Solid Edge University: The Indy 500

CIMdata Commentary

Key takeaways:

- *Siemens PLM Software's Solid Edge team delivered more than 75 hands-on training and end user presentations to help educate and inspire their user base*
- *Siemens PLM Software announced the "Solid Edge for Startups" program which offers qualifying businesses one year of free access to Solid Edge software*

On October 26, 2016, Mr. John Hayes, CEO of Engineering.com, the digital media publishing company, played host of Siemens PLM Software's Solid Edge University 2016 in Indianapolis, Indiana. Mr. Hayes directed his welcome to the approximately 500 attendees in the city famous for the Indianapolis 500 automobile race. The annual Solid Edge University brings together Solid Edge users, partners, and staff in a two-day educational atmosphere of over 75 presentation and hands-on sessions to present new product capabilities and best practices under the theme "Expand Your Horizons."

The opening keynote address was delivered by Mr. John Miller, General Manager and Senior Vice President, of Mainstream Engineering Software at Siemens PLM Software. Mr. Miller highlighted the many challenges design engineers face today. Based on their research in speaking with their user base, he noted 49% voiced that the need to rapidly create initial product designs was a significant concern. In addition the users reported that working with CAD data from vendor solutions other than Solid Edge was their number one challenge. Further, 95% reported that dealing with late changes was an issue in their company. CIMdata can concur having heard these same problems voiced by design engineers across the industry.

Mr. Miller noted that Solid Edge University offered users the opportunity to attend more than 75 presentation and training sessions to learn from both Solid Edge staff and key end user companies. He then took a few moments to introduce Mr. Tony Hemmelgarn, the new President and CEO of Siemens PLM Software. Mr. Hemmelgarn used the opportunity to present Siemens PLM Software's high level product strategy, the technological forces transforming the industry (Figure 1), and how Solid Edge fit into the Siemens suite of product development tools.

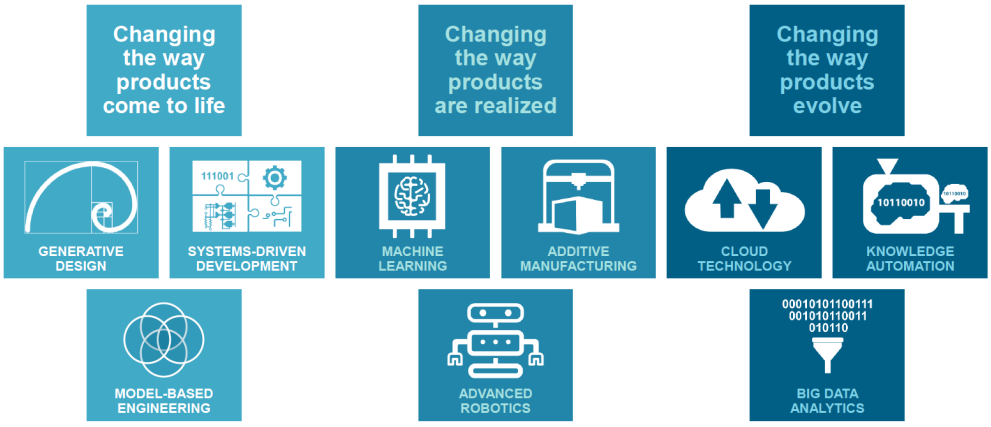

Figure 1—Technological Forces Transforming the Industry
(Courtesy of Siemens PLM Software)

Three short end user keynotes focused on a transportation theme. First on stage was Mr. David Cullimore, a young twenty-three year old Design Engineer at motorsport company Prodrive,[1] whose dream was to become a race car designer, but did not have the math grades to get into engineering school.[2] His career path led him to become an industrial designer. Following a dream to expand his horizons, he founded Cullimore Racing in 2012, to compete in the F24+ category of Greenpower Education Trust races.[3] With their car "Jet" (designed in Solid Edge), Cullimore Racing won the F24+ National Championship in both 2013 and 2014.

Next up was Mr. Jerry Zaiden, President of Camburg Engineering, Inc.[4] and off-road driver at Camburg Racing with the story of his company's rise from a start-up in a California garage.[5] Today Camburg Engineering is a leader in off-road suspension systems and is at the forefront in technology and design. Underlying their journey has been the use of Solid Edge. See Figure 2.

