LUNA

MEASURE, MONITOR, IMPROVE, PROTECT.

LUNA INNOVATIONS TECHNOLOGY CAPABILITY OVERVIEW

LUNA COMPANY INFORMATION

Luna Innovations Incorporated (NASDAQ: LUNA) was founded in 1990 and has been successful in taking innovative technologies from the applied research stage to product development and ultimately to commercial markets.

Luna's products are used to measure, monitor, improve and protect critical processes for our customers, so they can focus on making the world safer and more connected.

HEADQUARTERS IN ROANOKE, VA

250 EMPLOYEES ACROSS LOCATIONS IN VA, MI, CA AND GA

$42.9M REVENUE IN 2018

We are a diverse team of scientists, engineers, and business professionals dedicated to developing a new generation of technology and solutions.

Scott A. Graeff
President and Chief Executive Officer

A long time company executive, Mr. Graeff was appointed as Luna's chief executive officer, president, and a member of the Board of Directors in October 2017.

Mr. Graeff leads Luna in our mission to be a leader in optical technology, providing unique capabilities in high performance fiber optic test products for the telecommunications industry and distributed fiber optic sensing for the aerospace and automotive industries.

TECHNOLOGIES

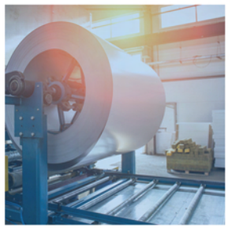
Luna's two business divisions (Products and Technology Development) combine to deliver industry-leading solutions for our customers.

FIBER OPTIC SENSING

High-definition fiber optic sensing (HD-FOS) instrumentation allows engineers to test, modify and qualify their designs efficiently, effectively, and accurately. Luna fiber optic sensing products distinguish temselves by virtue of high spatial resolution.

FIBER OPTIC TEST & MEASUREMENT

Diagnostic and test instrumentation that enables the complete characterization of optical components, assemblies and short-haul networks; providing substantial cost and time savings in the development, production, and maintenance of optical network equipment.



TERAHERTZ

Measuring at the speed of light, Terahertz provides precision measurement of physical properties for optically opaque materials. These industrial systems are used in manufacturing applications for process contol, non-destructive testing, and security applications.

LUNA LABS APPLIED RESEARCH & DEVELOPMENT

A technology resource for aerospace, energy, automotive, health sciences, first responders, telecommunications, and defense. Our scientists and engineers generate solutions that save time, save money, and save lives.

FIBER OPTIC SENSING

High definition temperature and strain sensing data not available using conventional measurements.

For aerospace, automotive, and others integrating composite structures, Luna's fiber optic sensing solutions address the following challenges:

- Characterize strain on/in new materials and complex structures
- Profile temperature in-situ to maximize the effeciency of critical processes
- Perform fatigue testing in composites
- Evaluate multi-material joining
- Embed sensors within materials to create "small parts"
- Identify small defects while eliminating false positives
- Measure two and three dimensional strain fields to validate finite element models

ODiSI 6100 Series

Optical Distributed Sensor Interrogator (ODiSI) system addresses the test challenges for 21st century advanced materials and systems.

Providing more than 1,000 temperature or strain measurements per meter of a standard fiber sensor, the high definition data can fully map the contour of a structure under test or during manufacturing.

si255

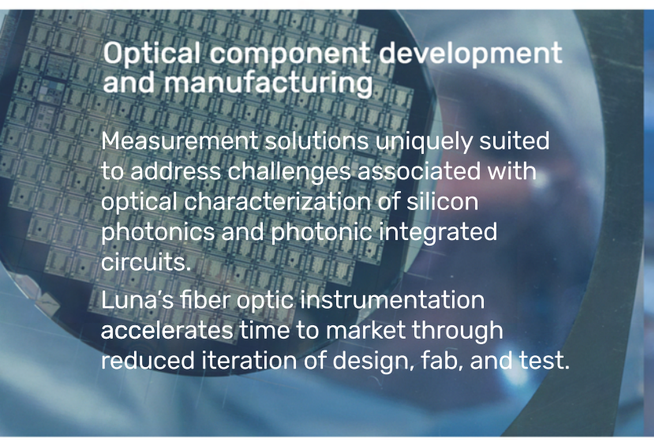
Micron Optics HYPERION

HYPERION robust, turn-key interrogators provide fast and accurate readings of as many as hundreds of Fiber-Bragg Gratings or Extrinsic Fabry-Perot sensors.

