

PTC's LiveWorx 2018

CIMdata Commentary

Key takeaways:

- *In 2018, PTC established strategic relationships with Microsoft, ANSYS, and Rockwell Automation to expand its ability to deliver full product lifecycle solutions.*
- *The relationship with ANSYS significantly strengthens PTC's capabilities in simulation and analysis while the Rockwell relationship should deliver greatly expanded shop floor/production integration with their PLM and IoT solutions.*
- *PTC continues to build out their ThingWorx IoT platform, which they now term an "Industrial Innovation Platform." This reflects a deliberate strategy to focus on the smart factory and services as providing the most tangible and value-demonstrating use cases for IoT.*
- *PTC consolidated all its augmented and virtual reality (AR and VR) solutions under the Vuforia brand.*

CIMdata attended PTC's LiveWorx 2018, held in Boston June 17 through 20, 2018. LiveWorx continues to grow as more and more individuals and companies—manufacturers, service and maintenance providers, technology solution developers, systems integrators, consultants, and others—want to learn more about PTC's expanding product suite and its new partnerships. According to PTC, there were over 6,100 individuals from 41 countries in attendance at LiveWorx 2018 with another 4,000 plus logged in to live streaming sessions. Additionally, LiveWorx 2018 had over 80 sponsors and 550+ presenters at over 200 breakout sessions that covered the entire PTC solution suite. The Xtropolis/X-Factory exhibition covered 150,000 square feet with more than 100 exhibitors who provided attendees the opportunity to talk with PTC partners, and to see and learn about the partners' and PTC's technologies and solutions. CIMdata was among almost 200 analysts, press, and media representatives covering the event.

Mr. James Heppelmann, PTC's President and CEO, kicked off the event by describing how the "Pace of Change" was accelerating and that PTC had adopted the mindset of **Prepare To Change**, jokingly replacing the legacy of the PTC acronym as "Parametric Technology Corporation." Throughout the course of his keynote, he introduced three strategic relationships that PTC has established during 2018—ANSYS, Microsoft, and Rockwell Automation—and invited leaders from each of these organizations to join him on stage and discuss business challenges, why they joined PTC as a partner, what benefits customers should receive as a result, and participate in demonstrations of what the relationship can deliver. He stated that the objective of these relationships is to enable PTC to establish a unified, lifecycle environment.

The new ANSYS relationship significantly strengthens PTC's competitive position and offerings in the simulation and analysis domain. ANSYS is bringing their Discovery Live simulation capabilities into PTC's Creo MCAD offering. Branded Creo Simulation Live, this new combined offering puts ANSYS' simulation tools in the hands of designers. It is embedded within the Creo design modeling UI. As the designer edits the geometric model, they are presented with an almost real-time simulation display within the evolving assembly. Mr. Heppelmann stated that this is a major competitive step in design capability that will help drive Creo sales, a sentiment with which CIMdata agrees.

CIMdata thinks that embedding ANSYS' Discovery Live within Creo will make Creo more attractive to existing and prospective customers. It will provide the capability to move toward

real-time simulation as designers work—significantly advancing the simulation-driven design paradigm. According to PTC, the Creo/Discovery Live integration should be available in Creo V6 general release by the end of 2018. They are also planning to make the integration available on Creo V4 and V5 to support current customers without requiring them to migrate to Creo V6. CIMdata hopes that PTC will look more broadly at the full ANSYS portfolio to support the development of smart, connected products.

The Rockwell Automation announcement was a blockbuster. Over the last several years, PTC has relied on their GE partnership to provide a factory floor link. In a Q&A session, Mr. Heppelmann stated that with GE reducing their focus on GE Digital the partnership was not as active as they had hoped and the relationship with Rockwell gives them a very motivated partner. As stated in the press release, the companies will tightly link Rockwell's shop floor products with PTC's ThingWorx, Kepware, and Vuforia offerings. CIMdata believes this will better position PTC to address the trend toward integrating operational technology (OT), like that found on the shop floor, with information technology (IT) like PLM and IoT, a connection that PTC is already supporting using elements of ThingWorx to more seamlessly link their offerings with other enterprise IT systems of record.

