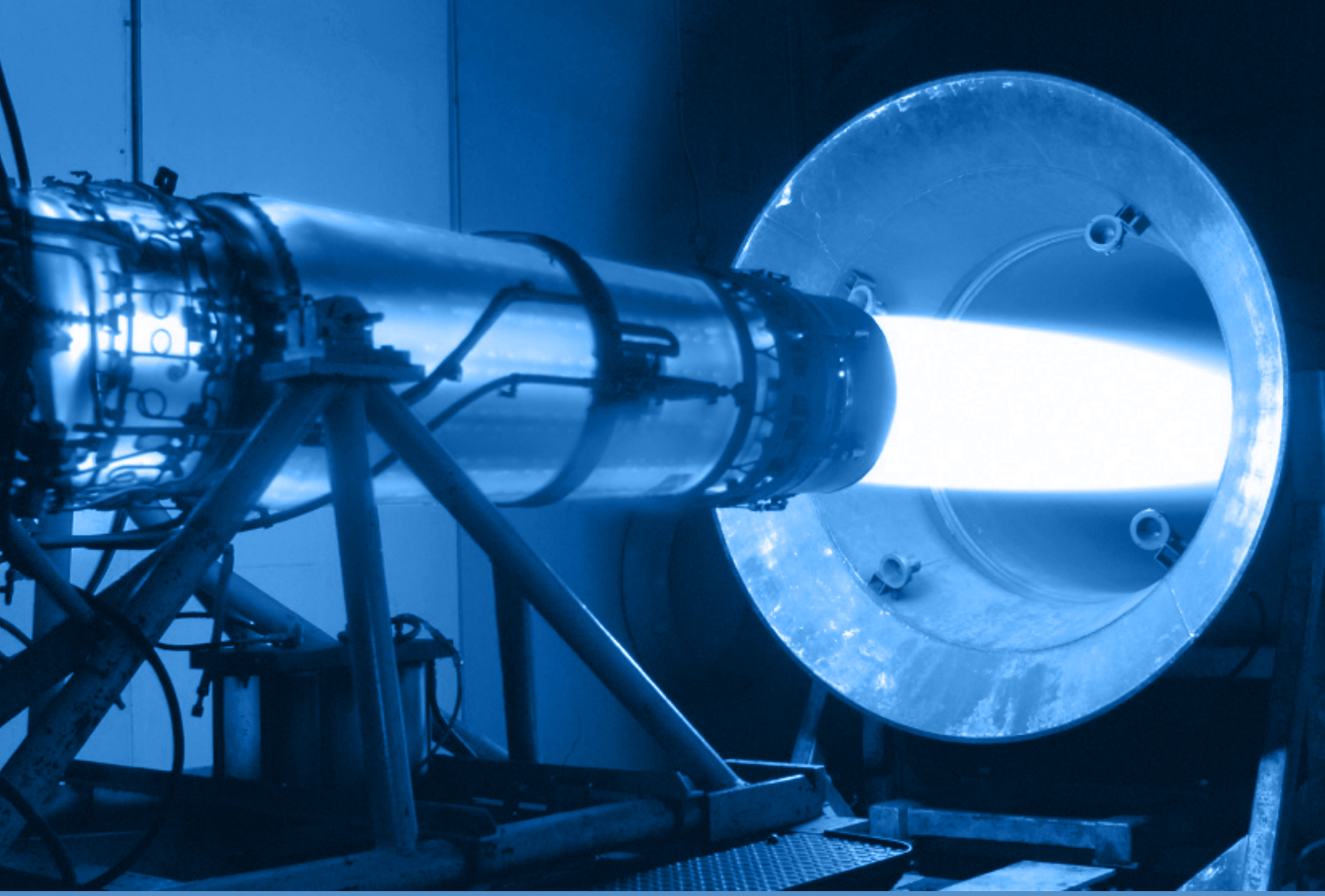


prime photonics

technologies for extreme applications

Prime Photonics develops and delivers extreme environment sensor, materials and energy harvesting products that enable next generation military and commercial capabilities in test and measurement, controls, and health monitoring applications.

