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CU-ICAR and Art Center College of Design unveil Mazda-sponsored Deep Orange 3 concept vehicle

Prototype features groundbreaking 3+3 seating in sportscar profile and innovative Industrial Origami® technology

(TRAVERSE CITY, Mich.) August 5, 2013 — It's innovative engineering inside and out. And it's all the work of students.

A next-generation Mazda concept vehicle, designed by Art Center College of Design student Fredrick Naaman and engineered by a team of Clemson University International Center for Automotive Research (CU-ICAR) automotive engineering students, was revealed here Monday for the first time during the Center for Automotive Research Management Briefing Seminars.

The official unveiling marks the completion of the Deep Orange 3 Mazda-sponsored vehicle, the third-generation Deep Orange vehicle prototype, which is a completely new vehicle, inside and out.

Derek Jenkins, design director for Mazda North American Operations, said that to be part of a college program of this caliber that focuses not just on one aspect of a vehicle, but the vehicle as a whole, is really an automaker's dream come true.

"These students have provided fresh and inventive ideas from sketch pad to sheet metal, and the final product truly speaks to that open dialogue and collaboration between the Art Center College of Design and Clemson University," Jenkins said.

"The future of good industry and good product development, whether it's cars or anything, is really understanding the importance of bringing different disciplines together on a broad scale, and you can see that in products that are successful in our world, he explained. "Every aspect of their design and engineering and marketing is seamless and I think the Clemson project reflects that."

"The students had free rein to push the boundaries of conventional design and engineering," said Paul Venhovens, BMW Endowed Chair in automotive systems integration at CU-ICAR, who leads the Deep Orange program.

Deep Orange 3 features a unique hybrid powertrain that automatically chooses front-, rear- or all-wheel-drive; a load-bearing structure based on innovative sheet-folding technology patented by Industrial Origami®; and groundbreaking 3+3 seating configuration in sports car architecture.

“We know that the future of the automotive industry will require ever more flexible, more cost-effective and more innovative approaches to manufacturing,” Venhovens said. “Our manufacturing approach on this project was exemplary of this kind of change.”

“Deep Orange offers companies an exclusive opportunity to showcase advanced vehicle technologies,” said Stewart Reed, chair, Transportation Design, Art Center College of Design. “So for both designers and engineers, it’s a rich experience of working directly with industry leaders to develop ideas.

“Today is extremely exciting for all of us because after an arduous journey, the result is an actual physical, drivable vehicle and nothing could be more exciting for our students than that,” he continued.

The Deep Orange 3 prototype chassis vehicle was unveiled during the 2012 Specialty Equipment Market Association (SEMA) show in Las Vegas.

As part of the graduate automotive engineering program at CU-ICAR, students are required to create and manufacture a new vehicle prototype. Often, the concept and design of each vehicle is developed in partnership with students from the Transportation Design department at Art Center focusing holistically on the vehicle and the end-user. As a result, Deep Orange is breaking new ground in how the industry thinks about automotive design and function.

The program provides students with experience in vehicle design, development, prototyping and production planning. Each year, a prototype vehicle is developed with a new market focus and technical objectives.

The CU-ICAR booth is located in the Governors pre-function area, just outside the main conference hall.

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