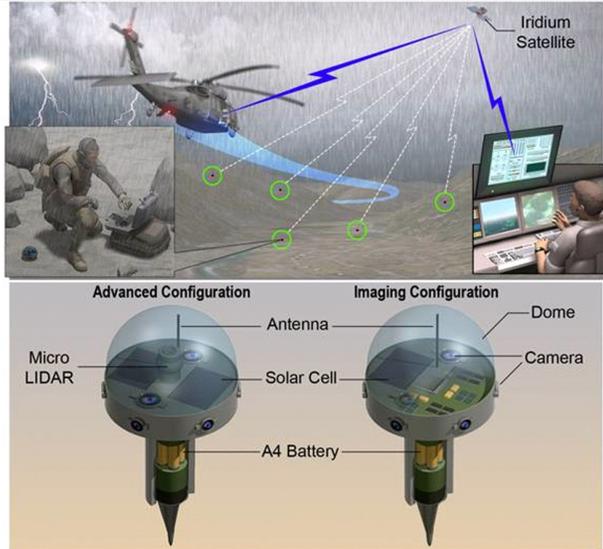




USSOCOM SBIR Successful Technology Pursuit



Innovative Technology

Topic Number | SOCOM10-006

Topic Title | Micro Weather Sensor

The Department of Defense (DoD) requires a micro weather station that has a number of capabilities, including the ability to supply real-time, day or night feeds of visibility via a picture of the surrounding area in all weather conditions and altitudes in order to measure weather conditions. To meet DoD needs, the system should be mountable on micro unmanned air vehicles (MUAV) or in ground based standalone situations, as well as able to measure or calculate temperature, dew point, pressure altitude, barometric pressure, density altitude, wind velocity, wind direction, cloud height, and visibility. In addition, the system must communicate, via Iridium, in a format that easily is used by current and future command and control (C2) systems to allow a data overlay of collected information. To address this need, Physical Optics Corporation (POC) is developing an Optical Wave Guide Integrated Weather Sensor (WAGIS). The system is based on proprietary sensing and imaging technologies that are combined with state-of-the-art commercial off-the-shelf (COTS) components. WAGIS provides remote and local weather and visibility readings. This data is detected and collected automatically and is then transmitted to Military C2 elements. Also, the system's lightweight design enables easy camouflage, and WAGIS works for more than 90 days without servicing. The sensor has low power consumption and built-in redundant secure communication via Iridium. The company's Phase II Small Business Innovation Research (SBIR) effort is focused on developing and testing fully functional, high-end and simplified WAGIS weather stations.

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Military and Commercial Significance

DoD has funded POC with a Small Business Innovation Research (SBIR) Phase II award of over \$1.8 million for the development of the micro weather sensor. The SBIR effort is slated to continue through July 2013.

The technology development effort is sponsored by the Air Force.

Both the National Oceanic and Atmospheric Administration (NOAA), and the Department of Homeland Security (DHS) have expressed interest in the technology.

Last updated: 08/15/2013