Whether static, dynamic real time acquisitions, or periodic monitoring, HYPERION offers reliable and long term sensing measurements installations.

FIBER OPTIC TEST & MEASUREMENT

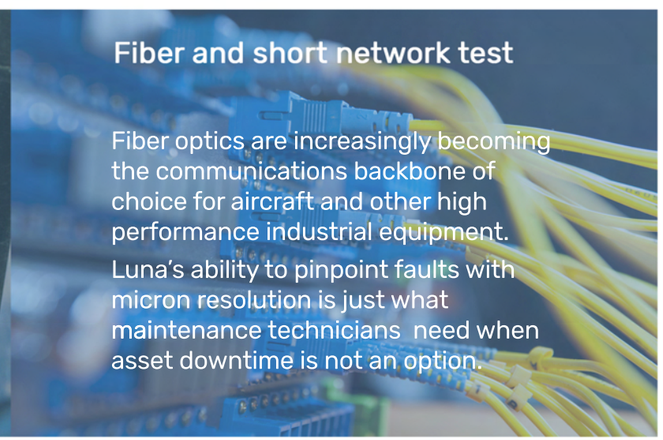
High performance fiber optic test instruments for optical components and networks deployed for Tele and Data communications.



Optical component development and manufacturing

Measurement solutions uniquely suited to address challenges associated with optical characterization of silicon photonics and photonic integrated circuits.

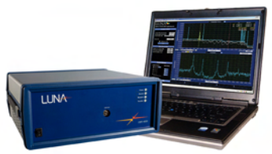
Luna's fiber optic instrumentation accelerates time to market through reduced iteration of design, fab, and test.



Fiber and short network test

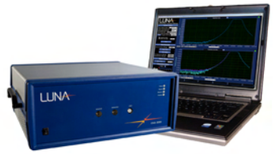
Fiber optics are increasingly becoming the communications backbone of choice for aircraft and other high performance industrial equipment.

Luna's ability to pinpoint faults with micron resolution is just what maintenance technicians need when asset downtime is not an option.



Optical Backscatter Reflectometers (OBR)

Unprecedented inspection and diagnostic capabilities for the fiber optics industry. Isolate faults and problems well before final test, saving hours in rework and hard dollars in yield loss. Industry leading 10 micron spatial resolution with zero dead-zone will pinpoint even the smallest contributors to loss: bends, crimps, or bad splices.



Component Analyzers

Component characterization and test, utilizing the industry's only Optical Vector Analyzer that provides full and complete all parameter linear characterization of single-mode optical components in a single scan, and the Lightwave Component Analyzer that provides core loss and dispersion measurements with industry leading speed and accuracy.

Tunable Lasers

PHOENIX™ swept tunable lasers are designed for low noise and highly linear swept performance appropriate for a variety of fiber optic test, measurement and sensing applications. Application software gives the user simple but effective control of the laser. It also provides for monitoring of power, wavelength, and control of two user accessible optical receivers.

TERAHERTZ SOLUTIONS

Measuring at the speed of light, Luna's terahertz solutions provide precision measurement of your products for process control or scientific research. Our recent advances in generating and detecting the Terahertz spectral region have enabled very high signal-to-noise ratio and high data acquisition rates of 0.1 – 3 THz frequencies.

Every TeraMetrix configuration consists of a T-Ray 5000 TCU controlling one or more terahertz sensor or scanner accessories.

T-Ray 5000

TeraMetrix™ T-Ray® 5000 Series

The T-Ray 5000 time-domain terahertz control unit (TCU) is the most capable and best-selling terahertz instrumentation platform to implement industrial process monitoring, non-destructive evaluation, quality control, and spectroscopy applications.

T-Gauge

T-Gauge®

T-Gauge® is a revolutionary multi-layer thickness gauge for the plastics industry. With a single reflection sensor, T-Gauge can measure single and multi-layer thickness, density and delamination.It provides online control of the manufacture of webs, sheets, pipes, tubes, molded components and rigid or flexible barrier packaging.

