

Building an Innovative Workforce for the 21st Century

The Real World Design Challenge (RWDC) is a prime example of government, private industry, and educators working together to keep our workforce the best in the world.

The Challenge aligns secondary education with technical workforce needs. The Challenge also strengthens teacher professional development by providing training and engineering software. Students are assisted by mentors from national laboratories, Federal Aviation Administration Centers, industry, and higher education. Students will learn innovation, creativity, and collaboration, using the expertise that industry and government has been perfecting for decades. This real world approach to learning allows students to experience a direct link between their efforts and the workplace. It also provides them with the potential to make a substantive contribution to a real problem facing industry.

Partners to the Challenge

Boeing ~ Build A Plane ~ Business Educational Partners Group, Inc. ~ Cessna Aircraft Company ~ Education Development Center, Inc. ~ The Federal Aviation Administration ~ Francis Tuttle Technology Center ~ Hewlett-Packard Corporation ~ Mentor Graphics (formerly Flomerics) ~ Oklahoma Department of Career and Technology Education ~ Oklahoma State University ~ Parametric Technology Corporation ~ Secondary Career & Technical Education (Wichita)

GOVERNMENT & INDUSTRY
PARTNERSHIPS

NATIONAL EVENT • WASHINGTON, D.C. • MARCH 20 - 22, 2009

Real
2009

World Design Challenge
for high school students



U.S. DEPARTMENT OF
ENERGY



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What is the Real World Design Challenge?

The Real World Design Challenge (RWDC) is an annual event that provides high school students in grades 9 – 12, the opportunity to work on real world engineering challenges in a collaborative environment. Each year, student teams will be asked to address a challenge that confronts one of our nation's leading industries. Students will utilize professional engineering software to develop their solutions and will also generate presentations that convincingly demonstrate the value of their solutions. The RWDC provides students with opportunities to apply the lessons of the classroom to the technical problems that are being faced in the workplace.

[www.scied.science.doe.gov/
RWDC/index.html](http://www.scied.science.doe.gov/RWDC/index.html)

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2009

~ About RWDC ~

Global competition is currently in a state of transformation. Many generations of hard work, innovation, ingenuity, and a first-rate educational system have made the United States the world's technology leader.

Maintaining this leadership will require continued investments in the Nation's educational system. The Real World Design Challenge (RWDC) provides students with the background and framework for competing effectively in a 21st century workforce through an innovative partnership involving government, private industry, and education. The RWDC engages students with real problems facing industry and provides them with real tools to find real solutions.

~ Real Student Challenges

RWDC is a competition that allows student teams to solve real engineering problems for real companies.

RWDC teams will be provided the same tools and software as professional engineers along with a list of resources and mentors.

Using these tools, students will assemble a team and creatively design innovative answers.

~ Real Coaching ~

An RWDC coach can be a formal classroom teacher or an adult advisor from an after school or informal learning program. Although having specific expertise in engineering principles or a degree in a STEM-related field may be helpful, coaches are not required to have a technical background to participate.

Training will be offered to teachers/coaches in how to use computer-aided design (CAD) software. A two-day workshop will help coaches understand the software and apply the tools to teaching design and global engineering.

~ Real Mentors ~

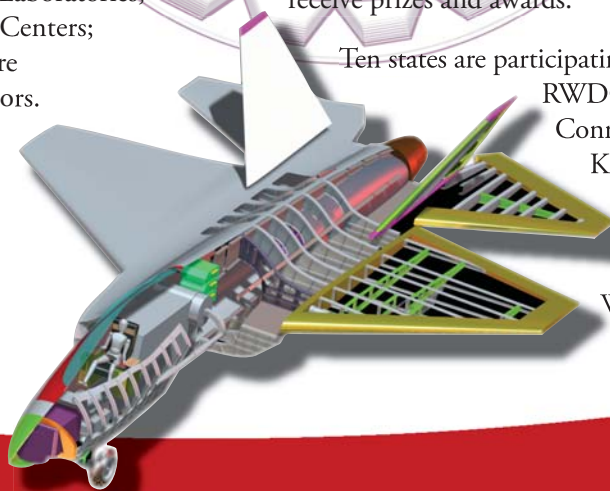
Professional scientists and engineers from the U.S. Department of Energy National Laboratories; Federal Aviation Administration Centers; industry; and higher education are available for recruitment as mentors. These professionals will provide guidance based on their own areas of expertise.

~ This Year's Challenge ~

Each year, the State level RWDC will present students with an opportunity to create solutions to a problem faced by one of our Nation's leading industries. The **2009 State Challenge will address fuel efficiency in aviation.** Student teams will spend several months generating solutions to the Challenge. Teams will utilize engineering design software, collaborative web-based tools, and the expertise of scientists and engineers. Solutions to the Challenge will be submitted in February 2009.

A winning team from each participating state will be invited to compete in the RWDC National Challenge. The Department of Energy will host the RWDC National Event in Washington, D.C., on March 20 – 22, 2009. The top national winners will receive prizes and awards.

Ten states are participating in the 2009 RWDC competition—
Connecticut, Hawaii,
Kansas, Massachusetts,
Minnesota, Oklahoma,
Pennsylvania,
Vermont, Virginia, and
Washington.



2009 Challenge – Fuel Efficiency in Aviation

Questions? Contact us at rwdcquestions@science.doe.gov

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Real Tools
Real Roles
Real Problems
Real Contributions