Building an Innovative Workforce for the 21st Century

The RWDC is a prime example of government, private industry, and educators working together to keep our workforce the best in the world. It aligns secondary education with technical workforce needs. Students learn innovation, creativity, and collaboration, using the expertise that industry and government have 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 students with the potential to make a substantive contribution to a real problem facing industry.

Real World Design Challenge Partners

Partners represent federal agencies, state governments, industry, and private educational organizations.

Additional Information

http://www.realworlddesignchallenge.org

What Is the Real World Design Challenge?

The Real World Design Challenge (RWDC) is a public-private partnership aimed at sustainably increasing the Science, Technology, Engineering, and Mathematics (STEM) workforce in the long term. The RWDC provides high school students in grades 9–12 the opportunity to work on real world engineering challenges in a collaborative, team-based environment applying the lessons of the classroom to the technical problems of the workplace. The partnership is dedicated to bringing professional tools and resources to students and providing real world engineering experiences in which they can apply science and mathematics principles. Each year, student teams are asked to address a real challenge that confronts our nation’s industry.

The Challenge is designed by professionals from industry, academia, and government. Students develop solutions and winners are announced at a state awards ceremony. Each state’s winning team gets to compete at the National Challenge event in Washington, D.C. at which they present their solution to the National Challenge to a panel of judges and a National Winner is chosen.
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 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.

**About the Real World Design Challenge**

**Training:** Instructor led training and web-based training is provided.

**Science, Math, and Engineering Mentors:** Mentors are provided by Federal Laboratories & Centers, industry, and higher education.

**Real Problem:** The Challenge problem is defined by industry.

**Real Tools:** Industry donates $1 million in professional engineering software to each teacher.

**Real Roles:** Student teams are built around real industry roles such as project manager, scientist, engineer, and community relations and marketing.

**Real Contributions:** Students contribute innovative solutions to real industry design problems.

**Real Coaching**

A 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, teachers or coaches are not required to have a technical background to participate. Training is offered to teachers/coaches in how to use computer-aided design (CAD) software and other aspects of the program. Workshops help teachers/coaches understand the software and apply the tools to teach design and global engineering.

**Real Mentors**

Professional scientists and engineers from the National Laboratories, Federal Aviation Administration, industry, and higher education are available on the RWDC Web site for recruitment as mentors. These professionals provide guidance to students and support to teachers. They provide content knowledge and experience to supplement the teachers’ expertise. Students are also assisted by the mentors who advise them on the principles and application of science, mathematics and engineering in development of their solutions to the challenge.

**State Participation**

Students from across the United States and US territories have participated in the Challenge. The Challenge is open to students from anywhere in the United States.

**Get Involved on RWDC Web site**

To get involved, simply go to our website: www.realworlddesignchallenge.org.

**The Challenge**

Each year, the State level Challenge will present students with an opportunity to create solutions to a problem faced by one or more of our Nation’s leading industries. Student teams will spend several months generating solutions to the Challenge. Solutions to the Challenge are submitted in January. A winning team from each participating state will be invited to compete in the RWDC National Challenge. The National Event is held in Washington, D.C., in April. The top National Winners will receive prizes, scholarships, awards, and recognition from leaders in government, industry, and higher education.

**Real World Design Challenge Web site:**

http://www.realworlddesignchallenge.org