Guiding Principles

The Prime Photonics Guiding Principles form the fundamental basis of our company and culture. By allowing our Guiding Principles to steer our decisions and actions, we will be the people that we strive to be and we will be part of an organization of which we are proud.

Integrity

We believe the underlying principle governing all of our actions must be integrity.

- Honesty
- Fairness
- Honor
- Accountability

Performance

We believe that to be successful, we must differentiate ourselves from our competitors through exceptional performance.

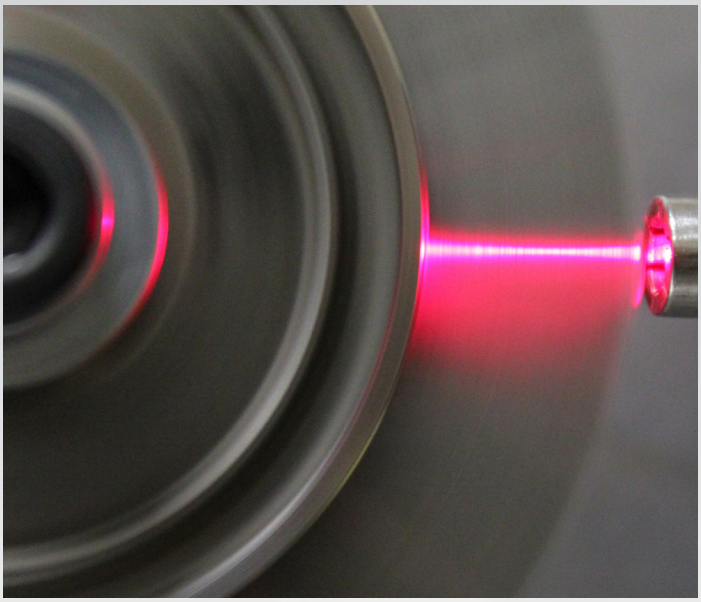
- Innovation
- Teamwork
- Tenacity
- Focus
- Learning

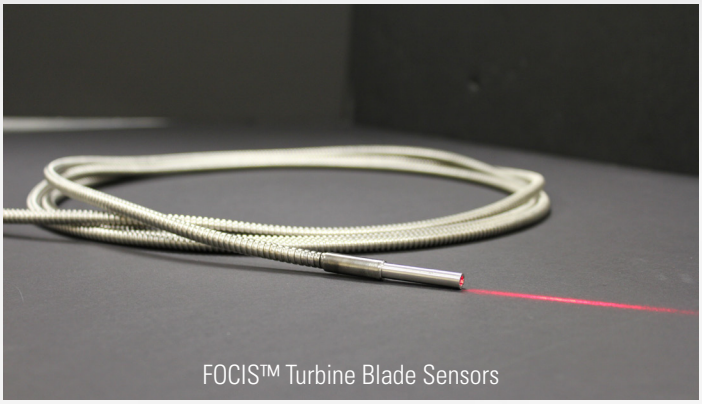
Commitment to Stakeholders

We value and respect the needs, expectations and contribution of each stakeholder and our fundamental goal is to unfailingly increase the value that our company delivers to each and every stakeholder.

- Deliver a Return on Investment
- Create Value
- Reward Contributions
- Provide a Comfortable Work Environment
- Value Diversity
- Abide by a Sound Financial Perspective

Products & Technologies





FOCIS™ Turbine Blade Sensors

FOCIS™ Turbine Blade Sensors

Prime Photonics Fiber Optic Clearance and Identification Sensor (FOCIS™) is a revolutionary high-temperature multi-function gas turbine sensor providing real-time blade-by-blade tip clearance, tip timing, and blade identification capabilities from a single probe package. FOCIS™ turbine blade sensor applications include:

- New engine development and validation testing
- Foreign Object Damage (FOD) detection
- High Cycle Fatigue (HCF) detection
- Non-contact stress measurement system front end
- Adaptive engine control systems
- Turbine diagnostics and engine health monitoring

Engine Health Monitoring

Gas turbine blade health monitoring (BHM) enables users in the propulsion and power turbine industry to operate their machines with higher reliability, increased safety and lower ownership costs. Prime Photonics BHM technology integrates FOCIS™ rotor blade sensors with novel signal processing algorithms to provide advanced monitoring capabilities including:

- Foreign object damage (FOD) detection
- Automatic blade identification
- High cycle fatigue (HCF) detection
- Vibrational mode analysis

Magnetothermal Devices

Magnetothermal devices can scavenge waste thermal energy to provide renewable electrical energy or point-of-use mechanical energy. Our magnetothermal devices enable autonomous energy harvesting and self-powered cooling devices to capitalize on excess thermal energy or to redirect thermal energy to high efficiency heat sinks.

Omnivore™ Energy Harvesters

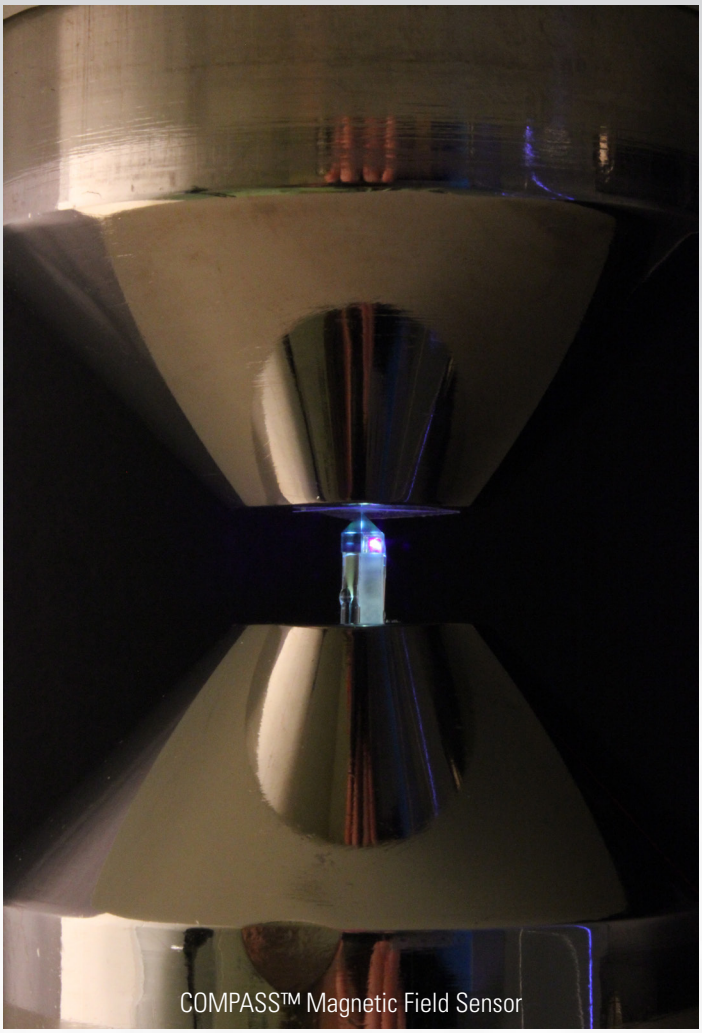
Prime Photonics offers a suite of technologies for thermal, flow, vibration and strain energy harvesting. Primary applications being developed for Ominvore™-based sensors include self-powered temperature, pressure, strain and flow sensors.

MFPS™ Fiber Optic Sensors

Patented miniature Fabry-Perot sensor (MFPS™) technology include the smallest and fastest response fiber optic sensors available today. MFPS™ sensors are all optical, immune to electromagnetic interference (EMI) and can be constructed with an outer diameter of less than 150 micrometers (6 mils).