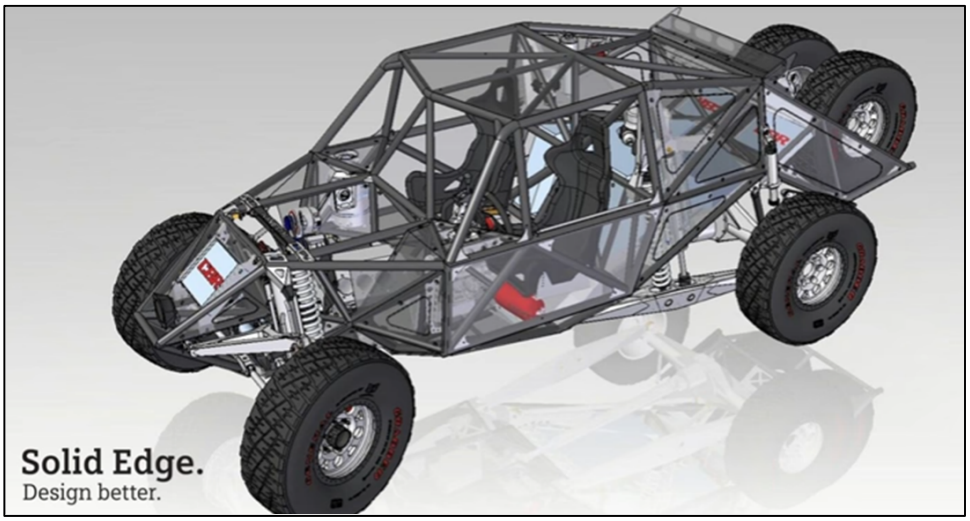

Figure 2—Camburg Design Using Solid Edge
(Courtesy of Camburg Engineering, Inc.)

Rounding out the end user keynotes was Mr. Justin Fishkin, Chief Strategy Officer at Local Motors.[6] Mr. Fishkin presented several examples of how Local Motors has decentralized the development, production, and commercialization of vehicles, combining open co-creation with local micro-manufacturing to bring hardware innovations to market including olli, a neighborhood mobility solution (Figure 3).[7]

1 See: http://www.prodrive.com/.

2 See: https://www.youtube.com/watch?v=JkXWKNIPjNA&index=1&list=PL1m1vu8_quoDiEEiF1jMmr_YbW7N7Tre4 for the full presentation.

3 The Greenpower Education Trust's objective is to advance education in the subjects of sustainable engineering and technology to young people. For more information, see http://www.greenpower.co.uk/.

4 See: https://camburg.com/

5 See: https://www.youtube.com/watch?v=GIQj3pcwsok&list=PL1m1vu8_quoDiEEiF1jMmr_YbW7N7Tre4&index=2 for the full presentation.

6 See: https://localmotors.com/.

7 See: https://www.youtube.com/watch?v=cu7DvDOq8FY&list=PL1m1vu8_quoDiEEiF1jMmr_YbW7N7Tre4&index=3 for the full presentation.

Figure 3—Local Motor's olli
(Courtesy of Local Motors)

Mr. Dan Staples, Vice President, Mainstream Engineering Software, then took center stage to present a number of important enhancements found in the current Solid Edge ST9 release made available in July 2016. He highlighted what Siemens calls "cloud-enabled design" which is manifested by a floating cloud Solid Edge license and personal settings that allow a design engineer to work with their product model "on their own terms" from any web enabled location. The capability, however, is still file based and requires the user to move the product design database using a cloud-based data storage tool such as Dropbox or Google Drive.

Mr. Staples outlined a number of Solid Edge enhancement in the category of "fast and flexible 3D modeling." He referenced an improved user interface and high resolution monitor support. The enhancements list included improved multi-body support and creating threaded hole features from threaded shaft Booleans. One new capability that impressed CIMdata was "Solid Sweep"—the ability to take a solid body and sweep it. The user defines a tool body and a sweep path and the tool body rotates as it sweeps. (Figure 4) Siemens notes that the operation can be used to simulate milling.

