

Dassault Systèmes' 2019 Analyst Event: Seeking to Own the Life Sciences

CIMdata Commentary

Key takeaways:

- *Dassault Systèmes' announced acquisition of Medidata is an impressive move that should send a message to all PLM solution providers that Dassault Systèmes intends to own the life sciences market with respect to PLM enablement.*
- *Dassault Systèmes is well positioned to support today's Industry Renaissance across multiple industries focused on designing, delivering, and supporting products, nature, and life.*
- *Dassault Systèmes' 3DEXPERIENCE is evolving into a System of Operations, as well as a Business Model.*
- *Dassault Systèmes is making steady progress across its targeted industries. New and enhanced Industry Solution Experiences and Industry Process Experiences are being delivered at a reasonable pace, illustrating the flexibility and scalability of their 3DEXPERIENCE platform.*

Recently, CIMdata had the opportunity to attend Dassault Systèmes' annual PLM analyst event at their headquarters in Vélizy-Villacoublay, France.¹ Once again, the well-organized two-day event provided an excellent update on Dassault Systèmes' strategy and thought-leadership position in the rapidly evolving global PLM market. This year, the event was organized into four main blocks, with each of the morning blocks focused on updates from Dassault Systèmes' executives and the afternoon sessions on a selection of industry and select brands updates provided by Dassault Systèmes' industry segment or relevant brand leader. This year's event started with Dassault Systèmes' major announcement that it intended to acquire Medidata in an all-cash offer of US\$5.8 billion.² Medidata is a US-based leader in clinical technology used to bring new treatments to the market. Once closed, this acquisition will enhance Dassault Systèmes' already robust PLM solution offering for the life sciences industry, as well as increase Dassault Systèmes to 20,000 employees.

This acquisition will complement Dassault Systèmes' Life Sciences BIOVIA brand. As previously reported by CIMdata, the 2014 acquisition of Accelrys provided the core of this brand.³ Before the acquisition, Accelrys referred to their emphasis on "scientific innovation lifecycle management." This made them a good fit for Dassault Systèmes and their long-time support for innovation enabled by digital tools. The company has continued to expand their efforts to build out their Life Sciences solutions and indeed this has been a source of significant growth for Dassault Systèmes. With the acquisition of Medidata, Dassault Systèmes expands their lifecycle offerings out of the lab and into clinical trials and supporting commercialization activities. Medidata does make physical products to support their vision and should benefit from a linkup with a PLM market leader. The company also has some cloud-based platform solutions that can become part of the 3DEXPERIENCE platform, itself already morphing from an orientation around PLM to support Dassault Systèmes 3DEXPERIENCE Marketplace initiative.

¹ Travel and/or other expenses were provided by Dassault Systèmes.

² <https://www.3ds.com/press-releases/single/dassault-systemes-and-medidata-solutions-to-join-forces-to-accelerate-the-life-sciences-industry-innovation-for-patient-centric-experience-through-end-to-end-collaborative-platform/>

³ <https://www.3ds.com/about-3ds/announcement/accelrys/>

Dassault Systèmes' life sciences customers will be able to design new innovations using the traditional BIOVIA solutions and support them through clinical trial to commercialization, ultimately all on the same integrated platform.

Reasons to Believe

Mr. Bernard Charlès, Vice Chairman, Chief Executive Officer, kicked off the event with a well-articulated presentation that described Dassault Systèmes' support of today's Industry Renaissance, as they describe it, and the company's role in enabling it. He emphasized the company's positioning as a science company that acts as an industry enabler by providing solutions, processes, intelligence, and education. He reminded the attendees that Dassault Systèmes is in it for the long-haul. In fact, the company first introduced their three spheres of support—product, nature, and life—in February 2012. He stressed that the **3DEXPERIENCE** platform isn't just an information technology (IT) thing, but a new way to work—one that is changing everything. For them, their implementation of the **3DEXPERIENCE** platform is where their customers' requirements will be captured, managed, and fulfilled. Mr. Charlès stated his belief that ultimately their platform will replace their own customer relationship management (CRM) system—managing the digital twins of their customers' platform configurations, holding one view of their entire client ecosystem. A non-trivial statement—one that emphasizes the proven and expanding capabilities of the **3DEXPERIENCE** platform and how it can be used as a system of operations, as well as a business model. As always, Mr. Charlès left the analysts with much to think about and digest.

