

# Autodesk University 2022: Forging Their Cloud Future

## *Paving new paths with the Autodesk Platform*

### *CIMdata Commentary*

#### *Key takeaways:*

- *For the first time since 2019, Autodesk University 2022 was held as an in-person event, and the 9,000+ in attendance were as excited to be there in person as Autodesk itself.*
- *As planned, its Forge initiative yielded a platform, now known as the Autodesk Platform, that is leveraged by their Architecture, Engineering, and Construction (AEC), Media & Entertainment (M&E), and Design & Manufacturing (D&M) business segments in their own industry-focused “clouds.”*
- *Their Design & Manufacturing cloud, now known as Autodesk Fusion, blazed the trail for their efforts and continues to expand to leverage more and more of Autodesk’s substantial intellectual property (IP) portfolio, as well as extending their capabilities through new partnerships.*

CIMdata attended the first in-person Autodesk University (AU) since 2019, held in New Orleans, LA on 27-29 September 2022. Over 9,000 people attended in-person, with thousands more expected to attend virtually around the world.<sup>1</sup>

After some rousing walk-on music played live by a New Orleans marching band, Autodesk President and CEO, Mr. Andrew Anagnost, led the first keynote and expressed his excitement to be back in person, a sentiment that was clearly shared by those in the conference venue. As in past AU keynotes, Mr. Anagnost peppered his remarks by short visits from customers during his session. His first guest was Ms. Meagan Williams, the Storm Water Program Manager for the City of New Orleans. Ms. Williams experienced Hurricane Katrina at 16 and never dreamed about a career planning her home city’s defenses against their water-rich environs. Their approach, successful in other areas, is about creating green infrastructure that catches the water where it falls, holding it, and strategically releasing it into the water system. Ms. Williams was clearly proud to involve the community deeply in projects, as opposed to the past where projects were done to them. These approaches are critical in the Eastern United States to deal with ever more extreme weather events and rising coastal waters.

Mr. Anagnost echoed the need to make our cities and people more resilient. He rightfully stated that we need to be willing to change how things are done. Of course, he tied this directly to the data and processes needed to support collaboration, such as in greater New Orleans. Keynotes generally include some big announcements and AU 2022 was no exception. The company started their Forge initiative in 2015, declaring their intent to put data at the center of a new services-oriented platform, supported by a major developer program and an investment fund to help “deliver innovative solutions and services on or connected to the Forge Platform.”<sup>2</sup> The goal from the beginning was to develop a common platform-as-a-service to power the solutions delivered in their major business segments: AEC, D&M, and M&E. The D&M segment was the first to benefit, with Forge helping to better integrate their varied solutions, and providing a path for both on-premises and cloud offerings to benefit through their combination. For example, Autodesk has invested a lot in generative design, with some impressive demonstration projects with the likes of Airbus and other major corporations. Those artificial

<sup>1</sup> Travel and/or other expenses related to this commentary were provided by Autodesk.”

<sup>2</sup> <https://investors.autodesk.com/news-releases/news-release-details/autodesk-unveils-cloud-based-forge-initiative-transform-how>

intelligence (AI) powered capabilities are native to the cloud, while the Autodesk tools leveraging them can be in the cloud or on-premises. Many of their capabilities are now available as services to other solutions, like IP from their PowerMILL offerings, strong players in the Computer-Aided Manufacturing (CAM) market, now being available in Fusion 360.

At AU 2022, Mr. Anagnost announced the Autodesk Platform that enables three industry-focused clouds:<sup>3</sup>

- Autodesk Forma, the industry cloud for AEC
- Autodesk Flow, the industry cloud for M&E
- Autodesk Fusion, the industry cloud for D&M

Forge, now known as Autodesk Platform Services (APS), underpins the Autodesk Platform.<sup>4</sup> APS offers an evolving set of application programming interfaces (APIs) from both Autodesk and their partners through an application marketplace. CIMdata believes this is an important feature of Autodesk's efforts, giving their partners a place to shine with their respective wares. It also helps Autodesk extend the digital thread, stated Mr. Anagnost, from the top floor to the shop floor, an oft-used but still important metaphor. He stated Autodesk's intent to bring Autodesk Fusion to the shop floor using mobile devices. This is something Autodesk stated as early as 2013 and CIMdata is glad to see their renewed interest. In our opinion, while mobile and tablet form factors offer promise for the "deskless," a term Autodesk used at the time, no one has the "killer app" in product lifecycle management (PLM) for the consumption of lifecycle-related data in the field. Maybe APS will help deliver it.

