

SolidWorks World 2015: Designing in the Age of Experience

CIMdata Commentary

Key takeaways:

- *Dassault Systèmes' continues to evolve and clarify their 3DEXPERIENCE Platform message to the SolidWorks user community*
- *Dassault Systèmes' announced a multi-dimensional solution delivery model for SolidWorks users—one that continues the desktop delivery of design capabilities, one that delivers new capabilities via the 3DEXPERIENCE Platform, and one that is a hybrid model that includes a combination of both*
- *An intriguing set of keynotes set the stage for heated discussion and debate about the future of design*

The 17th annual SolidWorks World conference was held February 8-11, 2015 at the Phoenix Convention Center in Phoenix, Arizona, USA. A large and enthusiastic crowd of approximately 5,500 SolidWorks users attended the conference.

Like past SolidWorks World conference's, Mr. Bertrand Sicot, former CEO of SolidWorks and now Dassault Systèmes' Vice President of Sales of Value Solutions, kicked off the event. He welcomed the crowd and the other one thousand attending remotely. He also thanked the 2.8 million SolidWorks users globally (another 2 million education licenses) and briefly introduced two new SolidWorks products—SolidWorks Inspection and Model Based Definition. Finally, he commented how SolidWorks users now have two 3DEXPERIENCE Platform solutions available to them—SolidWorks Conceptual Design and SolidWorks Industrial Design. While they were both mentioned at last year's event, SolidWorks Conceptual Design, which has been released, had a name change and current adoption levels appear to be low, and SolidWorks Industrial Design is in a customer lighthouse phase. The apparent underlying message in all of this was Dassault Systèmes' desired expansion of the 3DEXPERIENCE Platform into the SolidWorks' user community.

Mr. Bernard Charlès, CEO of Dassault Systèmes, further expanded on this in his presentation that focused on Dassault Systèmes' vision related to the use of the 3DEXPERIENCE Platform and its support of design in the age of experience. A theme that was echoed by Mr. Gian Paolo Bassi, SolidWork's new CEO, and Ms. Monica Menghini, Chief Strategy Officer at Dassault Systèmes, as well as many of the keynote speakers. Mr. Bassi articulated Dassault Systèmes' strategy as one that embraced the future as well as their rich legacy. He stressed the growing need for a true innovation platform and how SolidWorks is committed to providing 3DEXPERIENCE Platform and desktop-based solutions. He summarized SolidWorks approach as one encompassing the delivery of design solutions on the desktop, Dassault Systèmes' 3DEXPERIENCE Platform as well as hybrid solutions that integrate and leverage both. He pointed to the fact that SolidWorks users already have access to the platform from within SolidWorks and that this capability socially connects them with other SolidWorks users.

Ms. Menghini expanded on the platform and connectivity topic during her keynote by describing how designers have to transform the way they think about products. As she stated, "products are no longer enough, we all buy experiences." The natural conclusion is that SolidWorks' designers have to become more "experience thinkers." Ms. Menghini stressed that social interaction does and will play an increasingly important role in the age of

experience. She also stressed that design will transform into “eclectic tribe” directed efforts where individual performers will be socially integrated, and where innovation requires social interaction that is enabled by the 3DEXPERIENCE Platform. It was interesting to note that she commented that they have chosen to keep developing the traditional SolidWorks desktop, but place a priority on cloud development so that the 3DEXPERIENCE Platform and its capabilities will be available to all SolidWorks users. She also stressed that the platform will become inclusive and interoperate with tools offered by other solution providers. This is a strong indication of how, over time, the 3DEXPERIENCE Platform will become Dassault Systèmes’ primary solution delivery mechanism. This doesn’t necessarily mean that the SolidWorks desktop solution known and loved by its millions of users is going away, but it does probably mean that users will face a growing challenge or perhaps opportunity to enhance their design capabilities through the adoption of additional 3DEXPERIENCE Platform enabled capabilities. This will no doubt require the SolidWorks’ user community to evolve its thinking and attitude about the desktop.

The Dassault Systèmes executive-delivered presentations were intermingled with an eclectic mix of keynote presenters, including Mr. Bre Pettis, Chief Innovation Officer, Bold Machines and former CEO of MakerBot Industries; Dr. Michio Kaku, professor of Physics at the City University of New York; and Mr. Jinsop Lee, Industrial Designer and Chief Globalization Officer, Linno, Seoul, South Korea. Each one providing interesting insights into the future of design.

