

Public Executive Summary

Title: Wireless Subsea Communications Systems

Name of Offeror: GE Global Research

Project Director/Principal Investigator: Dan Sexton

Additional participants: Northeastern University

Solicitation Number: RFP2008DW2902 (08121-2902-03)

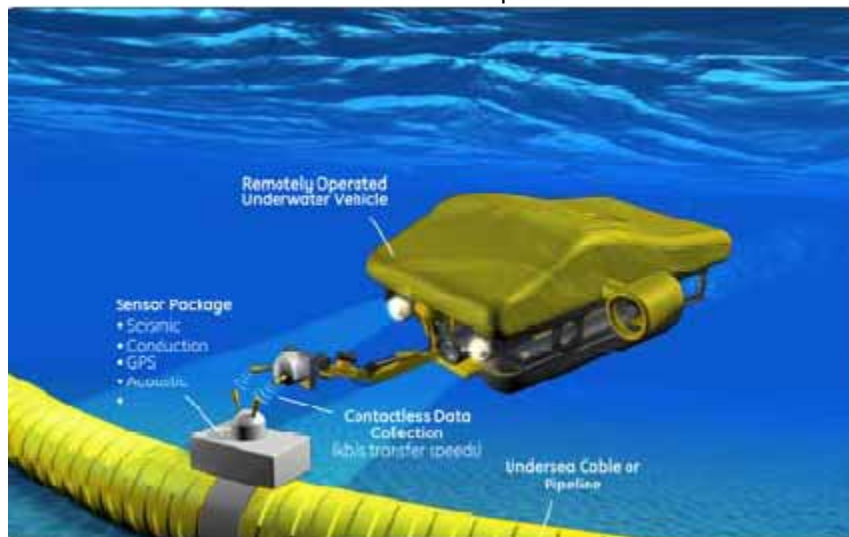
Project Start Date: January 22, 2010

Project End Date: December 31, 2011

Total Estimated Cost:	\$	150,506.00
RPSEA Maximum Share:	\$	118,495.00
GE Global Research Cost Share:	\$	30,506.00

Subsea wireless communications have been accomplished in the past using acoustic and optical technologies. These techniques have significant limitations in real world applications due to noise, interference and water quality conditions (turbidity and fowling). Subsea RF communications have been investigated but with limited success. However recent experiments performed by GE Global Research and Northeastern University have shown that RF conduction may present a viable mechanism for communications through saltwater.

This project will explore the limits and capacity of wireless communications for Subsea operations using RF conduction. This mechanism has been proven to work over short ranges and various conditions



through seawater at relatively high data rates and with the recent advances in modern communications techniques through advanced forms of modulation and channel coding we expect that communications through conduction can be a highly robust and viable mechanism without the limitations of other more commonly used techniques. One use of this technology is for the communications of collected

data from sensors and data loggers on the seabed by remotely guided vehicles as shown.

Under the direction of and with assistance from GE Global Research, Northeastern University will perform the investigation. After the successful execution of this project GE through its VetcoGray

division will begin to transition the technology into products and services for use by subsea energy production and exploration companies.

The project will span 12 months.

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