Mr. Anagnost stated that their first Autodesk Forma offering will "reimagine early-stage design," enabled by technology from Spacemaker, a 2020 Autodesk acquisition known for AI-powered generative design approaches in the AEC space.<sup>5</sup> In his remarks around M&E and Autodesk Flow, he was joined on the stage by Mr. Eric Iverson, Head of Product Strategy for Amazon Studios. He is responsible for their original TV series and films that are exclusively on Prime Video in over 240 countries worldwide. As an example, Mr. Iverson spoke of their work on the new series based on the Lord of the Rings, which 25 million people watched on its first day of release. The scale and global scope of the project pushed them to the limit, claimed Mr. Iverson. Just as manufacturing pushed concurrent engineering, with the lifecycle stages increasingly overlapping, M&E customer Amazon Studios now can have pre-production, production, post-production, and release happening at the same time. They need the cloud to quickly share the massive digital assets produced and used by global teams of collaborators across the extended enterprise. (Think of all of the names in the end credits for today's CGI-intensive blockbusters.) The digital dailies can be almost instantly shared around the globe, helping to collapse the timeline to help meet the massive demands from ever-more streaming product. This is one reason why an early focus of Autodesk Forma is on digital asset management to help make Mr. Iverson's vision of the next generation studio—socially responsible by design, globally cloud connected, and smart—a reality.

Not surprisingly, Mr. Anagnost believes that open standards are critical. Things like APS are much less powerful if they cannot support heterogeneous tools running in hybrid cloud environments as customers are increasingly demanding. This will be even more important for larger customers who may rely on more powerful solutions, such as from Ansys, the global leader in the simulation and analysis (S&A) market,<sup>6</sup> and other leading tool providers in other

---

<sup>3</sup> <https://investors.autodesk.com/news-releases/news-release-details/autodesk-paves-path-digital-transformation-cloud>

<sup>4</sup> <https://forge.autodesk.com/blog/autodesk-forge-becoming-autodesk-platform-services>

<sup>5</sup> <https://adsknews.autodesk.com/pressrelease/autodesk-acquires-spacemaker>

<sup>6</sup> Based on CIMdata's market research on S&A market revenues.

PLM segments. In this case, Autodesk's expanding partnership with Ansys helps address this concern. In a later private session, Mr. Anagnost acknowledged that as Autodesk is adopted more in larger companies, those larger competitors that may be incumbents might not remain as open to integration. But Mr. Anagnost stated that there is more than enough business outside of the largest concerns for Autodesk to meet their strategic objectives.

He closed his remarks by positioning Autodesk as the customer's partner on their digital transformation journey. But he emphasized that Autodesk was not interested in paving old roads to enable that journey. Their early start with Forge and the realization of the Autodesk Platform and their industry clouds is clearly offering a new cloud-centric path for all three key business segments.

In a private media and analyst session, it was inevitable that the topic of Revit and the open letters came up. In 2020, a large number of Revit customers from leading architecture firms wrote an open letter to the company about a range of concerns they had about their perceived lack of investment in Revit, a market leading product in the AEC market.<sup>7</sup> A second letter was sent more recently.<sup>8</sup> Mr. Anagnost addressed the topic head on, in a way that reflected his earlier "paving old roads" comments. The company believes that while they can rearchitect Revit it is not enough and they need something different. There is always this tension between generations of technology, supporting existing customers adequately while also investing in the future. While Revit will never be a cloud-native application, stated Mr. Anagnost, they do not plan to duplicate its functionality, looking instead to create a new paradigm on Autodesk Forma. But users should not be concerned as there is at least ten years of runway for Revit, stated Mr. Anagnost in response to an analyst's question. Another analyst asked "why three clouds?" Mr. Anagnost stated that if you want to create a "from-to" path, the best way is to have three. This makes sense, in that each industry has its own applications, use cases, workflows, and terminology. They believe that having just one end point, one cloud solution, for all three business segments would make it harder to get people to move. CIMdata agrees. He did discuss one constraint in their cloud future. While in theory cloud resources can be sourced from anywhere, many countries and regions have restrictions on where their data lives. One journalist from Mexico raised the topic but it is a global issue. Mr. Anagnost claimed that reshoring and near shoring are strong market drivers and all cloud-centric providers will have to deal with this issue.