Ms. Florence Verzelen, EVP, Industry Solutions, Field Marketing, Global Affairs, was next to present. Her presentation updated the attendees on Dassault Systèmes' extensive solution portfolio focused on industry and process enablement. It provided numerous illustrations that showed how Dassault Systèmes is on a solid path. Ms. Verzelen noted that Dassault Systèmes' currently serves eleven industrial segments, with three being newly named (Home & Lifestyle; Energy & Materials; and Construction, Cities & Territories), and one renamed segment (Business Services). She claimed that this segmentation gives its industry leads enhanced clarity and results in more focused solutions being defined and delivered to its customers. The adjusted segmentation also illustrates synergies that naturally exist amongst the subsegments. For example, the Construction, Cities & Territories segment includes Cities & Territorial Authorities, Utilities, Transportation Infrastructure, Buildings & Facilities, Construction Products & Services, and Agriculture & Forestry.

Ms. Verzelen commented that Dassault Systèmes continues to build out its Industry Solution Experiences (ISEs), which now number over 70, with 29 already accessible as cloud offerings—at least one for each industrial segment served. She also mentioned that they are currently delivering more than 500 Industry Process Experiences (IPEs) based on their extensive and expanding set of Roles and Applications. These numbers represent a sizable increase over last year and illustrate that Dassault Systèmes continues to invest in the platform and its enabled solutions.

Ms. Verzelen was then joined by selected industry leads to discuss a number of major strategic transformation deals in which Dassault Systèmes is currently engaged. Deals involving The Boeing Company, the EDF Group, and ABB were all discussed in some detail. According to Dassault Systèmes, their deal with The Boeing Company represents the longest contract they have ever signed. Ms. Verzelen and her team commented that Dassault Systèmes' relationship with Boeing goes back some 30 years and they intend it to continue for at least another 30. Dassault Systèmes is providing solutions to help Boeing deliver on their significant aircraft order

backlog. For EDF, the France-based €70 billion integrated electricity company, Dassault Systèmes, and EDF's services partner, Capgemini, signed a long-term partnership agreement, Dassault Systèmes' second longest, for the digital transformation of EDF's nuclear engineering processes and its ecosystem. According to a June 2018 press release, "The partnership aims to support EDF in the digitalization of its plant engineering projects with the view to strengthen plant performance and overall competitiveness of nuclear power. It represents a major step in accelerating the digital transformation of the nuclear industry as a whole."⁴ And finally, Dassault Systèmes' discussed their partnership with ABB. This agreement, signed in February 2019, is a global software partnership that will support ABB's reorganization of its four businesses. According to a February 2019 ABB press release, their partnership will "combine the strengths of ABB Ability™ digital solutions and Dassault Systèmes' **3DEXPERIENCE** platform, and build on both companies' strong installed base, deep domain expertise and global customer access."⁵ Finally, it stated that "ABB has already adopted the **3DEXPERIENCE** platform to model and simulate its solutions before delivering them to its customers. With this partnership, ABB will develop and provide customers with advanced digital twins, enabling customers to run ABB's solutions and their operations with improved overall efficiency, flexibility and sustainability." Taken collectively, the customer and partner stories presented during this session further illustrate the commitment Dassault Systèmes has made to enable the long-term success of its customers.

