10th Generation Vehicle Facts

- **Project Timeline:** Iowa State students designed and built the car in two years from fall 2008 to summer 2010
- **Project Budget:** $250,000 raised by team members (including value of cash/product donations)
- **Street Legal:** DOT certified as “special” vehicle for daytime use followed by a chase car
- **Vehicle Weight:** 480 lb car + 176 lb driver = 656 lb
- **Solar Array:** 610 cells, $22.50 ea, 97ft², 20.5% efficient SunPower A-300 monocrystalline Si, 1.45kW Peak
- **Batteries:** 525 Samsung ICR18650-26C Li-Ion batteries, 54lb, 5kWh peak capacity, $0.55 to charge from outlet
- **Motor:** Single 10HP peak NGM SCM150 3-phase AC synchronous in hub motor mounted on rear wheel
- **Speed:** 70+mph top speed, 42mph exclusively on solar, 45-55mph typical highway race speed
- **Driving Range:** All day long if sunny, up to 140 miles at 40mph exclusively with battery power
- **Body Material:** Prepreg carbon fiber composite with 1/4” Nomex honeycomb core
- **Frame:** Recycled 6061 thin walled aluminum tubular space frame
- **Suspension:** 3 wheel vehicle, double wishbone (front), trailing arm (rear), inboard mounted shocks
- **Tires:** 19” diameter high pressure Bridgestone Ecopia EP80 slick tires
- **Brakes:** Regenerative brake (rear), cable actuated disk brakes (front), parking break
- **American Solar Challenge:** June 2010, 1100 miles from Tulsa to Chicago, 11th place of 13 finishing teams
- **Formula Sun Grand Prix:** May 2010 at the Indianapolis Motor Speedway, 4th place out of 10 teams
- **Honors:** PrISUm is the only team that has raced in all ten cross country American Solar Challenges

About the Team

Team PrISUm was founded at Iowa State University in 1989 as a Tau Beta Pi project with the goal of competing in the 1990 GM Sunrayce, the first cross country solar car race in the United States. Since then, the team has opened its membership to students of all majors and has built a total of 10 solar cars. The technology used in our modern cars has changed considerably from the early days, but the team spirit has not. We remain committed to designing and building the best solar racing vehicles possible in the 21st century.

With a dwindling supply of traditional energy sources such as coal and crude oil, the search for viable alternatives is a serious problem facing the world today. Team PrISUm continues to demonstrate the potential of solar power as part of the solution to these problems. We strive to use our knowledge in engineering to create innovative, energy efficient solar vehicles. Team PrISUm represents Iowa State University in what is now called the American Solar Challenge (ASC) among a strong field of solar car teams from around the world. Equally important is our dedication to educating the public about advances in vehicle efficiency and the capabilities of solar energy. We hope to inspire the bright minds of tomorrow to search for sustainable solutions to the planet’s biggest problems.

Team PrISUm is currently designing and building our 11th generation solar car which will compete in the 2012 American Solar Challenge. Our goal is to build on the many successes of our previous car, Anthelion, while improving the reliability of the electrical and mechanical systems. Completion of our next vehicle is slated for the spring of 2012, which will allow for several months of testing before the summer race.

2011 Stillwater Area High School Partnership

Team PrISUm is proud to partner with the students and faculty at SAHS in a project to restore our 5th solar car, ExCYtor. This car was built by Iowa State students from 1995-1997 and placed 26th out of 36 teams in the 1997 Sunrayce from Indiana to Colorado. We are excited to give high school students the opportunity to learn about solar cars through an interactive, hands on restoration project.

ExCYtor, Team PrISUm's 5th Generation Vehicle, raced from Indianapolis to Colorado Springs in 1997

Racing at the Brickyard in FSGP 2011

Crossing the finish line in ASC 2010

Team PrISUm ExCYtor Crew

ExCYtor, Team PrISUm’s 5th Generation Vehicle, raced from Indianapolis to Colorado Springs in 1997

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