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**Contents**

<b>CIMdata News</b>	<b>2</b>
Aras ACE 2018: Fast Track to Digital Transformation (CIMdata Commentary)	2
CIMdata to Host Free Webinar on Barriers & Solutions to Industrializing Additive Manufacturing	6
CIMdata Publishes "Industrializing Additive Manufacturing"	7
CIMdata's Vice President, Stan Przybylinski, to make a Keynote Presentation at ESTECO's International Users' Meeting	8
Connecting the Core: IFS World Conference 2018 (CIMdata Commentary)	9
<b>Company News</b>	<b>14</b>
Altair and Cray Extend Their Collaboration in High-Performance Computing	14
BeProduct and Stars Design Group Celebrate PLM Success	15
Biomimicry and Transportation: Nature Inspiring Innovative Technologies	16
CONTACT Software Switzerland grows rapidly	17
Dassault Systèmes and Granta Design Partner to Deliver Materials Knowledge	17
Ectobox Announces IoT Partnership with PTC	18
Gerber Technology Solidifies its Market Leadership by Empowering Digitally Connected Supply Chains Critical in an On-Demand World	19
NITI Aayog and ABB India partner to make India AI-Ready	20
Siemens partners with Clean Motion to enable innovative digitalization journey	21
Vanguard Software Signs Oracle Platinum Partner as Value Added Reseller	22
<b>Events News</b>	<b>23</b>
ASSESS 2018 Congress Announces Dassault Systèmes as Sponsor	23
CGTech to Highlight Modernized User Interface, Optimization, and Additive Enhancements at IMTS	24
ESTECO International Users' Meeting lineup with focus on Effective Efficiency in product design: May 23-24	25
Prostep Sponsors Siemens PLM Connection Americas 2018	26
SEAMS Hosts Annual Gala Networking Event at 2018 Texprocess America	27
<b>Financial News</b>	<b>27</b>
Autodesk's First Quarter Results Led by Strong Annualized Recurring Revenue (ARR) Growth	27
DXC Technology Delivers Fourth Quarter Growth in Revenue, Earnings per Share, Margins, and Cash Flow	29
<b>Product News</b>	<b>31</b>
A Century of Updates For e2i From Vero Software	31
Centric Software Boosts PLM Power with Artificial Intelligence	32
Eurostep announces availability of ShareAspace in Azure	33
Hypertherm announces major version release of ProNest CAD/CAM nesting software	34
Introducing Onshape Enterprise	35
ITI enhances functionality, usability and performance in release of CADIQ 11	35
Latest Javelin Improves Business Efficiency and Saves Time	37
ModuleWorks, Hommel and MMC Hitachi Tool accelerate rotary machining	38
New mechatronic collaboration solution – MECODES for CATIA 3DEXPERIENCE and Xpedition	39
Nucleus SafetyCert RTOS achieves TÜV SÜD safety certification for industrial and medical markets	40
R3's Corda proves integration with SAP® solution-based business processes	41
Release Announcement of CATIA V5 to/from JT DirectTranslator Ver.3.0	42
Tombstone Manager and Customer Feedback Drives Number of Updates in Latest Edgecam	42

## CIMdata News

### ***Aras ACE 2018: Fast Track to Digital Transformation (CIMdata Commentary)***

22 May 2018

*Key takeaways:*

- *Industrial companies such as Audi, BMW, Microsoft, and Schaeffler are using the Aras PLM Platform to solve complex problems in support of their digital transformation programs.*
- *The Aras PLM platform continues to grow in breadth and depth as execution against their public product roadmap continues.*
- *Aras is starting to deliver on last year's announcement on support of Maintenance, Repair, and Overhaul (MRO), an important and often extremely profitable lifecycle phase.*
- *Last year's \$40M investment by Silver Lake and GE Ventures has enabled Aras to significantly grow their staff, including a doubling of the product management team.*
- *Systems Engineering and Simulation Process and Data Management (SPDM) are new strategic focus areas for product development and M&A investments.*

CIMdata attended the annual Aras customer event, ACE 2018, held in Indianapolis on March 20th through 22nd. The format mirrored last year's, with keynotes for all attendees and multiple parallel tracks. The two and one-half day agenda had up to seven parallel tracks and 20 unique sessions per day. The attendees included a diverse range of users from manufacturers and other industrial companies, as well as the usual implementation partners, industry and financial analysts, and academics.