CIMdata believes the relationship with Rockwell is an excellent move by PTC as it will enable them to provide much more comprehensive factory solutions for their customers. PTC will be able to leverage Rockwell's sales organization of over 1,000 sales teams, as well as integrate PTC's IoT, AR, and PLM solutions with Rockwell's operational technologies. During the Q&A session, Mr. Heppelmann stated that this relationship was primarily about ThingWorx and IIoT and how the IT and OT capabilities of each partner can be complemented and leveraged.

The Microsoft partnership, originally announced in January 2018, expands PTC's cloud delivery and IoT options. According to Mr. Rodney Clark, Vice President of IoT and Mixed Reality at Microsoft, Microsoft recently announced their intention to invest \$5 billion on IoT. As part of the partnership, PTC will better align their Windchill, IoT, and VR offerings with Azure (the Microsoft cloud), and Microsoft Dynamics 365 (Microsoft's cloud-based enterprise offering). Microsoft has a strong cloud services presence with Azure and this should make PTC's Windchill cloud offerings more attractive. It can also help PTC better deal with the volumes of data gathered and processed by their IoT offerings.

Mr. Heppelmann also demonstrated the use of WayPoint (another recent PTC acquisition) that enables users to dynamically create work instructions using AR technology. CIMdata thinks that PTC is providing new ways to leverage both its IoT and AR solutions to give their customers expanded capabilities and deliver value across the product lifecycle.

During a luncheon with analysts and media, Dr. Linda Hill, the Wallace Brett Donham Professor of Business Administration, Harvard Business School, delivered a presentation on "Building a Culture of Innovation" and she discussed the difference between innovation and leadership. She described many insights as to how to create cultures of innovation, things to avoid to achieve them, and how true leaders enable their organizations to develop a culture of innovation and succeed in today's evolving marketplace. She also presented how to avoid the top 10 cultural barriers that impede innovation including:

- Don't define innovation as being the province of the "few"
- Don't let fear of failure stop experimentation and learning
- Don't forget to dream
- Don't let financial metrics crowd out ambition

CIMdata was impressed with her discussion and believes that her insights can help all of us lead more effectively while fostering innovation.

In a Q&A session for analysts and media, Mr. Heppelmann, Ms. Kathleen Mitford, EVP Products, and Mr. Matt Cohen, EVP Operations, answered questions and provided additional information regarding the new relationships, PTC's on-going business, as well as future plans and activities. Mr. Heppelmann indicated how important ThingWorx and IoT are to PTC when he stated that the IoT business represents 25% of sales (equivalent to their PLM sales in 2018) and it is expected to exceed CAD sales in the 2020 timeframe. He also stated that AR sales exceeded \$20 million and were growing at 100% per year. CIMdata thinks these results show how effectively PTC has made and used their acquisitions and partnerships.

PTC also hosted a panel of six user companies in which each described their use of IoT and AR technologies to create new business models and processes. The presenters provided their top tips on how to implement IoT. While each had a slightly different focus, all had the following in common: think big but start small, then move fast to get rapid wins that provide real business value. CIMdata agrees with these tips and believes that they also apply to implementing a robust PLM strategy.

LiveWorx was an exciting event that showcased PTC's commitment to helping their customers create, deliver, and operate new smart connected products and systems. That excitement was reflected in the interest and energy of the 6,000 plus attendees. In what CIMdata thinks is a very positive move, LiveWorx is no longer primarily focused on just IoT. Many sessions focused on PTC's other products and technologies (i.e., CAD, MBD, PLM, etc.), demonstrated that PTC continues to build out their broad PLM suite of solutions to better address the full product lifecycle. CIMdata thinks that the relationships with ANSYS for simulation and analysis, and Rockwell Automation for smart factory solutions are great steps that represent significant value and opportunities for their customers. Finally, PTC continues to maintain its position on the forefront of IoT and AR development and adoption, and CIMdata thinks this will continue to bring new capabilities and value to PTC, ANSYS, and Rockwell Automation and their customers.

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.