COMMENTARY

Autodesk University 2024

The Design and Make Conference—Transforming today, reinventing tomorrow

Key Takeaways

Autodesk is establishing itself as a leader in driving AI-powered automation to help users save time and enhance efficiency across its entire portfolio.

Autodesk is advancing its goal of seamless data connectivity across domains and disciplines through enhancements in Autodesk Platform Services and AI-driven improvements.

Customers showcased their use of Autodesk Vault and Autodesk Fusion Manage to cover the entire spectrum of organizational workflows from requirements management, BOM management, change management, and project management to quality, and supplier management.

Autodesk presented Project Bernini, an AI, paradigm-shifting research project that creates 3D models in minutes and which shows the potential of someday augmenting the work of designers, engineers, and creators.

CIMdata attended Autodesk University: The Design and Make Conference, held from October 15 through 19, 2024 in San Diego, CA, and attended by nearly 12,000 global industry professionals.[1] CIMdata was excited to hear about and discuss Autodesk's many announcements, technologies, and solutions with key Autodesk personnel.

Mr. Andrew Anagnost, Autodesk's President and CEO, opened the event with a powerful keynote in the General Session on Day 1, focused on how Autodesk is reinventing itself and going beyond the hype to investing big in AI on practical solutions that can boost productivity. Mr. Anagnost was joined on stage by CTO Raji Arasu. Together, they highlighted the importance of adaptability and resilience as industries face challenges in an increasingly digital world.

They discussed Autodesk's role in advancing creative processes, leveraging AI to speed up workflows, and enable users to solve complex problems more effectively. A key highlight of the session was the introduction of Project Bernini, Autodesk's experimental generative AI model designed to revolutionize 3D shape creation. Mr. Anagnost explained how Project Bernini can quickly generate functional 3D shapes from diverse inputs such as 2D images, text, voxels, and point clouds. The project aims to streamline the conceptual design phase, enabling faster iterations and smarter design decisions. The project also intends to demonstrate the potential of AI in design and manufacturing workflows but remains in the prototype

[1] Travel and/or other expenses related to this commentary were provided by Autodesk.

stage for now. Autodesk is testing and refining Project Bernini's capabilities, and it may eventually influence commercial tools and offerings, but it is not currently available for commercial adoption.

Another area highlighted was the Autodesk Platform Services (APS), which works across their AEC, Entertainment, and Design and Manufacturing offerings. APS focuses on innovations in design, construction, and manufacturing. Key updates include new AI-powered tools, enhanced data integrations, and new APIs for industries like AEC and manufacturing. The conference showcased collaborations with partners like McNeel and Rhino, and integrations with platforms such as Revit, Fusion, and SOLIDWORKS. The event also featured announcements on the Autodesk Design and Make platform, emphasizing AI and cloud-based automation.

The Design & Manufacturing Industry Keynote at Autodesk University 2024 featured several key speakers: Mr. Anagnost, Mr. Arasu, Mr. Seth Gottlieb (VP of Industry Strategy), Mr. Michael Kocian (Senior Director of Product Management), and Mr. Stephen Hooper (VP of Product Design and Manufacturing Solutions at Autodesk). Together, they discussed how Autodesk is at the forefront of driving innovation in the design and manufacturing sectors through AI and cloud technologies. The keynote focused on how Autodesk solutions for design and manufacturing are helping companies streamline workflows, accelerate product development, and enhance collaboration across teams. These solutions empower businesses to make data-driven decisions and manage the entire product lifecycle more effectively.

Autodesk Fusion Manage was central to the keynote discussions. The speakers covered how Autodesk's cloud-based PLM solution helps businesses improve access to product data across the organization, its workflows, and improving efficiency, from concept to production. The session also showcased Autodesk Fusion, an integrated design, engineering, and manufacturing platform that enables teams to collaborate more efficiently and solve complex design challenges faster. They explained how the tools are part of a broader strategy to accelerate digital transformation in manufacturing and enable companies to adapt to the fast-paced, interconnected world of modern product development.

They also discussed Project Bernini, Autodesk's experimental generative AI model for 3D shape creation, and its potential in the future to drive design workflows. The speakers explained how Project Bernini has the potential to accelerate the conceptual design phase and enable smarter, more efficient design iterations. Throughout the keynote, the speakers emphasized how Autodesk's comprehensive suite of tools—especially its Fusion and PLM solutions—are helping businesses navigate the rapidly evolving landscape of design and manufacturing.

AU 2024 featured the second annual "PLM Summit," a half-day dedicated networking and learning track designed specifically for business leaders. It had great representation from Autodesk customers across different industries.

"Spriax-Sarco's Global Business Transformation: A PLM Success Story" was presented by Ms. Ashley Hooper, PLM/MES Solution Lead at Spirax-Sarco. Spirax-Sarco, a multinational industrial engineering group operating in 165 countries, embarked on a significant transformation by implementing Autodesk's Fusion Manage and Vault software. This enabled Spirax-Sarco to unify data and processes across its global operations, enhancing visibility, reporting, and traceability. By supporting approximately 1,200 users worldwide, Fusion Manage facilitates improved collaboration and quality management throughout the organization.

