

MotorWeek Transcripts

AUTOWORLD 'CHALLENGE X STUDENT COMPETITION'

JOHN DAVIS: Automotive technology is evolving at a rapid clip, and so are the engineering practices used to develop new cars and trucks. This can be a problem for our nation's colleges and universities, since *today's* graduates can't design *tomorrow's* cars with *yesterday's* knowledge. To provide hands-on experience actually developing an advanced-technology vehicle using industry practices, The US Department of Energy's latest design competition invites North America's brightest students to step up to... Challenge X.

STUDENTS: This is where its really at. Everything is changing. This is where the jobs are going to be. It is really exciting and we will do what it takes. We will do the best.

DAVIS: 2008 marks the fourth and final year for the Challenge X competition, in which teams from 17 engineering schools were given a stock 2005 Chevy Equinox and tasked with improving its emissions and fuel economy.

The use of renewable fuels and advanced technologies was encouraged, and sponsors provided funding, technical support, and more importantly the advanced hardware needed to make their designs a reality.

Headline sponsor General Motors provided the vehicles as well as mentoring support for each team, and allowed the competition to mimic its Global Vehicle Design Process, by which GM develops its own prototype vehicles.

Year one of the competition focused on modeling, vehicle simulation, and deciding which approach to take. All chose some form of hybrid electric drivetrain, and many schools chose to burn biodiesel or ethanol while a few ambitious teams opted for Hydrogen fuel.

Teams were given their vehicles in year two, and have worked ever since on implementing their power train designs. But the students also had to think "real-world" and consider the packaging of their components, fit and finish, drivability and consumer acceptance.

Teams have to present marketing plans for their vehicles, conduct outreach programs and also give detailed technical presentations. Objective judging has been conducted in each year of the competition, measuring each team's progress in terms of emissions, economy and component integration.

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Most students participate for just one year of the program, meaning a greater number of people can benefit from the experience, but this also meaning that designs-in-progress are passed along to the next year's pit crew giving them opportunities to fix problems and designs.

No two cars turned out alike, and many innovative ideas for battery packs, emissions treatment and engine controls have evolved from the competition.

ED WALL – US DEPARTMENT OF ENERGY

So the engineers of the future won't be mechanical or electrical or a chemical engineer. He or she will be a systems integrator who takes a variety of advanced systems and makes them work in one platform.

The benefits for the students in terms of knowledge and experience has been incredible, and for many, has opened a door directly into the engineering job market.

MICKY BLY – GENERAL MOTORS

Over the last 3 years GM has recruited and onboarded 50 students out of this program...and I tell you some of the top talent out of the universities that we could get.

CYNTHIA SVESTKA – FORMER STUDENT COMPETITOR

The events of the competition are designed to ensure they understand the tradeoffs, the balance between speed, and emissions and fuel economy and if I hadn't had that as a student I certainly wouldn't understand vehicles the way I do now and I've used that experience throughout my career at GM.

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DAVIS: The 2008 Challenge X ended up with drag race and autocross competitions, and a road rally along the East Coast from New York, thru Baltimore to Washington, D.C. and the finish line, appropriately, in front of DOE Headquarters.

For 2008, Mississippi State University took top team honors. Their through-the-road parallel Biodiesel-electric hybrid achieved a 38% increase in fuel economy while also achieving the fastest quarter-mile time and top ranking in 7 of the 18 scored categories. Congratulations also go to the University of Wisconsin-Madison for 2nd place, and Ohio State University in the 3rd position.

But the ideals of Challenge X doesn't end there. 17 teams have already been chosen to participate in EcoCar: The Next Challenge with competition beginning in the fall of 2008. In this new competition, teams will engineer advanced propulsion solutions for a Saturn Vue with the goal of achieving near-zero emissions.

Sounds like a win-win-win situation...for the students who gain the experience, for the sponsors who enrich their talent pool, and for the rest of us, who reap the benefits of a clean driving future!