



Navy SBIR/STTR Success



iPON Based Real Time Synchronization and Fusion Technology

3 Phoenix Inc.'s advanced data acquisition, data fusion and processing techniques have resulted in cost-effective and reliable COTS-based system solutions while increasing system availability for the Navy and creating high demand among other eager consumers.

Topic Number: N04-138

SBIR Investment:
\$3,582,336

Phase III Revenue:
\$97,518,368

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About the Technology:

Data fusion solutions, developed by 3 Phoenix, Inc. (3Pi), are referred to as Inverted Passive Optical Networking (iPON) and Inverted Passive Electrical Networking (iPEN). They support a wide range of disparate sensor and network systems as required for net-centric warfare. Specific technologies developed include: Radar Data Processor which can detect and classify targets with a high probability while maintaining a low probability of false alarm; Technology Insertion Photonics Mast which provides visible and infrared imaging, image processing and enhancement as well as Electronic Support Measures and Radio Frequency communications; and Torpedo Warning System which is a complete undersea warfare system that supports deployment of hard-kill torpedo countermeasures.

Naval Benefit

The Navy's radar processing, undersea warfare, and periscope/photonics mast systems have been greatly enhanced by the results of this SBIR. The recently patented iPON/iPEN technologies support legacy analog sensors, digital sensors, intelligent or smart sensor devices, transducers and actuators in an open standard network infrastructure. The design facilitates its applicability to any Navy sensor-based system and it is currently being utilized on the Navy's surface and submarine fleet. The simplicity of the architecture enhances reliability as well as lowers manufacturing costs by allowing for less frequent maintenance thereby reducing the overall life cycle costs.

Transition

3Pi has received contracts from ONR, Naval Sea Systems Command and NSWC Port Hueneme for further development and deployment. The funds helped to improve processing methods and pushed the application of modular and portable software and hardware technologies, and the application of technologies for improved signal and network processing, network connectivity and data collection systems. The technology has been successfully transitioned to a number of Navy sonar, radar and imaging applications. In addition to those listed above, the applications include Unmanned Underwater Vehicles, submarine towed arrays, and a deep ocean acoustic surveillance system.



3 Phoenix Inc.

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