Mr. Pascal Daloz, Dassault Systèmes' Executive Vice President, Chief Financial Officer, and Chief Strategy Officer provided the audience with a business update and growth outlook. His session included an extensive review of Dassault Systèmes' 2018 numbers. He commented that the **3DEXPERIENCE** platform now represents 25% of the company's software revenue and that the company saw an organic increase of 27,000 new customers in 2018. He also spent some time discussing their push into the cloud, explaining that the cloud is a way for them to address the needs of new customers, more so than existing clients. In other words, they see their cloud offering as providing additional revenues and not a shift in revenue. He commented on a few major deals, including a ten-year contract signed with Airbus.

As for 2019, Mr. Daloz stated that their guidance to the financial markets is 10 to 11% growth as they actively continue to expand their addressable market. One of the reasons for the growth in their addressable market is the announced acquisition of Medidata, which is a strategic acquisition for them. One that will allow them "...to connect the dots" and continue to build out the innovation platform for the future. According to Mr. Daloz, only 24% of Medidata's current revenues come from outside of the United States, he argued that Medidata is only scratching the surface. Many new opportunities will be open to them once they are part of Dassault Systèmes. Mr. Daloz was then joined by Medidata's Chairman & CEO, Tarek A. Sherif. Mr. Sherif spoke briefly about the acquisition and how their solutions fit nicely into Dassault Systèmes' life sciences solution portfolio. As previously mentioned, CIMdata believes that this acquisition gives Dassault Systèmes a clear leadership position in the life sciences PLM domain.

Like last year, the group was given a guided tour of major components of the **3DEXPERIENCE** Playground. The playground is an ever-expanding set of live exhibits that display, simulate, and demonstrate many of Dassault Systèmes' solutions. As in the past, this proved to be an excellent way to obtain an overview of Dassault Systèmes' diverse and expanding solution set.

⁴ <https://www.3ds.com/press-releases/single/edf-dassault-systemes-and-capgemini-partner-to-digitally-transform-edfs-nuclear-engineering/>

⁵ <https://new.abb.com/news/detail/16803/abb-and-dassault-systemes-enter-global-software-partnership-for-digital-industries>

Detailed Industry Updates: Part 1

The afternoon sessions provided insight into three industries—Consumer Packaged Goods (CPG), Aerospace & Defense (A&D), and Transportation & Mobility (T&M), and three brands—DELMIA, DELMIAWORKS, and Centric Software. Each of these sessions provided an update on their industry approach and/or solution set currently being offered, as well as what is on the horizon. In total, six breakout sessions were held.

Mr. David Ziegler, VP, A&D industry segment, provided a well-thought out update on how they are approaching the industry and what solutions they now have available. He stressed how the **3DEXPERIENCE** platform was developed to support an A&D company's lifecycle from design to operations on a single data model. For A&D, Dassault Systèmes' solution set includes the enablement of model-based design through the implementation of systems modeling and simulation; model-based engineering with design in configured context support; model-based manufacturing that includes process planning modeling, production simulation, and manufacturing execution; and model-based support capabilities that enable various maintenance, service, and support activities. This provides a rather complete digital thread from as-specified to as-maintained. The **3DEXPERIENCE** platform delivers these capabilities using an expanding set of platform services, including search & navigate, 3Ddashboard, 3Dspace, 3Dsearch, 6Wtagging, 3Dplay, 3Dmodeling, 3Dinstantmessaging, 3Dpassport, lifecycle configuration, and change management. Mr. Ziegler also outlined several A&D Solution Experiences, including Program Excellence, Co-Design to Target, Ready for Rate, and Passenger Experience, to name a few of the expanding list of ISEs offered. Each ISE includes anywhere from five to almost twenty IPEs. Finally, Mr. Ziegler related some of the measurable benefits their customers have reported, including 20% less inventory and increased availability, accelerated concept to take-off up to 50% faster, and 20% lower testing and certification costs. Within this context, Mr. Ziegler commented that Dassault Systèmes' **3DEXPERIENCE** platform will be the platform upon which Airbus' corporate transformation program—Digital Design, Manufacturing and Services (DDMS)—is based. This is clearly another major win for Dassault Systèmes and its **3DEXPERIENCE** platform.

