
For Immediate Release

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Department of Defense taps Twin Cities firms to help reinvent manufacturing

Minnesota firms are playing a significant role in the Defense Advanced Research Projects Agency's (DARPA) ambitious research effort to revolutionize the design and manufacture of complex defense systems and vehicles, broadly referred to as complex cyber physical systems. This effort, called Adaptive Make, is a portfolio of research programs with the goal to realize a 5X reduction in the time and cost associated with designing these systems. Without this technology, current trends show that new weapon system development will rapidly become cost and time prohibitive – eventually consuming the entire DoD budget for just a single weapon system.

DARPA has selected several firms with ties to the Twin Cities as part of the group of companies and universities providing the foundational research for this effort. These companies are:

- Adventium Enterprises (Minneapolis), together with subcontractors University of Minnesota (Minneapolis), Lockheed Martin (Eagan), and Easy Test (Minneapolis), is developing a representation language and support tools for integrating a broad variety of models used in system design, including structural, electronic, and dynamical properties of the system being designed.
- BAE Systems (Fridley) is leading an effort to substantially improve the design, integration/manufacturing, and verification of complex cyber-physical systems, and particularly aerospace and defense systems such as aircraft, rotorcraft, and ground vehicles.
- Rockwell Collins (Bloomington), together with the University of Minnesota and other subcontractors, is developing tools that will accelerate the design process for high-integrity systems while guaranteeing that performance and safety requirements are satisfied.
- Smart Information Flow Technologies (SIFT) (Minneapolis) is developing a verification approach and enabling tools that generate probabilistic “certificates of correctness” for large-scale cyber-physical systems.

Selected as part of a very competitive, international selection process, this level of support underscores the breadth and quality of high technology capabilities found in the Twin Cities area.

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About Adaptive Make

Adaptive Vehicle Make (AVM) is a portfolio of DARPA programs that address revolutionary approaches to the design, verification, and manufacturing of complex defense systems and vehicles. It consists of three primary programs: META, Instant Foundry Adaptive through Bits (iFAB) and Fast Adaptable Next-Generation Ground Combat Vehicle (FANG). The FANG program encompasses *vehicleforge.mil*, three AVM Prize Challenges, and the Manufacturing Experimentation and Outreach (MENTOR) effort. To find out more, please visit www.darpa.mil/tto/programs/avm/index.html.

About Adventium Enterprises

Adventium Enterprises™ is a research and development company dedicated to the maturation and commercialization of leading edge technologies in the areas of information technology, cyber security, automated reasoning, and systems engineering.

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About SIFT <<http://www.sift.net/about>>

Smart Information Flow Technologies (SIFT) is a research and development company specializing in Human Factors and Artificial Intelligence. SIFT's goal is to make the information flow between humans and technology better for both sides – more efficient, productive, pleasant, and safer. In order to achieve this goal SIFT employs top engineers in the fields of Computer Science and Psychology who specialize in Human Computer Interaction, Interface Design, Human Performance, Artificial Intelligence, Network and Cyber security, and Politeness and Etiquette models.

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