Additionally, Spirax-Sarco uses Autodesk Vault for product data management (PDM). They use the combination of Vault and Fusion Manage to enable seamless data synchronization between engineering and manufacturing departments, ensuring all stakeholders have access to the most current information. This integration is instrumental in reducing errors, improving efficiency, and decreasing the global cost of quality. The session highlighted key strategies for successful PLM implementation, including

transitioning from vision to execution, applying data and process management for global collaboration, and identifying business metrics to measure success. Spirax-Sarco's experience underscores the critical role of integrated PLM solutions (including PDM) in modernizing operations and maintaining a competitive edge in the industrial engineering sector.

Mr. Mike Wohletz, CAD Manager at Automatic Systems, Inc. (ASI)—a leader in the automotive and industrial machinery sectors—delivered a presentation titled: "The Journey of Automatic Systems, Inc., to Connected Data and Processes." He shared ASI's transformative path toward integrated data and process management, detailing their evolution from manual tasks and disconnected systems to a unified ecosystem. Starting with the implementation of Vault in 2016, ASI later added Fusion Manage, enabling synchronization between Vault and Fusion Manage.

Mr. Wohletz highlighted how ASI leveraged PLM strategies and workflows to seamlessly connect data across departments. This transformation resulted in improved efficiency, enhanced visibility, and real-time access to critical information throughout their operations. The presentation underscored the value of integrating Product Data Management (PDM), Product Lifecycle Management (PLM), and Enterprise Resource Planning (ERP) systems to foster innovation and operational excellence. By adopting Fusion Manage, ASI was able to work on projects four times larger in less time.

Ms. Rania deLeon, Founder and Owner of Mina Methods presented "Using the Power of PLM for Quality-Management Success." Ms. deLeon described how the medical device manufacturing company, Pressure Products Medical Device Manufacturer (PPMDM), used Fusion Manage for quality management. PPMDM produces over 60,000 cardiac surgical devices annually, across 40 countries that perform 10+ audits per year. The entire quality management operation, including assembly operators, consists of a team of fewer than fifteen people.

Ms. deLeon described how their small team efficiently deployed and managed PPMDM's extensive operations with Fusion Manage. She shared how they used Fusion Manage as a Quality Management System (QMS) enabling the manufacture of high-quality products with an impressively low complaint rate.

According to Ms. deLeon the advantages of Fusion Manage include being highly configurable, flexible with custom scripting languages allowing for interdependencies between workspaces, and automated with workflow enabling seamless review cycles, all of which ensured pain-free quality control. She described how quality has historically been a siloed function but with Fusion Manage, quality becomes a closed-loop process with the engineering processes, which leads to a more efficient organization with fewer quality complaints. She went on to describe the solution in further detail, which includes how Fusion Manage is used to support training, document and change control, automated audits, Device Master Records (DMR), Lot Records with validation checks and a D\device release checklist, tooling features and management, supplier management, quality events (i.e., CAPA, SCARS, and NCR), workflow approvals and action items and design controls.

Concluding Remarks

Autodesk University showcased Autodesk's ongoing commitment to advancing innovation through AI, cloud technologies, and integrated PLM. Autodesk is advancing its goal of seamless data connectivity across domains and disciplines through enhancements in Autodesk Platform Services and AI-driven improvements.

Customers highlighted their use of Autodesk Vault and Autodesk Fusion Manage to streamline organizational workflows, spanning requirements management, BOM management, change management, project management, quality assurance, and supplier management.

From the unveiling of Project Bernini's groundbreaking generative AI capabilities to the transformative applications of Fusion Manage and Vault, Autodesk is focused on empowering industries to tackle modern challenges and achieve digital transformation.

The event showcased how Autodesk's tools enable businesses to streamline workflows, improve collaboration, and drive connectivity across domains and disciplines with real-world success stories from companies like Spirax-Sarco, ASI, and PPMDM demonstrating the tangible benefits of these solutions. These case studies emphasized the importance of strategic planning, and seamless integration to maximize the value of PLM and PDM implementations.

Autodesk University 2024 underscored the company's role as a leader in advancing design and manufacturing processes, fostering interdisciplinary collaboration, and addressing critical industry needs. With its emphasis on adaptability and innovation, Autodesk is well-positioned to support organizations navigating an increasingly digital and interconnected world.

Overall, CIMdata views Autodesk AU 2024 as a significant indicator of the company's commitment to a data-centric, AI-powered design future, aiming to provide a more holistic and integrated experience for those companies needing to enhance their connectedness and collaboration across the product lifecycle.

About CIMdata

CIMdata, a global strategic management consulting firm, provides services designed to maximize an enterprise's ability to design, deliver, and support innovative products and services. For more than forty years, CIMdata has provided industrial organizations, providers of digital technologies and services, and investment firms with world-class insight, expertise, and best-practice methods on a broad set of product lifecycle management (PLM) topics 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 or email info@CIMdata.com.