During the T&M industry update, Mr. Olivier Sappin, the segment's VP, provided an update that focused on how Dassault Systèmes is designing and delivering solutions that help their customers successfully deal with today's major business drivers—electric, connected, and autonomous vehicles; new customer experience; quality, costs, regulations; and mass production to mass customization. He emphasized that vehicle manufacturers are spending a significant amount of effort and money on simulation. For example, 10 billion miles are need to certify an autonomous vehicle and this is just not feasible without simulation. He also reviewed Dassault Systèmes' expanding ISEs for the T&M segment, which currently include Electric-Mobility Accelerator; Smart, Safe & Connected, On-Target Vehicle Launch; and Lean Production Run, to name a few. All of these examples include one or more IPEs. The On-Target Vehicle Launch ISE, for example, currently includes 25 IPEs. These solutions are designed to offer four key benefits: help boost innovation, think in systems, master vehicle electrification, and reach customers with experiences. Mr. Sappin also provided some tangible metrics, including how their solutions have helped select customers introduce a new mobility concept in less than 2 years, reduce development cost by 30%, warranty cost reduction by 20%, and improve market share and lower cost per vehicle. Finally, he described evidence on how various automotive OEMs, including many of today's autonomous and electric vehicle OEMs (e.g., NIO, Tesla, Lucid, Spark, Canoo, and Nikola), are leveraging Dassault Systèmes' solutions to deliver value. He elaborated on a few, including JLR, Renault, PSA, Honda, and Toyota, who use 10's of thousands of seats of CATIA and are moving to the **3DEXPERIENCE**

platform. While Dassault Systèmes' T&M industry segment accounts for approximately 30% of their overall business, the **3DEXPERIENCE** platform penetration is gaining momentum according to Mr. Sappin. This is a good sign for Dassault Systèmes and should also lead to faster and broader adoption of CATIA **3DEXPERIENCE** throughout the industry and its supply chain participants.

Achieving Sustainable Double-Digit Growth

Mr. Philippe Laufer, Chief Executive Officer CATIA, kicked off day two of the event and its theme of achieving sustainable double-digital growth. His presentation focused on the evolution of CATIA and growth drivers for this €1 billion brand. He reminded the audience that Dassault Systèmes is driving CATIA to be the “Cognitive Augmented Design” (CAD) solution that is being used by its customers...to shape the world in which we live.” With more than 1 million users, there should be no doubt that most of us interact with one or more products each and every day that were designed using CATIA, especially automobiles and aircraft. Mr. Laufer also presented the CATIA brand's growth drivers, namely the enablement of cognitive augmented design, 3D as a social media, cyber physical systems, and the industrial renaissance. Finally, he described the development team's work redesigning the CATIA experience for cloud delivery, which is now available. Dassault Systèmes' progress with CATIA has been consistent and extensive. This should bode well for them as they continue to build out more capabilities that support tomorrow's design requirements.

Mr. Laufer was followed by Ms. Cecile Doan, Dassault Systèmes' VP CATIA Strategy. Ms. Doan provided a detailed presentation on why Dassault Systèmes is delivering their cloud solutions, who they are targeting, their offerings, and how they are engaging to sell and deliver them. The why is easy. The benefits of the cloud are reasonably well-known, including it is secure, available 24/7 everywhere, with no IT management required, a low total cost of ownership, always remaining state of the art, and easy to install and deploy. These are all characteristics actively sought by companies today. Ms. Doan claimed they are targeting companies that want a low cost of entry with the ability to rapidly deploy and scale as and when needed. These companies tend to be startups and industry and innovation leaders, as well as governmental projects. While Mr. Daloz commented that their cloud revenue is yet to be material, Ms. Doan provided a few eye-opening numbers related to their cloud business—72% increase in new customers and 92% revenue growth associated with existing customers. This is a good indication of what is to come.

