Radar Development and Testing on Government Contract

RE: Form 442 Q4: Government Project Description, Exhibit
File Number: 0940-EX-CN-2018
Confirmation Number: EL287888
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Systems & Technology Research (STR) is leading efforts on the DARPA radar development project called "Radar Net." We are supporting a Phase 2 development effort.

The contract number is FA8750-15-C-0023. The contracting agency is USAF, AFMC, Air Force Research Laboratory, 26 Electronic Parkway, Rome, NY. 13441-4514

The project will culminate in delivery of a radar sensor system, titled SERVAL (Software-defined Efficient Radar Versatile, Affordable, Lightweight), which we seek to conduct flight tests in various key locations in the surrounding area of ourselves in Boston, MA, as well as remote sites near Ann Arbor, MI, Plano, TX, and Huntsville, AL. STR is leading the efforts and will oversee testing and operation of the system.

This phase will involve performance testing of our radar system. A maximum of two aircraft will be outfitted with systems and simultaneously operating in the same region with identical radar equipment. Both systems will employ identically constructed phased array antennas. Refer to file number 0935-EX-CN-2018 for more information on the radar systems.

Altitudes will still be constrained to < 10,000 ft, using the same antenna systems as previously used. However, an expanded instantaneous bandwidth (800 MHz) will be required to be tested, hence the expanded action frequency range between 8.1 and 8.9 GHz, as well as 9.2 and 10.2 GHz, are being requested in the Boston area.

To help calibrate our radar systems, we require deploying one Moving Target Simulator (MTS) at various positions on the ground. It is a battery powered, stationary unit mounted on a tripod that extends no more than 6 feet off the ground. It is used to simulate both moving and stationary targets for radar systems. It is a non-triggered repeater that will amplify a signal within its receive bandwidth by a fixed gain and repeat it back. It will temporarily be placed at various locations within the permitted ring to support various aircraft profiles and missions, then removed once the mission of the day is complete.

This effort will be expected to begin in January, 2019, and extend for up to 24 months or contract end. The primary area of operation will be in the Boston, MA region, with occasional operations in the other areas. Primarily it will be deployed at the Lawrence Municipal Airport (KLWM), Woburn MA, and various locations on Cape Cod.