Sentient wins Navy contract for an AutoReasoner to Classify and Mine HUMS Data
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The US Navy has selected Sentient Corporation to develop the next generation data mining and analysis capability for its aircraft health monitoring systems. The award provides over $700,000 for research and development under the Department of Defense Phase II SBIR program, and will lead to new breakthroughs the military's capability to maintain its fleets of aircraft at reduced cost and increased safety and reliability.

Due to the early successes and benefits shown by the Health and Usage Management System (HUMS), which was developed by Goodrich SIS Division in Vergennes and is flown on Army and Navy versions of the H60 helicopter, implementation of health monitoring systems is expanding. New platforms such as Joint Strike Fighter will have even more comprehensive Prognostic Health Monitoring (PHM) capabilities. The volume of data on component and subsystem operation and health produced by these systems is now greater than the capacity of the human analysts to review it, and there is a critical need to automate analysis of this data.

The Navy award will fund the development of automated reasoning software (referred to as the AutoReasoner) to process operational, usage, and maintenance data to determine condition, remaining life, and required maintenance actions without human intervention. The AutoReasoner also automatically identifies truly unusual situations where a human expert should look at the data, and provides powerful data analysis tools to speed up the job of the human experts. The AutoReasoner has a simple user interface that provides key functionality at the point of maintenance, to maximize the ability of front-line maintenance personnel to quickly return aircraft to mission-capable status.

In Phase II, Sentient will expand on the proof-of-concept AutoReasoner developed in Phase I to include capabilities for data mining, data fusion, and complete interface with the Navy's maintenance and health monitoring databases. The Phase II AutoReasoner will demonstrate the full capability on a representative system to improve the Navy's maintenance of its aircraft fleet.

About Sentient Corporation

Sentient Corporation is a technology leader in the field of prognostics for military, aerospace, and industrial machinery. Sentient develops innovative software tools, embedded algorithms, and specialized sensing technologies to monitor and manage the health of critical systems. Sentient is renowned for fundamental research on machine component failure. Founded in 2001, Sentient is a privately held corporation based in Williston, Vermont and Idaho Falls, ID.

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