Sunrayce

Teaching students about advanced technologies while producing a wealth of innovations

The student teams that race solar-powered cars across more than 1200 miles learn valuable lessons from a formidable teacher—experience. The perseverance and ingenuity that pushes them to compete in the nation's premier solar vehicle event makes them better prepared to meet the challenges of the future. That's why the cosponsors—the U.S. Department of Energy, General Motors, and EDS—proudly put Sunrayce on the road in 1990, 1993, 1995, and 1997.

Sunrayce participants excel in creativity, resourcefulness, technical innovation, engineering excellence, business acuity, and teamwork. Educating students in these areas strengthens America's technological competitiveness in the global market, helping the nation maintain leadership in science and technology.

This long-distance solar car race also provides a unique opportunity to increase America's awareness of a variety of important issues: renewable energy sources and technologies, environmentally clean energy options, improvements in transportation and opportunities in new, fast-growing energy-related businesses.

Sunrayce 97, which ran in June from Indianapolis, Indiana, to Colorado Springs, Colorado, was the fourth of these cross-country solar car races since 1990. Thirty-six collegiate teams competed in the 10-day stage event, with the team from California State University at Los Angeles finishing first. Their record-setting pace of 43.29 mph was 75% faster than the winning speed in 1990. Just as the teams get better every year, the consistently improving results of each race

The Office of Power Technologies is part of the Office of Energy Efficiency and Renewable Energy

Highlights

- ***Since its inception in 1990, more than 6000 students and more than 180 colleges and universities have participated in Sunrayce events.***
- ***The Sunrayce project has generated a wealth of innovations, including developments in energy storage, lightweight materials, direct-drive motors, and advanced data telemetry.***
- ***Since Sunrayce 1990, the average speed of the winning solar car has climbed from 24.7 mph to 43.3 mph.***

NREL/PIX 05361

The Rose-Hulman Institute of Technology car heads out of Fulton, Missouri, during Sunrayce 97. Thirty-six collegiate teams from across North America competed in the 10-day stage event, which ran from Indianapolis, Indiana, to Colorado Springs, Colorado.

Sunrayce 97 Top 15 Teams

1. California State University at Los Angeles
2. Massachusetts Institute of Technology
3. Stanford University/ University of California at Berkeley
4. Texas A & M University
5. Rose-Hulman Institute of Technology
6. University of Michigan
7. University of Waterloo
8. University of Missouri at Columbia
9. Yale University
10. Queen's University
11. University of Minnesota
12. Messiah College
13. The University of Western Ontario
14. University of Illinois
15. University of Pennsylvania

provide evidence of the innovation the experience inspires. In fact, several innovative technologies developed or tested by Sunrayce participants are now found in today's electric vehicles.

Among the concrete results of the Sunrayce innovations has been the formation of new businesses. Several former Sunraycers have started companies that offer solar energy products and research. For example, James Worden and Anita Rajun—both graduates of Massachusetts Institute of Technology—formed Solectria Corporation, which sells electric vehicles and components. And New Generation Motors, which builds electric motors and conducts research and development on electric-hybrid vehicles, was founded by former Sunraycers Rob Piacesi and Joel Jermakian, along with a former faculty advisor. Others have found jobs at major companies or in government, thus continuing the use of skills and education gained through the Sunrayce experience.

The Sunrayce mission is to promote hands-on education, engineering excellence, energy awareness, and the advancement of new technologies within an atmosphere of teamwork and friendly competition. The spirit of the event—and its results—provide a model for fostering America's continued science and technology leadership as the nation meets the challenges of the 21st century.

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The California State University at Los Angeles team won Sunrayce 97 with the fastest time ever, averaging 43.29 mph. Solar-powered cars designed, built, and raced by college teams have competed in four cross-country Sunrayces since 1990.

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