PRESS RELEASE

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Ricardo successfully administers first DARPA FANG Challenge

Competition tests Ricardo-developed component models

Ricardo today announced that it successfully administered the Fast Adaptable Next-Generation Ground Vehicle (FANG) Mobility/Drivetrain Challenge for the United States Defense Advanced Research Projects Agency (DARPA), the first of three planned FANG competitions. The competition tested a number of innovative new software tools, including a component model library developed by Ricardo under DARPA's Component, Context, and Manufacturing Model Library (C2M2L) project.

"The scope of this programme showcases Ricardo's expertise across a wide range of engineering disciplines, including software development, state-of-the-art modelling and simulation techniques, vehicle integration, and domain knowledge covering nearly every vehicle subsystem," said Paul Luskin, programme director of the DARPA AVM portfolio at Ricardo. "Our role has helped demonstrate how new approaches to product development can further minimize prototype cycles and allow for better response to market demands and changes in all sectors of vehicle design."

Ricardo was selected by DARPA in 2012 to provide oversight of the FANG Challenges, a series of three planned competitions designed to explore a radical transformation in the process of delivering new defence systems through the development of the Fast, Adaptable, Next-Generation Ground (FANG) vehicle. The first FANG Challenge, which asked participating teams to conceptualize mobility and drivetrain subsystem designs using the newly developed META design tools and the

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VehicleFORGE collaboration environment, concluded in April following a four-month design period. It attracted more than 1,000 participants on more than 200 teams. Ricardo executed the challenge and evaluated each design submission for system performance and manufacturability, awarding scores for every team using multi-criteria decision analysis tools. DARPA recently announced that a three-person team with members in Ohio, Texas and California received the highest score and the $1 million prize. The winning design is being built by DARPA through the Instant Foundry Adaptive through Bits (iFAB) programme, which Ricardo will subsequently subject to test and evaluation.

The Ricardo-developed C2M2L component models utilized within the first FANG Challenge are part of a software tool chain intended to support DARPA's goal of a five-fold reduction in the design-to-production time for complex defence systems. The models provided competitors with a virtual catalogue of commercially available hardware that could be composed into a variety of new vehicle designs, and simulated against dozens of virtual environments representing the FANG requirements set. Ricardo was awarded two C2M2L projects under DARPA's Advanced Vehicle Make (AVM) programme.

Luskin added "Ricardo's C2M2L component library provides a number of exciting new capabilities, including the merging of CAD design with Modelica-based physics simulations, multi-domain analysis, rapid identification of failure modes and evaluation of programmatic issues, such as cost and lead time, in addition to engineering attributes like fuel economy and ride quality."

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NOTES TO EDITORS:

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