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## News

### DARPA Announces Winner of the First FANG Challenge

April 22, 2013

*“Ground Systems” Outpaces More Than 200 Teams, 1,000 Participants—Submits Winning Mobility and Drivetrain Subsystem Design, Claiming the \$1 Million Prize*

Today, the Defense Advanced Research Projects Agency (DARPA) awarded a \$1 million prize to “Ground Systems”, a 3-person team with members in Ohio, Texas and California, as the winner of the Fast Adaptable Next-Generation Ground Vehicle (FANG) Mobility/Drivetrain Challenge. Team Ground Systems’ final design submission received the highest score when measured against the established requirements for system performance and manufacturability.

“I’m very pleased with the quality of the submissions we received during the challenge, and we have learned a great deal throughout the process,” said Army Lt. Col. Nathan Wiedenman, DARPA program manager. “The first FANG Challenge has been a great experiment, and the submission of many viable, innovative designs has validated the Adaptive Vehicle Make (AVM) ([http://www.darpa.mil/Our\\_Work/TTO/Programs/Adaptive\\_Vehicle\\_Make\\_\\_%28AVM%29.aspx](http://www.darpa.mil/Our_Work/TTO/Programs/Adaptive_Vehicle_Make__%28AVM%29.aspx)) design tools and provided invaluable feedback to continue their development.”

Wiedenman noted that several different types of teams were able to use various aspects of the tools to create viable designs in the course of the challenge. The winning team, for example, was geographically separated, but was able to use the collaboration tools to create the winning design. Another finalist team was comprised of people who met through VehicleFORGE, the online collaboration platform used by competitors to manage and submit their designs. Still another top design was submitted by a one-person team. In many cases, a traditional design process would likely have excluded these teams from contributing their ideas.

Since the beginning of the first FANG Challenge on January 14, 2013, more than 1,000 participants within more than 200 teams used the META design tools and the VehicleFORGE collaboration platform developed by Vanderbilt University in Nashville, Tenn., to design and simulate the performance of thousands of potential mobility and drivetrain subsystems. The goal of the FANG program is to test the specially developed META design tools, model libraries and the VehicleFORGE platform, which were created to significantly compress the design-to-production time of a complex defense system.

Now that the design challenge has concluded, the winning FANG design will be built by the DARPA iFAB program team. iFAB, or Instant Foundry Adaptive through Bits, is led by the Applied Research Laboratory at Penn State University and will validate the manufacturability

feedback, foundry configuration, and instruction generation tools as part of the build process. Ultimately, the as-built design will be subjected to test and evaluation under the leadership of the FANG performer, Ricardo Inc. of Van Buren Township, Mich.

Begun in 2010 as part of DARPA's advanced manufacturing initiative, AVM is a portfolio of programs focused on the reduction of complex military system development timelines by a factor of five or more. The technical approach encompasses multiple efforts addressing all aspects of the manufacturing process, from requirements representation, through design, to final physical build of a full-scale complex defense system.

## Media Queries

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- Adaptive Vehicle Make (AVM)

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## NEWS

### Ready, Set, Design – DARPA’s First FANG Challenge Begins Today

January 14, 2013

*More than 700 Participants Are Set to Begin Collaboration to Design the Mobility and Drivetrain Systems of a Next-Generation, Amphibious Infantry Fighting Vehicle*

For the more than 700 registered competitors, the journey to winning DARPA’s first FANG Challenge begins today. After months of planning and organizing into more than 150 teams, participants from across the United States will begin collaborating on mobility and drivetrain subsystem designs for the Fast Adaptable Next-Generation Ground Vehicle (FANG). At the end of the competition, DARPA plans to award a \$1 million prize to the team whose design submission best achieves established requirements for performance, lead time and cost using the META design tools and the VehicleFORGE collaboration environment. The winning team will also have its design constructed as an automotive test rig in the iFAB foundry.

In October, DARPA called upon innovators with expertise in designing and engineering of drivetrain and mobility systems to register for the first of three planned challenges. The FANG Challenges will tap expertise from both within and outside the traditional defense industry for fresh ideas while testing the VehicleFORGE platform along with specially developed META design tools and model libraries. The goal of the competition is to compress the design-to-production time of a complex defense system by up to a factor of five.

“Today’s launch marks a significant milestone in exploring a radically novel collaborative approach to the military vehicle design-to-production process,” said Army Lt. Col. Nathan Wiedenman, program manager in DARPA’s Tactical Technology Office. “We have the potential to create a whole new engineering and system development process, disrupting the current approach to building not only military vehicles, but all forms of complex systems.”

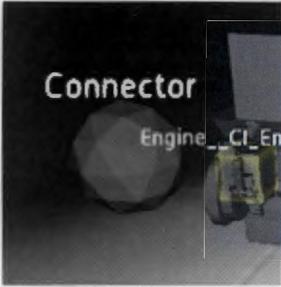
DARPA is expected to host a second FANG Challenge in early 2014, which will focus on chassis, structural and survivability subsystems, potentially culminating with another \$1 million prize. A third and final FANG Challenge, which would result in a full vehicle design, is anticipated in early 2015 with a \$2 million award.

New competitors may continue to register for DARPA’s first FANG Challenge until April 1. For more information or to register, go to [vehicleforge.org](http://vehicleforge.org).

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