

# Department of the Navy SBIR/STTR Transition Program

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Topic # N192-091  
Line-of-Sight (LOS) Low Probability of Detection/Intercept (LPD/LPI) Millimeter Wave Communication  
MaXentric Technologies LLC

## WHO

**SYSCOM:** NAVAIR

**Sponsoring Program:** PMA-265

**Transition Target:** F/A-18A-D Hornet, F/A-18E/F Super Hornet, and EA-18G Growler

**TPOC:** (301) 342-3752

**Other Transition Opportunities:** MQ-8C Fire Scout, RQ-23 TigerShark, MQ-25 Stingray, MQ-4C Triton, and V-BAT 128

### Notes:



US Navy Photo,  
<https://www.navair.navy.mil/product/FA-18EF-Super-Hornet>

## WHAT

**Operational Need and Improvement:** The MAX-BEAMS architecture improves the warfighter's ability to operate in contested electromagnetic environments in which reduced detectability and resilience to jamming are critical.

### Specifications Required:

**Technology Developed:** Sophisticated MAX-BEAMS firmware providing functionality including Low Probability of Detect/Intercept (LPD/LPI) waveform and adaptive digital beamforming. MAX-BEAMS prototype hardware platform capable of low latency wideband, multichannel processing.

**Warfighter Value:** Agile Communication Technology with Reduced Susceptibility to Detection and Jamming

## WHEN

**Contract Number:** N68335-22-C-0114

**Ending on:** Dec 16, 2023

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Completion of Multi-Beam Digital Beamformer Architecture	N/A	Multiple Simultaneous TX and RX Beams Created	4	2nd QTR FY23
Completion of LPD/LPI Modem Firmware	Low	LPD/LPI Wireless Link Established Between 2 MAX-BEAMS Modems	4	1st QTR FY24
Integration of LPD/LPI Waveform and Beamformer	Medium	Multiple Simultaneous LPD/LPI Links Created	4	1st QTR FY24

## HOW

**Projected Business Model:** MaXentric is building a MAX-BEAMS prototype system including hardware platform and firmware to demonstrate the potential of the technology. The platform will be used to investigate the system trade space while quantifying metrics such as detectability, data rate, and range. The prototype system will also be leveraged to attract interest from potential Government and Prime collaborators.

**Company Objectives:** MaXentric's motivation for pursuing SBIR efforts is to develop and mature technologies that increase the capabilities and effectiveness of the Warfighter. Transition is critical to ensuring the SBIR funding can have this result. From a business growth standpoint, Phase III transition of the MAX-BEAMS technology provides an opportunity to acquire a portion of the Navy communications market while also showcasing our ability to develop and mature sophisticated wideband technologies to other potential customers and partners.

**Potential Commercial Applications:** 5th and 6th Generation Wireless Communication Networks (5G/6G) Spectrum Sensing and Monitoring

**Contact:** Kamran Mahbobi, Managing Director  
[kmahbobi@maxentric.com](mailto:kmahbobi@maxentric.com) (201) 242-9800