

Inaugural 'Deep Orange' car unveiled at motorsports event

September 23 2010



Paul Venhovens, left, talks about the Deep Orange car with some of the students who designed and built it. Image by: Patrick Wright/Clemson University

Amidst the din of roaring race car engines, one vehicle stood out for its sound of silence. With an electric motor, the inaugural "Deep Orange" car — the first concept car created by graduate students at the Clemson University International Center for Automotive Research — didn't make a lot of noise. But it certainly made an impression.

A range-extended electric vehicle expected to achieve the equivalent of 100 miles per gallon of gas, the first Deep Orange car was unveiled at "Motorsports on Main" — a kick-off event for the Petit Le Mans race week at Road Atlanta — alongside race cars, transporters and special exhibits.

The Deep Orange car is powered by lithium-polymer batteries that can be recharged either from a 110-volt wall socket or by a two-cylinder onboard [gasoline engine](#). The result is an all-electric range of 20 miles, overall range of 400 miles, a top speed of 100 mph and acceleration from zero to 60 mph in 10 seconds.

"Our students were truly practicing the art of engineering and had to fight to achieve targets and compromise with each other to make the best product," said Paul Venhovens, the BMW Endowed Chair in [Automotive Systems](#) Integration who leads the Deep Orange initiative. "They worked hard for 12 months and this is the moment to celebrate the achievements."

As part of the graduate automotive engineering program, students are required to create and manufacture a new vehicle prototype, giving the students experience in vehicle design, development, prototyping and production planning.

"Deep Orange integrates research, education and collaboration into one whole," said Imtiaz Haque, chairman of the automotive engineering department. "It provides industry with an innovation platform that showcases advanced technology and it provides the students with an opportunity to work directly with automotive industry partners to innovate and to develop projects. It is, we believe, how you educate the engineer of the future."

"The scope of the experience that Deep Orange provides our students will make them very attractive to the automotive industry," Venhovens said. "This project requires them to be directly, intimately involved in systems integration with industry partners collaborating and exposes them to the capabilities and limitations of certain technologies."

The Deep Orange vehicle prototype program was designed to run the

course of two academic years in parallel with Clemson's two-year master's program in automotive engineering. Because of time constraints on the first class, the premiere Deep Orange car was converted from an existing body and chassis. Plans call for students to conceptualize future Deep Orange cars from the ground up.

"This is a fluid curriculum that allows us to think outside of conventional coursework and focus on the product and the consumer's needs," Venhovens said. "Each year's project will be unique, with different problems and different parameters for success."

After the initial unveiling in Greenville, the vehicle will travel to Pasadena, Calif., where it will be on display at the Art Center College of Design's Classic Car Show in October. Consistently ranked the No. 1 design school in the country, the Art Center College of Design has been CU-ICAR's design and styling partner on the Deep Orange vehicle.

From there, the Deep Orange car will go to Las Vegas for the Specialty Equipment Manufacturers Association (SEMA) Show, which attracts more than 100,000 visitors from the automotive and after-market industries. Other trade show appearances are currently being planned for spring and summer of 2011.

Provided by Clemson University

Citation: Inaugural 'Deep Orange' car unveiled at motorsports event (2010, September 23)
retrieved 26 April 2024 from

<https://phys.org/news/2010-09-inaugural-deep-orange-car-unveiled.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.