Ms. Doan went on to remind the audience that Dassault Systèmes started down the cloud path some five years ago. Since that time, they have consistently expanded their cloud offerings associated with the **3DEXPERIENCE** platform, as well as with CATIA and other brands. The 2020x release enables more than 300 roles and 81 IPEs on the platform, as well as three xApps—xDesign, xGenerative Design, and xShape—with more being worked on. Adoption has been steady, with some solutions increasing significantly (e.g., from 2017 to 2018, CATIA users on the cloud increased 3x). Additionally, she claimed their cloud infrastructure is performing well and that their strategic 2017 investment in OutScale provides the enterprise-class cloud services required by their customers. Finally, she commented that moving forward, Dassault Systèmes will develop their solutions for the cloud first and then for on-premise use.

Next up was Mr. Aaron Kelly, Senior Director, Product Portfolio Management. Mr. Kelly's presentation focused on The **WORKS** Strategy & Portfolio. it's all about **3DEXPERIENCE.WORKS**—an extensive solution offering that covers mechanical CAD, simulation, digital manufacturing, and data and process enablement. In general,

3DEXPERIENCE.WORKS leverages the **3DEXPERIENCE** platform to deliver to its users dashboard templates, roles and managed services, communities and other social media capabilities, as well as eLearning and Certificates. The **3DEXPERIENCE.WORKS** solution portfolio includes capabilities from four of Dassault Systèmes' iconic brands—**SOLIDWORKS**, **DELMIAWORKS**, **ENOVIA**, and **SIMULIA**. The approach that Dassault Systèmes has taken is intended to expand key elements of their overall portfolio into the mainstream market—making more of their solution ready for small to medium-sized organizations that have simple to complex design and manufacturing problems to solve. The **DELMIAWORKS** solution is the re-branding of the recently acquired IQMS manufacturing software.

The information-intensive day two morning next included a joint presentation by Mr. Patrick Johnson and Ms. Clare Biot. Ms. Biot is Dassault Systèmes' VP for the Life Sciences Industry and Mr. Johnson is their VP Sciences, Corporate Research. They primarily focused on the company's vision for delivering end-to-end solutions for Life Sciences given the acquisition of Medidata, and how Medidata's clinical and commercialization solutions fit well within Dassault Systèmes' current solution offering for the industry. Additionally, Mr. Johnson explained that Dassault Systèmes continues to make the investments necessary to be relevant well into the future. One of his summary remarks was that "the new workbench is the real world." This further illustrates Dassault Systèmes' desire to bring together the virtual and physical worlds using its platform.

Ms. Florence Verzelen, in one of the last presentations of the morning, discussed Dassault Systèmes' systems integrators strategy. Her main message was that they view the partner community as a means to business scalability and growth. Dassault Systèmes is clearly in a transition, looking for and expecting partners to carry a heavier and more strategic role in their ecosystem. Some of larger and more global partners include Tata Technologies, Infosys, HCL, Accenture, and Capgemini. Finally, she reviewed Dassault Systèmes' "strategic digital transformation project" a six-stage effort where 1) strong partners are identified, 2) complementary value is defined, 3) executive connections are made, 4) goals and ambitions are understood and aligned, 5) deals are closed, and 6) the partnership improves. The results of this project are promising. This is critical for Dassault Systèmes' long-term viability. As a software-first company, they must focus software while allowing partners to perform a significant part of the services. Dassault Systèmes would be best to provide the system architects and other high-end consultants that have deep knowledge of their solutions, and allow their partners to supplement and provide all the other services that are needed to successfully implement the Dassault Systèmes portfolio.

"Empowering the Workforce of the Future" was the last presentation of the morning, also delivered by Ms. Verzelen. In this presentation, she highlighted how Dassault Systèmes is delivering the **3DEXPERIENCE** platform to connect academia and industry, which they claim further supports the on-going industrial renaissance. She stressed the value of the platform to those communities and how its cloud-based delivery to multiple disciplines supports social collaboration, ultimately establishing "a new learning experience portfolio." Currently, Dassault Systèmes' solutions have been made available to 7.6 million students across 44,000 institutions, with 50,000 academicians currently using the **3DEXPERIENCE** platform. Some of the key learning areas include how to: be an innovator, master cyber-physical systems, excel with lean manufacturing, and finally, design to make with additive manufacturing techniques and tools. This was a great summary that illustrated how Dassault Systèmes is bringing know how and leading technologies to the next generation of innovation workers. Doing this will contribute to helping Dassault Systèmes fully achieve the sustainable double digital growth it is seeking.