While the new and renamed platform offerings were the highlight, it is about more than just the ASP. There is a cloud information model underlying their platforms. Mr. Anagnost stated that files are a "dead thing working." File formats are not the future. Granular data stored in the cloud that can be mixed and matched is. That is why Autodesk Fusion is farther ahead than Forma and Flow. They have been working on that part of the cloud information model for about 12 years stated Mr. Anagnost. Using this approach, Fusion has absorbed a lot of capabilities, from electronic computer-aided design (ECAD) from their Eagle CAD acquisition, to Delcam technology integrated with Fusion 360.

As with most user conferences, there is much more content than could possibly be discussed in a single commentary. CIMdata has tried to focus on a strategy update and the Autodesk Platform related announcements. But one other new partnership that, just like the first speaking guest in Mr. Anagnost's keynote, is focused on the importance of the environment. Autodesk also announced a partnership with Makersite, an innovative, Germany-based provider of an AI-powered digital twin software-as-a-service platform for product and supply chain decision

---

<sup>7</sup> <https://aecomag.com/bim/letter-to-autodesk-aec-customers-demand-better-value/>

<sup>8</sup> <https://aecomag.com/bim/a-tale-of-two-open-letters/>

making. A core part of its solution provides Lifecycle Assessment (LCA), a key tool for reducing the environmental impacts of products.<sup>9</sup> In this new link-up, with the new Makersite plug-in, Fusion 360 users will be able to transmit bills of materials (BOMs) to Makersite to calculate the environmental and cost impacts of their design at the push of a button. Figure 1 shows how their solution fits in with a customer's information technology landscape.

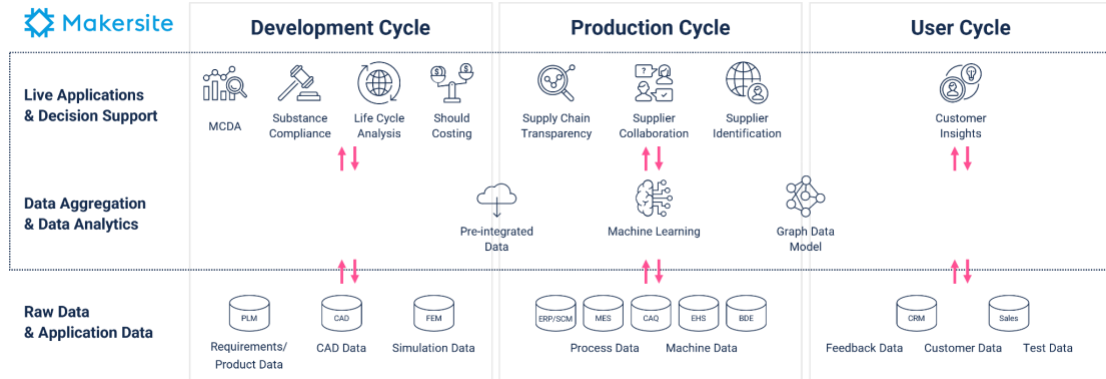


Figure 1--Makersite SaaS Platform for LCA  
(Courtesy of Makersite)

Since their founding in 2018, Makersite has compiled an impressive roster of global customers, including Philips, P&G, and Microsoft. Accurate LCAs are increasingly moving from a nice to have to a business requirement, often being pushed by government and industry regulations. In a recent briefing to CIMdata, Makersite claimed to have conducted over 8 million LCAs in their brief history, a significant achievement in such a short time, and with impressive clients. CIMdata applauds the move by Autodesk and is wondering just how long such a remarkable solution and company like Makersite might remain independent.

In conclusion, Autodesk University 2022 was a celebration of their user community and the energy in the crowd was palpable as everyone was happy to be together in real life. Autodesk's announcements did not disappoint, as the Autodesk Platform is the culmination of over a decade of hard work to support their major business segments. But this is just the beginning of their platform journey which will in reality never be completed. But they will be paving new roads and, at least to some of us, putting a bounce in our collective steps with New Orleans Dixieland jazz.

## About CIMdata

CIMdata, an independent worldwide firm, provides strategic management consulting to maximize an enterprise's ability to design, deliver, and support innovative products and services by identifying and implementing appropriate digital initiatives. For nearly forty years, CIMdata has provided industrial organizations and providers of technologies and services with world-class knowledge, expertise, and best-practice methods on a broad set of product lifecycle management (PLM) solutions and the digital transformation they enable. CIMdata also offers research, subscription services, publications, and education through certificate programs and international conferences. To learn more, visit [www.CIMdata.com](http://www.CIMdata.com) or email [info@CIMdata.com](mailto:info@CIMdata.com).

<sup>9</sup> <https://makersite.io/makersite-autodesk-partnership/>