Single Point Gauge (SPG)

Handheld multi-layer coating and film thickness meter with touch screen display.

Line Scan Gauge (LSG)

Handheld THz line scanner that measures the vertical offset (step) and separation (gap) between two panels.

LUNA LABS
APPLIED RESEARCH & DEVELOPMENT

Luna Labs is continually developing cutting-edge solutions to improve health and safety around the world. Our people are driven to establish expertise in new frontiers, creating products and services that save time, save money, and save lives.

We seek individualized transition strategies for each product that will satisfy our customers and create the most value for all stakeholders.

FEASIBILITY DEMONSTRATION

Partnerships and contract research with universities and government labs to explore technological feasibility of new generation solutions.

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APPLIED RESEARCH

Our world class teams collaborate with government offices, prime contractors, and federally funded R&D centers to align technologies with customer needs.

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PRODUCT DEVELOPMENT & COMMERCIALIZATION

Working work with contract manufacturers, suppliers, licensees, and distributors, we develop everything from small-scale prototypes up to market ready products.

WHY WE ARE DIFFERENT

With over 70 scientists and engineers, our breadth of skills enables us to develop products and services that were not previously possible.

HEALTH SCIENCES

- wound healing
- assays & diagnostics
- medical simulation
- drug & vaccine delivery

MATERIALS

- advanced textiles
- protective coatings
- signature control
- polymer composites

SYSTEMS & ANALYTICS

- asset monitoring
- nondestructive evaluation
- coatings performance
- machine learning & data analytics

Gentoo™ Advanced Clear Hydrophobic Coating

Luna Labs often seeks to license intellectual property and know-how to a partner that can rapidly bring a technology to market. Luna Labs employed this strategy when we licensed our durable, fluid resistant, SBIR-developed surface treatment that resists water and oils. Luna licensed this treatment to UltraTech International who now markets and sells this technology under the Gentoo tradename.

Acuity LS™ Corrosivity Monitoring System

Luna's LS2A corrosion sensor suite for aircraft received DoD Phase III funding from the Office of Naval Research Integrated Health Structural Management System program that is part of the CH-53K acquisition. The corrosion monitoring system received the 2017 Corrosion Innovation of the Year Award from NACE International. Luna manufactures and sells LS2A and the latest generation model, Acuity LS, as Luna branded products.

TrueClot® Bleeding Control Training Products

Luna's TrueClot bleeding control training products were brought to market in August 2013 and are now used all over the world, Developed as part of an Office of the Secretary of Defense SBIR contract, TrueClot products are now trusted by law enforcement, military first responder, EMS personnel, and medical simulation professionals to provide realistic training so that more people are prepared to make a difference in a life-threatening emergency. Manufactured by Luna Innovations, TrueClot products are available at www.trueclot.com.

EXECUTIVE TEAM

Dale E. Messick
Chief Financial Officer

Mr. Messick began his career at Luna as chief financial officer in August 2006 and is a strong financial executive with more than 20 years of experience in accounting and financial reporting, pre-initial public offering and IPO activities, and management of a multi-national company with revenue in excess of $900 million.

Brian J. Soller, Ph.D.
Senior Vice President & General Manager, Lightwave Division

Prior to joining the executive team as Vice President in April 2014, Dr. Soller spent over a decade in fiber optics with Luna and co-developed much of the fiber optic instrumentation sold by Luna today. He has over 15 issued patents in optics with expertise in the inferometric measurement field.

Margaret R. Murdock
General Manager, Terahertz Division

With more than 20 years of experience in strategic leadership of global strategies for innovative product development, Ms. Murdock joined the executive team at Luna in January 2017. Prior to Luna, Ms. Murdock had served as Director of Engineering at Picometrix, LLC since 2007.

James T. Garrett, Ph.D.
Senior Vice President and Genreal Manager of Technology Development

Beginning his Luna career in 2005, Dr. Garrett served as director of Materials Systems research and was promoted to Vice President in July 2012. Prior to joining Luna, Dr. Garrett developed polyurethane intermediates for Bayer Material Science and researched electroactive materials at the Naval Research Laboratory.

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