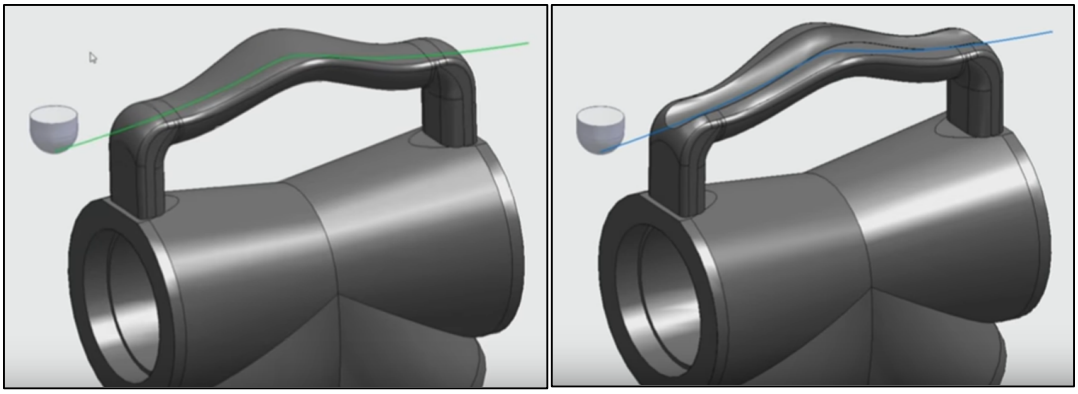

Figure 4—Sweeping a Solid Shape Across the Handle—Before and After
(Courtesy of Siemens PLM Software)

Mr. Staples third topic was "Scalable data management" covering the range of data management tools: from those embedded within Solid Edge up to the full use of Teamcenter, Siemens PLM Software's premier data management solution.[8] He also presented the new, official "Move to Solid Edge" data migration tool for past users of their competitor SolidWorks.

[8] See: CIMdata White Paper "Solid Edge Data Management: Increasing Productivity with Teamcenter Integration" at www.CIMdata.com .

It includes the migration of 2D drawings fully associative to the 3D model. While an obvious leverage tool to entice SolidWorks users to move, CIMdata recognizes the benefit such a tool provides those transitioning end users. Too often, a CAD solution provider fails to offer assistance to their users in moving to a new application.

Over the course of the two-day conference, two end user presentations stood out in CIMdata's view. The first was from Mr. Ryan M. Spoering, Ph.D., of Lab Machinist Solutions,[9] who spoke on the topic of "Bringing CAD to Life Science Innovators." Dr. Spoering's stated premise is that innovation-minded scientists lack the necessary custom tools to advance their research and lack the knowledge to design those tools. The goal of Lab Machinist Solutions is to promote custom toolmaking in the life sciences. He noted that the most fun tasks were working on cutting edge problems that required creative new tools; the most common tasks, however, were simple process optimization problems requiring simple new custom tools. The second end user presentation that impressed CIMdata was from The Musculoskeletal Transplant Foundation (MTF), a non-profit service organization dedicated to providing clinically sound, safe allograft tissue.[10] Representatives presented the process they follow to take donated human bone, cut, and then machine it to fit custom requirements for surgical bone replacements using Solid Edge to guide the progression.

On the final day of Solid Edge University, Siemens PLM Software announced the "Solid Edge for Startups" program which offers qualifying businesses one year of free access to Solid Edge software. The program is initially available in the US and the UK. Mr. Ian Henderson, COO of SkyBridge UAS, one of the Solid Edge Startup program participants, said, "One of the largest struggles of a startup is obtaining adequate funding—and engineering, specifically enabled by a CAD tool, is the cornerstone of bringing the concept to reality. What Siemens has done with their Solid Edge product is revolutionary." CIMdata applauds programs such as this which encourage innovation in the industry.

In CIMdata's view the Solid Edge University 2016 conference served the purpose of both educating and inspiring the Solid Edge users in attendance. The range of hands-on training sessions and innovative, thought provoking end user presentations combined to raise the awareness of the attendees to "Expand their Horizons."

About CIMdata

CIMdata, an independent worldwide firm, provides strategic management consulting to maximize an enterprise's ability to design and deliver innovative products and services through the application of Product Lifecycle Management (PLM). CIMdata provides world-class knowledge, expertise, and best-practice methods on PLM. CIMdata also offers research, subscription services, publications, and education through international conferences. To learn more about CIMdata's services, visit our website at http://www.CIMdata.com or contact CIMdata at: 3909 Research Park Drive, Ann Arbor, MI 48108, USA. Tel: +1 734.668.9922. Fax: +1 734.668.1957; or at Oogststraat 20, 6004 CV Weert, The Netherlands. Tel: +31 (0) 495.533.666.

[9] See: www.labmachinist.com .

[10] See: www.mtf.org .