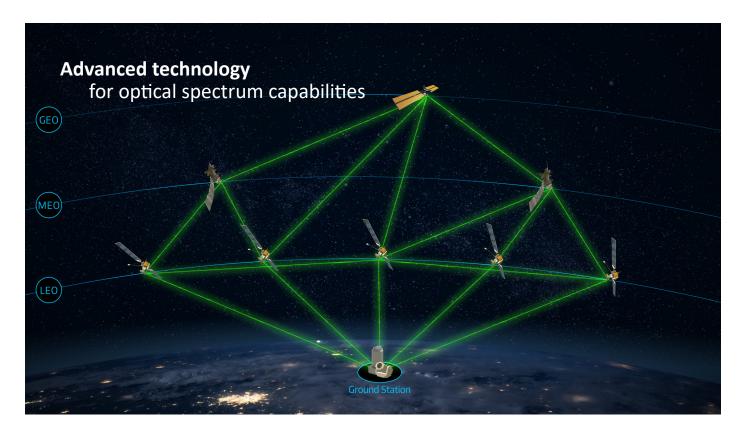
# **Photonics Solutions**

## Free-Space Optical Communications and Remote Optical Sensing



CACI's advances in photonics technology are improving the speed, efficiency, and security of many of our government's most critical present and future missions. Secure communications, battlefield search and identification capabilities, space exploration, autonomous vehicles, and countless other applications rely on photonics technology. CACI has been successfully delivering optical solutions to U.S. federal agencies for more than 20 years. Our highly reliable technology improves the security and efficiency of communications, enables detailed identification sensing, and greatly increases spectral efficiency.

For more information contact:

#### **Steven Wolter**

Business Development Executive (703) 394-1520 steven.wolter@caci.com

For more information about our solutions, products, and services, visit: **www.caci.com** 



### **Benefits**

- Outperform traditional radio frequency- (RF-) based communications and remote sensing technologies
- Enable communications in an RF-denied environment
- More secure communications compared to traditional RF communications
- Low Probability to Detect (LPD) and Low Probability of Intercept (LPI)
- Lower size, weight, and power (SWaP) than comparable RF solutions
- Optical spectrum for communications is effectively unlimited, while RF spectrum is limited
- Collect data from greater ranges with higher resolution
- Enable long-range sensing and detailed identification capabilities
- Scintillation mitigation techniques deliver greater reliability across a wider range of atmospheric conditions

Free-Space Optical Communications (FSOC) programs are conducted by the CACI Photonic Solutions group, a multidisciplinary team of physicists and material scientists, as well as optical, electrical, and mechanical engineers. The team is focused on developing the most advanced photonics-based solutions, including optical modems, optical terminals, high-power sources for FSOC, research and development of high-power optical sources for remote sensing applications, and optical systems for space exploration.

The CACI Photonic Solutions team was the first to demonstrate a multigigabit terrestrial FSOC system over a distance greater than four km and has been building and developing FSOC systems for nearly 20 years. The team (as part of what was then Lucent Technologies, Inc.) was the first to offer a 10 Gb/s (4 x 2.5 Gb/s) commercial optical wireless system with the OpticAir® product line and the first to demonstrate 40 Gb/s and 160 Gb/s FSOC links. CACI leverages its FSOC and telecom engineering heritage to develop customized hardware optimized for FSOC systems. These products include optical amplifiers, high-speed receivers, and specialized optical components.

CACI has also performed extensive work on low SWaP Optical Inter-Satellite Link (OISL) terminals, beginning with its work on an ultra-low SWaP terminal called Compact Intersatellite Communications and Data Link (CICADA) for a government research organization. CACI has also developed a new terminal called "Enhanced CICADA," which leverages much of the technology in the CICADA program and offers the following specifications:

This material consists of CACI International Inc general capabilities information that does not contain controlled technical data as defined within the International Traffic in Arms (ITAR) Part 120.10 or Export Administration Regulations (EAR) Parts 772 and 774.(9/19)



**EXPERTISE AND TECHNOLOGY** FOR NATIONAL SECURITY

CACI's approximately 23,000 talented employees are vigilant in providing the unique expertise and distinctive technology that address our customers' greatest enterprise and mission challenges. Our culture of good character, innovation, and excellence drives our success and earns us recognition as a Fortune World's Most Admired Company. As a member of the Fortune 1000 Largest Companies, the Russell 1000 Index, and the S&P MidCap 400 Index, we consistently deliver strong shareholder value. Visit us at www.caci.com.

#### Worldwide Headquarters

1100 N. Glebe Road, Arlington, VA 22201 703-841-7800

Visit our website at: www.caci.com

**Find Career Opportunities at:** http://careers.caci.com/