Compass™ Magnetic Field Sensors

Compass™ magnetic field sensors have been developed under Small Business Innovation Research (SBIR) and other projects to support military electromagnetic launcher (railgun) system development. Compass™ sensors are small in size, can operate in magnetic fields as strong as 30 Tesla, and are capable of measuring from single- and tri-axis (vector) magnetic fields.



COMPASS™ Magnetic Field Sensor

Core Competencies

Prime Photonics is focused on developing and maintaining competencies that allow us to deliver best-in-class technology solutions for both military and commercial systems and applications.

Optical Sensors

Prime Photonics has developed optical sensors and systems for use in gas turbines, coal combustors and power plants, medical applications, downhole oil and gas, naval propulsion systems, military weapon systems and a wide range of other military and industrial applications. Prime Photonics personnel possess in-depth expertise of optical sensing technologies, optical fibers, cables, connectors, opto-electronic devices, and component and probe packaging.

Rapid Design and Prototyping

Prime Photonics has made significant capital investment in a rapid prototyping capability comprising a full prototyping machine shop that includes equipment such as our Tormach 1100 4-axis vertical mill Computer Numerical Control (CNC) machine and Plasma Fusion micro-Tungsten Inert Gas (TIG) / plasma welding lathe.

Novel Magnetic Material Development

Prime Photonics is pushing the boundaries of soft magnetic materials capabilities for sensing and actuation applications. Through selective alloying, processing, and heat treatments, we can develop high permeability magnetic materials with controlled Curie temperature and magnetostriction to match requirements across a host of application spaces. We apply our experience with ferromagnetic materials to ferroelectric material classes to produce novel magnetodielectric materials and devices.

Harsh Environment Sensor and Device Packaging

Since its creation, Prime Photonics has specialized in sensor and device packaging for harsh, high temperature environments and has significant technology and know-how relating to high temperature materials, bonding of metals, ceramics and glass, and sensor package designs. Hardened optical systems have been designed by Prime Photonics that can withstand high vibrational loads, forces of 50,000g, and temperatures that exceed 2500°F.

technologies for

Company on the Move

Founded in 1999, Prime Photonics is a technology company focused on new product commercialization and transition and has a customer base that includes the Army, Air Force, Navy, NASA, DOE, NSF and DARPA as well as a wide range DOD contractors and private sector businesses. Since 2009 Prime Photonics has realized consistent year-on-year growth and has built a strong Intellectual Property (IP) portfolio relating to optical sensors, gas turbine instrumentation and applications, non-destructive inspection, energy harvesters and magnetic materials and devices. These new technologies have game changing product potential in the industrial manufacturing, wireless telecommunications, industrial process monitoring, mining, oil and gas, power generation and aerospace marketplaces.

Prime Photonics multidisciplinary technical staff includes degrees in materials, mechanical, aerospace and electrical engineering as well as physics and environmental science. Over a third of our staff has advanced degrees with the average technical staff member having over 10 years of experience in their field. With experienced technical and business staff, a strong and growing IP portfolio, and market-specific strategic partners, Prime Photonics is well positioned to deliver on its mission to commercialize and transition advanced sensor, materials and device technologies into the commercial and defense marketplace.

To support our product development and research programs, Prime Photonics has been investing heavily in improving and expanding our equipment and test capability by building upon recent major upgrades to our machine shop, electrical test equipment, materials characterization test equipment, and gas turbine rotor spin rigs for gas turbine sensor testing and calibration. We continue to expand our laboratory space, which currently accounts for nearly half of our 16,250 sq. ft. Blacksburg facility.

Over the coming years we at Prime Photonics look forward to working with our strategic business partners, technology partners and suppliers to deliver on our mission of creating world class products that enable next generation military and commercial capabilities in test and measurement, controls, and health monitoring applications.

Steve Poland
CEO, Prime Photonics

extreme applications

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