

The Opportunity of Better: Autodesk University 2018

CIMdata Commentary

Key takeaways:

- *Autodesk has just about completed their business model transition from perpetual licensing to subscription.*
- *“The future of making” is still central to their vision, with automation and augmented reality/virtual reality (AR/VR) playing significant roles.*
- *Autodesk sees the Architecture, Engineering, and Construction (AEC) market as a huge manufacturing opportunity in the next 10 years.*

CIMdata had the pleasure to attend Autodesk University 2018 (AU 2018), held in Las Vegas, NV on November 12-15, 2018. Over 11,000 attendees could gorge on over 650 classes, many presentations, and other sessions. Autodesk also stated that thousands of others attended AU 2018 online.

AU 2018 finds Autodesk a much different company than in previous years. Completing his first full year as CEO, Mr. Andrew Anagnost has seen Autodesk nearly complete their financial resurrection from the trough created by their 2016 move to subscription-based licensing. Based on comments from Autodesk executives the company is now much younger than it was, with more than half the company filled with people with 5 years or fewer at Autodesk. But in some ways Autodesk is the same. In his keynote address, Mr. Anagnost put a new spin, “The Opportunity of Better,” around their commitment to transforming the way people design and make things, a message that has been consistent from Autodesk for the last several years. Better, in this case, refers to the opportunity for companies to improve how they work and to create enhanced products using the technologies Autodesk provides. But in his remarks Mr. Anagnost added a new emphasis on how automation is central to this vision. When most people see the word “automation” they think factories populated by robots, but Autodesk is riffing on their work in generative design, looking to automation to help users explore design options early, choosing those that best meet the stated requirements to share with downstream stakeholders. Effectively sharing this information and collaborating through the lifecycle puts their customers’ data at the center of their vision, as highlighted in Figure 1. This graphic is also interesting because of its evolution over the last few years. Autodesk picked up on the product innovation platform definition that CIMdata and other leading market analyst firms proposed several years ago, with the first version of the graphic showing Fusion 360 at the center. While the Fusion branding has worked well for Autodesk, this graphic could be interpreted to leave out Autodesk Inventor, their flagship 3D mechanical computer-aided design (MCAD) product. In 2015, the graphic was changed to put an Autodesk logo in the center, and now the newest version, shown in Figure 1, is product-less, which CIMdata agrees is a better message. It is the data that is important and that data can come from many applications in today’s extremely heterogeneous PLM environments. This is Autodesk’s take on the digital thread, messaging adopted by almost all PLM solution providers and many others in neighboring enterprise segments.

Mr. Anagnost later ceded the stage to Mr. Scott Borduin, recently named Autodesk CTO, a position he previously held from 1999 to 2005. Mr. Borduin also highlighted the importance of automation, going back to his days working with Autodesk’s first platform, AutoCAD. Mr. Borduin claimed that AutoCAD was successful because it was a platform, with many applications built on top of their solution, supported by ecosystems of partners and resellers. According to Mr. Borduin just about any successful Software as a Service (SaaS) company

owes their success to being a platform, with Salesforce as a leading example. But, Mr. Borduin claimed that it is hard to be successful by selling a platform from the start. Autodesk is employing this measured, evolutionary strategy with their Forge initiative, an effort CIMdata has documented in previous commentaries on Autodesk events. (While Forge is essential to their future it got very little emphasis in the sessions promoted to Analysts at the event. There is a developer's conference that kicks off the event that CIMdata will plan to attend next year to keep up to date on this important effort.) As described previously, the Forge platform is evolving to underpin all three prongs of Autodesk's business: manufacturing, media and entertainment, and architecture, engineering, and construction. But its application in AEC was more front and center in the executive sessions held for analysts. In fact, during the executive Q&A Autodesk acknowledged their increased investments in this space because AEC is not just an interesting opportunity. Autodesk believes that the AEC opportunity will be the fastest growing manufacturing market over the next 10 years. Leveraging 3D information in the construction pipeline will help make "better" a reality in AEC, an industry with sluggish productivity growth over the last few decades, huge amounts of waste, and budget and timeline overruns.



Figure 1—The Convergence of Design and Manufacturing
(Courtesy of Autodesk)

The Q&A also revealed the evolving relationship between Autodesk and Amazon Web Services (AWS), one echoed by others leveraging AWS to deliver cloud-based applications to their customers. In the past, Autodesk had to build technological solutions into their platform because they were not available from AWS. In a recent CIMdata Webcast, AWS highlighted the incredible evolution of their platform and Autodesk is finding that they can do less in their platform because they can rely upon enterprise-grade capabilities from AWS. This is one reason that there are start-ups, like FusePLM, building PLM-enabling solutions directly on top of AWS. Of course, other PLM leaders are also leveraging AWS services in their cloud implementations as well.

Many companies use their flagship user event to announce new initiatives, products, and partnerships and AU 2018 did not disappoint. Mr. Anagnost hinted at what was to come in his keynote, a partnership with Unity Technologies, Inc., a provider of a cross-platform augmented reality/virtual reality (AR/VR) engine at the heart of many leading video games, including more

than 50% of new mobile games.¹ In some ways, this was a confusing move since Autodesk has solutions to create such applications in their portfolio. But it goes back to the same platform argument mentioned earlier. Autodesk had a good solution, but Unity brings with it a mature platform with legions of developers, something that would require a huge investment of time, resources, and effort for Autodesk to replicate. CIMdata thinks this is a good move for Autodesk, allowing them to focus on how to leverage these technologies for their different constituencies. Other AEC competitors are leveraging AR/VR to good effect, like AVEVA, and this will greatly expand Autodesk's reach in this area. In the AEC keynote, Mr. Jim Lynch, Autodesk Vice President & General Manager for Autodesk Construction Solutions and Mr. John Riccitelto, CEO of Unity, partnered to describe some of their early work on combining these solutions. They demoed how a combination of Unity and Autodesk's 3ds Max can be combined to help win construction bids, quickly changing different finishes and materials from any device, anywhere, resulting in high quality real-time presentations. They went on to describe how Unity and Revit can work together to help architects leverage Revit data to support construction and facilities maintenance. It is easy to see how such technologies, if embraced and broadly deployed in the construction business, could bring "better" to the AEC business. They expect the full integration of Unity and Revit to be available in fall 2019.

In conclusion, the "Opportunity of Better" is a catchphrase that could equally apply to Autodesk as a company. They have taken steps to enhance their recurring revenue which will help them invest to keep their portfolio vital and to fund important efforts like the Forge initiative. They are changing their workforce to help them meet the very different needs of millennials and the generations that come after. Their partnership with Unity builds on an existing strength and provides access to Unity's platform and their loyal global ecosystem. All of this better positions Autodesk to "better" themselves 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.

¹ <https://unity3d.com/company/public-relations/news/unity-technologies-collaborates-autodesk-strengthen-link-autodesk-3ds>. Their platform helped bring the world Pokémon Go.