hand at running a business, UCF vice president M.J. Soileau helped him to navigate the startup waters. In 1999, Leonid, his wife

Larissa, and his colleague Vadim Smirnov, founded OptiGrate to commercialize a technology that had been developed in the U.S.S.R. in the 1970s.

In the beginning, the company leased lab space in the UCF Business Incubation Center. Its first five years were funded through government defense agencies and Small Business Innovative Research grants. With that, OptiGrate could develop their product to the point where they could bring it to market.

## OptiGrate's Central Florida location has provided economic benefits, and it also enables collaborations with UCF and other organizations.

In 2001, OptiGrate secured the first commercial order for gratings for laser diode wavelength stabilization. Nowadays, its commercial business is the company's primary income source, while government R&D support provides crucial funds for further tech development.

In 2008, Alexei Glebov, Leonid's son, joined the company. Coming from Silicon Valley, he brought extensive experience of the photonics industry. At this point, the goal was to transform the company to volume manufacturing standards and bring volume Bragg gratings (VBGs) to international markets. "OptiGrate demonstrated a good example of efficient synergy between academic research, government funding and commercial success," said Alexei, who is now CEO and president of OptiGrate. UCF, as co-owner and long-term academic partner, provides an exclusive license to a full patent portfolio on VBG technologies.

OptiGrate's VBGs improve the performance of lasers and reduce the complexity and cost of analytical instruments and ultrafast lasers. Practical applications include pharmaceuticals, nanotechnology, defense and many others. Simply put, Bragg gratings allow lasers to work on precise frequencies and better achieve such tasks as explosive detection, high-power laser pumping, materials processing, etc.

A global demand for OptiGrate's VBG products enabled strong company growth in recent years. The company now has more than 30 employees, most of which came to OptiGrate from UCF. In 2012, the company moved to a state-of-the-art manufacturing facility in Oviedo, Fla.—part of the Orlando metropolitan area—where they design, develop and make all their products. "With the increased capacity and streamlined production, we'll be more cost-efficient and able to deliver products faster," said Alexei.

In November 2012, OptiGrate was nominated "small manufacturer of the year" by the Manufacturers Association of Central Florida (MACF). Sherry

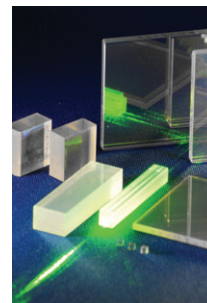
Reeves, the MACF executive director, described OptiGrate as "a real example of advanced manufacturing and the type of business to help grow our economy."

OptiGrate's transformation from a university spinoff to a high-volume optical component manufacturer required not only new approaches to technology, production lines, automated solutions, etc., but a significant change in the mindset of its team. "Volume manufacturing is a different world," said Alexei.

OptiGrate's Central Florida location has provided economic benefits, and it also enables collaborations with UCF and other organizations, such as the Florida Photonics Cluster, a nonprofit devoted to networking and educational support for the photonics industry. "We have access to highly educated university graduates, and we employ eight people who hold doctorates," said Alexei.

OptiGrate supplies components to more than 400 customers on six continents. With full vertical integration, a highly educated team, and strong research support from UCF, OptiGrate is looking OptiGreat. **OPN**

Meagan Hoffheimer (mhoffheimer@optigrate.com) is in the sales and marketing department at OptiGrate Corp.



### COMPANY INFO

**URL**  
www.optigrate.com

**HEADQUARTERS**  
Oviedo, Fla., U.S.A.

**CEO/PRESIDENT**  
Alexei Glebov

**FOUNDER**  
Leonid Glebov

**PRODUCT TYPES**  
Volume Bragg gratings, holographic elements

**NUMBER OF EMPLOYEES**  
35

**PARTNERS**  
The University of Central Florida

### ADVICE FROM THE TOP

**UNDERSTAND** the core strength of your team and guide your business with this in mind.

**DIVERSIFY** your business and product lines; this is necessary for high-tech companies.

**ADJUST** for what you can handle. It's tempting to take on too much; don't. Without the right team and strategy development, over-diversification can slow down your business.