DS SolidWorks Sells Millionth Education License

by Jeff Rowe - Contributing Editor

Each period (about twice a month) MCAD Weekly Review delivers to its readers news concerning the latest developments in the MCAD industry, MCAD product and company news, featured downloads, customer wins, and coming events, along with a selection of other articles that we feel you might find interesting. Brought to you by MCADCafe.com. If we miss a story or subject that you feel deserves to be included, or you just want to suggest a future topic, please contact us! Questions? Feedback? Click here. Thank-you!

Dassault Systèmes (DS) SolidWorks Corp. today announced that one million SolidWorks® design software licenses have been purchased by educational institutions. Many millions of students at these institutions have fuelled their studies in science, technology, engineering, and math, and gone on to obtain rewarding careers in the design and engineering community.

The roster of premier institutions using SolidWorks spans all continents and includes: MIT (USA), Indian Institute of Technology Delhi (India), Politecnico di Torino (Italy), Tokyo Metropolitan Rokugou Technical High School (Japan), Universidad del Valle de Mexico (Mexico), University of Cambridge (UK), RENATESENERET (Norway), Tsinghua University (China), University of Manitoba...
(Canada), University of South Australia (Australia), The University of Applied Sciences Stralsund (Germany), and Lycée Technique Privé Saint Etienne (France).

“We want our students learning and applying science and engineering, not struggling with unnecessarily complex software,” said industrial engineering professor Andrés-Amador García Granada, Ph.D., of the IQS-URL engineering university in Barcelona. “SolidWorks gives students all the capabilities a professional engineer needs - including uniquely integrated Simulation software that we use to teach statics, dynamics, thermal problems, elasticity, and fluid-dynamics - in the most intuitive package available. As a result, students start learning sooner, learn more over time, and graduate better prepared for their careers. At IQS, 70 out of 150 students obtained a Certified SolidWorks Associate (CSWA) certification as a common requirement to start working on a final-year project for industry.”

Many students combine their learning with competition. “SolidWorks helps us continuously refine our 'Thunderstruck' robot's design for the Battlebots IQ competition, blending the best of offense, defense, weight, material strength, and sheer destructiveness,” said Senai Andai, 20, a junior-year mechanical engineering student at the University of Texas at Arlington (UTA). “The integrated SolidWorks Simulation software and intuitive user interface help us apply classroom theory to hands-on design, manufacturing, and 'field testing.' This is invaluable preparation for our futures as engineers.”

DS SolidWorks backs up its software with rich educational resources, including:

- **Robotics Tutorials** that introduce basic concepts of robot design from one's first part to a complete assembly;
- **SolidWorks Teacher Blog** for educators at all levels who use SolidWorks software for design and engineering instruction;
- **Anytime, anywhere access to SolidWorks**, including on student laptops and home computers;
- **Competitive opportunities** in Formula One-style racing, robotics, solar cars, and much more;
- **Instruction in sustainable design**, a discipline gaining prominence among designers and or engineers; and
- **Certification** to demonstrate solid design skill sets to first employers.

“Our software is packed with all the sophisticated capabilities that professional engineers use,” said Marie Planchard, director of world education markets for DS SolidWorks. “We think it's important that students have easy access to these capabilities so they can bring the advantage of experience to their internships and entry-level positions.”

DS SolidWorks' contribution to engineering education also includes a long list of sponsorships. One recipient is Assabet Valley (Mass.) Regional Technical High School, featured in the latest episode of the DS SolidWorks Web-based reality show, Let's Go Design. Students there are gearing up for competition in the National Robotics League using a robot they not only designed and assembled, but for which they machined the parts.
Pittsburg State University in Kansas has purchased 1,000 licenses of SolidWorks® software to help students more aggressively tackle engineering challenges and prepare for their careers.

The new licenses for the first time give every engineering technology student anytime, anywhere access to powerful design, analysis, data management, and sustainability software. The SolidWorks Education Edition software includes professional-class tools for stress, strain, fluid flow, and thermal simulation. Since students now have SolidWorks on their own laptops and PCs, they can eliminate late-night treks to the campus computer lab. The investment thus expands access to the software that Pitt State students find easiest to learn and their future employers favor.

“SolidWorks is now our standard for introducing first-year students to computer-aided design,” said Greg Murray, assistant professor of mechanical engineering technology. "I've taught other CAD products for years and have found SolidWorks much easier to use, much more intuitive, and much more effective in making students productive sooner. They're eating this stuff up rather than asking for help. SolidWorks has helped our students keep up with leaders in industry, and prepare for a rewarding future."

The Pittsburg, Kan., university expanded access to SolidWorks after the department of engineering technology surveyed area manufacturers and industry representatives on its advisory board. SolidWorks was found to be the most widely used 3D design software among prospective employers. It was also the most frequently sought background in online job sites like CareerBuilder.com®. This research, conducted by Murray and Engineering Technology Chairman Tim Thomas, was presented to the 2010 Midwest Section Conference of the American Society of Engineering Education.

“[SolidWorks software] appears to be widely used in several areas of industry, and has been quickly gaining market share,” says the report. “It is user-friendly software with great tutorials and also has an excellent analysis tool. SolidWorks also offers a series of certification exams that can be integrated into our curriculum and used as an assessment tool for our ABET accreditation.”

Although students and professors can generally use any software they choose, and they’re encouraged to try them all, they are steadily gravitating toward SolidWorks. One important factor driving adoption, Murray explained, is the integrated simulation: "Students are converting models from other software products into SolidWorks so they can test them for stress, strain, fluid flow, thermal flow, and other real-world conditions. SolidWorks Simulation software gives them the answers they're looking for."

Simulation software is a key part of the students' work developing vehicles for engineering competitions such as Formula SAE, NASA's Great Moonbuggy Race, and SAE Baja.

“SolidWorks makes it easy to develop the frame, from sketching the wireframe in space, transforming lines into pipes, assessing the mass, and performing simulations to optimize performance and safety,” said senior Tyler Farmer of the Formula SAE team. “We don't want to race a tank, so the car has to be as light and sleek as it can be but also withstand forces from wind, cornering, acceleration, deceleration and potential rollover. The tutorials in SolidWorks and online have really helped."

(Pitt State has been selected as host site for the 2011 Baja SAE Kansas
engineering design competition, which will bring thousands of competitors and spectators to the city of Pittsburg next spring.)

Students in Pittsburg State's part design and mold design courses take advantage of SolidWorks' powerful embedded mold tools, according to Paul Herring, associate professor of plastics engineering technology. These tools enable students to easily design snap fits and lip-and-groove joints; check draft and wall thickness; create parting lines, parting surfaces, shutoff surfaces, mold cavities, and mold cores; and, via macros, build mold bases in a single click with all required screws, nuts, pins, bushings, and plates.

“Although the consensus is that SolidWorks is easier to use and learn all around, there's no arguing about the breadth of the mold tools,” Herring said, noting that his students have used them in creating thermoformed waterproof cases, water conservation systems, and a hands-free device for removing surgical gloves.

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--- Jeff Rowe, MCADCafe.com Contributing Editor.

Rating: ★★★★★

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