

Advanced Vehicle Technology Competitions™

FACT SHEET

About AVTCs:

Established in 1988 by the U.S. Department of Energy and Argonne National Laboratory in partnership with North America's automotive industry, the Advanced Vehicle Technology Competitions™ (AVTCs) are multi-year collegiate engineering programs that serve as DOE's flagship workforce development program.

The AVTC program is North America's premier collegiate automotive engineering competition, providing an unparalleled, hands-on educational experience that has transformed the traditional classroom environment into a hub for automotive innovation. AVTCs provide a real-world training ground for the next generation of automotive engineers and industry leaders.

For over 38 years, AVTCs have embodied the spirit of American automotive ingenuity, with more than 32,000 students from 111 universities participating, many of whom have gone on to redefine the future of mobility.

AVTC Mission:

To empower the next generation of engineers and business leaders to develop solutions to address our nation's toughest transportation challenges.

AVTC Vision:

To engage university students in advanced technology research and support national efforts to encourage students to pursue careers in science, technology, engineering, and math (STEM) and enable the U.S. to develop the skilled workforce needed to be competitive in the global marketplace.

AVTC Goals:

1. Build a skilled workforce that maintains the competitiveness of the North America auto industry in an increasingly competitive global automotive market.
2. Provide students with an unparalleled and immersive educational experience that transforms the traditional classroom into a hub of automotive innovation.
3. Create multidisciplinary teams that reflect real-world industry collaboration across engineering, business, and communications.
4. Prepare students for careers through real-world training using industry tools, standards, and processes, while challenging them to meet technical milestones and solve complex problems.
5. Inspire future STEM talent through national K–12 outreach and education programs.

AVTC Quick Facts:

- **32K+** AVTC alumni, joined by thousands of other supporting sponsors and faculty
- **111** North American universities have participated across **15** unique competition series
- **170+** corporations have sponsored AVTCs
- **138** conference or journal publications from our students to-date
- **160** master's theses and PhD dissertations to-date

AVTC Student Involvement: Current series

- 3,000+ participants
- 50+ majors represented
- 80% of students are undergraduates
- 1000+ total hours of training received by industry experts from 37 current sponsors
- 300+ hours of vehicle testing at GM Proving Grounds
- 250+ hours of Dynamometer vehicle testing at California Air Resource Board

AVTC History: Current and Past Competitions

- EcoCAR Innovation Challenge (2026-2030)
- Battery Workforce Challenge (2023-2026)
- EcoCAR EV Challenge (2022-2026)
- EcoCAR Mobility Challenge (2018-2022)
- EcoCAR 3: An Advanced Vehicle Technology Competition (2014–2018)
- EcoCAR 2: Plugging In to the Future (2011–2014)
- EcoCAR: The NeXt Challenge (2008–2011)
- Challenge X: Cross to Sustainable Mobility (2004–2008)
- FutureTruck (1999–2004)
- Ethanol Vehicle Challenge (1997–2000)
- FutureCar Challenge (1995–1999)
- Propane Vehicle Challenge (1995 1997)
- HEV Challenge (1992–1995)
- Natural Gas Vehicle Challenge (1990–1993)
- Methanol Marathon (1988–1990)



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