

**DoD SBIR / STTR****DETAILS - Awards Search Results****Program:** SBIR**Agency:** AF**TOPIC Number:** AF1998-085**Contract Number:** F29601-98-C-0082**Awarded In:** 1998**Award Start Date:** 4/28/1998**Field Office:** NMVS**Control Number:** 98PL-373**Phase:** 1**Award Amount:** \$97,749**Award Completion Date:** 4/10/1999**Proposal Title:** Large Area Network for On-Line Health Monitoring**Principal Investigator Name:** William G. Brooks**Principal Investigator Phone:** (607) 257-0533**Principal Investigator Email:****Firm**

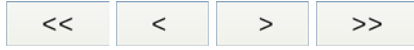
INNOVATIVE DYNAMICS, INC.

2560 N. Triphammer Rd.

Ithaca, NY 14850

URL:**Woman Owned:** N**Minority Owned:** N**Number of Employees:** 18**Keywords:** LAN HEALTH MONITORING NETWORK DISTRIBUTED SENSING SMART SNESORS STRUCTURAL MONITORING**Abstract:** Innovative Dynamics, Inc. (IDI) proposes to develop the POWERLAN network-a digital communications network that runs over existing DC power lines. Many aircraft/spacecraft systems have bandwidth limitations on their communications buses such as ARINC 429, ARINC 629, and/or MIL-STD-1553. While emerging fiber-optic buses such as MIL-STD-1773 could meet this need, retrofitting such networks to existing vehicles will be expensive because of infrastructure changes required to accommodate high speed serial communications. Moreover, these high-speed networks are overkill for systems not directly involved in time-critical vehicles control. Suitable examples include sub-system health monitors, damage detection sensor, and payload status monitors. These systems could be more inexpensively controlled or monitored over a network running on the existing powerbus wiring. The POWERLAN network would allow any number of sub-systems network access,

limited only by signal strength and addressing limitations imposed by the selected software link protocol. Phase I will develop a prototype network and demonstrate feasibility on simulated DC powerlines. This effort will lead to a full scale implementation and installation of the system on a suitable testbed vehicle for field testing during Phase II.



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