Mr. Bre Pettis presented his thoughts on the next industrial revolution: 3D printing and how it is pushing into new frontiers—a common theme these days throughout the PLM economy. In many ways, Mr. Pettis has been a leader in the DIY movement. His comments were inspiring and included a strong community message. He challenged the audience on numerous occasions and encouraged everyone to educate our daughters to be engineers and designers. He also commented, that “school is dead, long live education.” His point was that we have to change how we educate, train, and inspire young people.

Dr. Michio Kaku, the famous theoretical physicist, author, professor, and popularizer of science gave a stimulating and thought provoking talk on how technology will change our lives. Dr. Kaku’s vision for the future included how technology will be embedded in everything, including our wallpaper. He explained that in the future we will be able to go up to our wallpaper and ask a question about anything and an expert opinion will be provided. He commented that we will wear contact lenses that will provide access to data about everything we need to know. That by looking at someone these lenses will recognize them and provide data on that person (e.g., name). He spoke about how we will imagine something and it will be printed. He also emphasized how the Internet will be everywhere and nowhere. It will be like electricity—always there, but never thought about.

In the third main stage keynote, Mr. Jinsop Lee presented his view on designing for the five senses (i.e., sight, sound, smell, touch, and taste). Mr. Lee articulated his thesis that when designing an experience (or product) we need to design for the senses. He argued that experiences that rate high across all senses are more valued than those that don’t. His thesis, popularized by his TED talk, is very interesting when considering Dassault Systèmes’ stress on the development of experiences and not products. While his approach to rating an experience against a human’s five senses is somewhat subjective, it was compelling and thought provoking.

Like past years, SolidWorks’ executives also took the time to introduce a list of new features and major solution enhancements. Two notable enhancements were SolidWorks Model

Based Definition (MBD) and SolidWorks Treehouse. SolidWorks MBD is an integrated drawingless manufacturing solution. SolidWorks MBD allows SolidWorks users to communicate product and manufacturing information (PMI) directly in the 3D model, bypassing time-consuming 2D processes, and eliminating potential problems (e.g., miss reading the model and/or drawing). While many SolidWorks user companies will probably still require drawings, this new capability should remove most of the need to do so. SolidWorks Treehouse is an assembly structure planning tool embedded in SolidWorks. The tool allows SolidWorks users to plan how their assembly will be arranged before they actually start designing. SolidWorks Treehouse enables users to name their components, drag in existing designs, create configurations, and add custom properties all before doing any new design. This tool provides some of the flexibility desired by designers and allows them to have more free-flowing ideas as they begin their creative design process. In all, SolidWorks 2015 includes more than 200 new features and enhancements, and according to SolidWorks, 90 percent of them were the direct result of requests and other feedback from end users.

Additionally, Mr. Neil Cooke, SolidWorks Portfolio Introduction Director, provided a look at SolidWorks Conceptual Design 2016, formerly SolidWorks Mechanical Conceptual. With this release of SolidWorks Conceptual Design, Dassault Systèmes has enhanced the Cloud-based solution delivered via the 3DEXPERIENCE platform. SolidWorks Mechanical Conceptual as been designed to deliver a design experience focused on enabling users to create products in a highly connected and collaborative environment. Dassault Systèmes also announced SolidWorks Industrial Design, also delivered via the 3DEXPERIENCE platform. This design tool allows users to quickly generate multiple industrial design concepts in response to a design brief. It offers functionality for the rapid creation, manipulation, and modification of designs using native and imported geometry. There was some chatter during the show that these solutions are being released in response to Autodesk's introduction of Autodesk Fusion 360. There is probably some truth to that, but it is more likely an indication of Dassault Systèmes' long-term strategy for SolidWorks and its 3DEXPERIENCE platform.

Finally, the conference included demonstrations of some key new SolidWorks features and numerous break out sessions where customer stories from multiple industries ranging from industrial art and medical devices to consumer electronics and renewable energy solutions were presented. The event also offered hundreds of technical training sessions, many of which included hands on time, and a sizable "Partner Pavilion," which featured more than 100 hardware and software providers who work with SolidWorks (e.g., PLM and PDM solution providers, implementation partners, manufacturers of 3D printers, compute platforms, CAM solution providers, and others).

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