Detailed Industry Updates: Part 2

The second day finished up in the same manner as the first, with a set of breakout sessions. This time they included five industry and one brand focused breakout sessions. The industry sessions included: High-Tech; Energy & Materials; Life Sciences; Consumer Packaged Goods; Industrial Equipment; and Construction, Cities & Territories. The one brand session focused on EXALEAD. As on the afternoon of the first day, these sessions provided the analysts with updates on strategy and progress.

Mr. Olivier de Percin, VP for the High-Tech industry, commented during his session that the High-Tech industry now accounts for around 10% of Dassault Systèmes' revenue. This industry, along with other targeted non-core industries, has significant growth potential. Dassault Systèmes' focus within the High-Tech industry segment are OEMs designing and producing consumer electronics; security, control & instrumentation; computing, software & communication equipment, as well as suppliers to those OEMs. The key focused solutions include connected objects, white goods, OEM telecom, batteries, and semiconductors. Mr. de Percin cited some key challenges and trends for these High-Tech companies and how Dassault Systèmes' modular solutions can scale to fit their needs. Strategically, Dassault Systèmes' solutions are helping High-Tech firms to achieve their goal of zero physical prototypes. Unlike some other PLM solution providers, Dassault Systèmes can provide a common platform for battery design, for example, that not only supports all the mechanical design elements, but also the simulation of aging and down to the design and analysis of chemical composition of the battery. This is an excellent example of how Dassault Systèmes' solutions that cover product, nature, and life can be used to provide a comprehensive solution development environment.

In the final session, Mr. Philippe Bartissol, VP of Dassault Systèmes' Industrial Equipment (IE) industry segment, described how they have been able to achieve over 20% new license growth over the last year, making Industrial Equipment a US\$500 million market for them. Mr. Bartissol described Dassault Systèmes' end-to-end ISE for the IE industry and how they divide the IE industry into seven segments. Currently, Dassault Systèmes' ISE for this industry includes six solutions as part of their "equipment continuity" strategy. He reported that they are currently focused on their Operation & Ownership solution area. They are finding that customers are looking for models (i.e., digital twins) of their physical machines so that they can better monitor and maintain them. The emphasis is on model-based everything. Additionally, he reported that to support this, Dassault Systèmes' PowerBy is enabling the team to integrate with all the common MCAD tools, well beyond CATIA and SOLIDWORKS, including third-party MCAD solutions from Siemens and PTC, for example. This is very important for this industry where there is no dominant CAD solution and where systems modeling and optimization and the ability manage product-as-a-service (PaaS) will be critical for long-term success.

Concluding Remarks

Dassault Systèmes' announced acquisition of Medidata is a clear indication that it wants to own a significant and sizable portion of the Life Sciences PLM domain. It is an impressive move and should send a message to all PLM solution providers that Dassault Systèmes' Life Sciences industry strategy is broad and deep. It is important to note that this is only one of 11 industries Dassault Systèmes is targeting. Dassault Systèmes' broad and deep solutions are well positioned to support today's Industrial Renaissance across multiple industries, helping them design, deliver, and support products, nature, and life. Finally, Dassault Systèmes' is making steady progress across its eleven targeted industries. New and enhanced ISEs and IPEs are being delivered on the platform at a reasonable pace, illustrating the flexibility and

scalability of the **3DEXPERIENCE** platform—a platform that is evolving into a System of Operations, as well as a Business Model that supports new ways of working. CIMdata continues to be impressed with Dassault Systèmes' vision and progress, and looks forward to see what is around the corner.

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.