On Monday, March 19th Aras again hosted a technical track for developers looking to connect to and interact with the Aras development team and their peers in other companies, and a track for Aras partners where strategy, messaging, partner issues, and tips were reviewed. Most interesting in the partner session was the six partners that gave short presentations on their integration products. CIMdata believes that it is unlikely that any single solution will be able to provide 100% of the technology to support a product innovation platform, so the integrations offered by Aras partners along with the enthusiastic support from Aras should go a long way to helping industrial companies meet their product innovation, as well as digital transformation objectives.

New this year, and also on Monday, was a four-hour training class that used automotive data and showed how Aras Innovator supports Corrective And Preventative Actions (CAPA) with its Quality Management solution. Several attendees commented on how this gave them new insights on how to bring the capability to their organizations.

### **Aras CEO Keynote**

Most of Mr. Peter Schroer's keynote was focused on the community oriented around Aras and what defines success. Mr. Schroer believes that success for Aras means the ability to tackle and solve complex problems and the measure of success is the growing list of well-known companies using the Aras product innovation platform to solve problems such as enterprise change management and complex configuration management. He was especially proud of the recently announced configuration service

# CIMdata PLM Industry Summary

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that supports variant management. CIMdata believes that having an advanced configurator available as a core service will dramatically simplify the creation of product variants especially helping companies focused on mass customization. Since it is implemented as a core service, it will be able to easily leverage all standard Aras capabilities like versioning and lifecycle states. We look forward to ACE 2019 user presentations on this topic.

## Customers Keynotes

Audi, BMW, and Microsoft are among the world's best-known brands and Aras customers. All gave keynotes talking about how they use the Aras platform to address different aspects of the digital thread at their companies.

- Mr. Martin Neff, Chief Architect, Audi Systems Engineering, reviewed how his team is building a complete environment to support systems engineering needs, especially for autonomous vehicles.
- Ms. Verena Held, Project Lead for the IT-project verification management, BMW Group, discussed how BMW built a pilot solution and is moving forward on the development of a validation management solution for BMW products.
- A team from Microsoft including Mr. Boris Conoetz, Jr., PMP, Director, Enterprise PLM, Mr. Mikko Keppo, Director, PLM/PDM DevOps Lead, and Mr. Koohyar Dadkhah, DBA, spoke on how they are moving their production Aras implementation to the Microsoft Azure cloud and leveraging PLM data using the Power BI reporting tool and data lake technology with system performance that meets or exceeds that of on-premise.
- Mr. Dirk Spindler, Senior Vice President R&D Processes, Methods & Tools Schaeffler AG, gave an overview of the growing complexity his company is facing and how they are using Aras technology as the backbone for their Engineering Cockpit solution.

CIMdata was pleased to see both the diversity and scale of solutions being developed and deployed at these large, well-known companies.

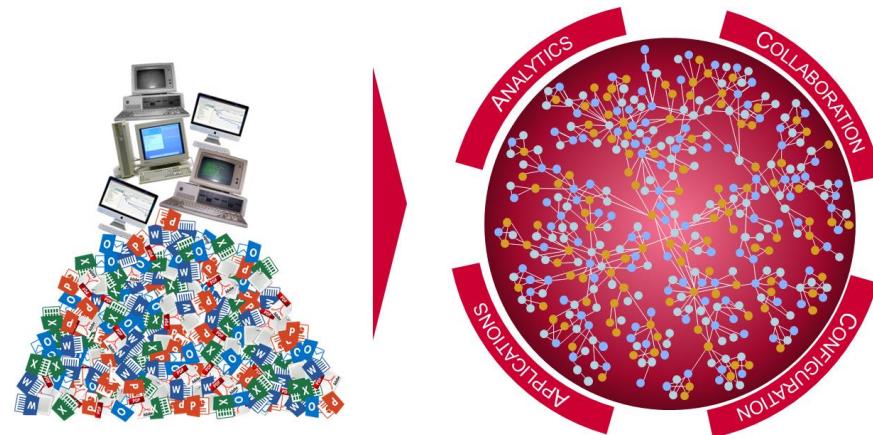
## About the Product

Mr. John Sperling, Aras' Vice President of Product Management, provided an overview of new solutions and enhancements. Beyond the new products and enhancements, Mr. Sperling talked about their concept of "incorporation"—their process for bringing legacy solutions onto the Aras platform, the exact process being used with the recently acquired Impresa MRO technology. Incorporation is not new, it is fundamentally similar to porting, but Aras' approach is somewhat different. They extend their platform with new services to add unique functionality and leverage their existing services for example, security, workflow, and visualization. While other solution providers have tried incorporation, it's usually expensive, and after an acquisition is completed and the revenue integrated, there is not much financial incentive to complete the technical integration. Since Aras only has to add unique capabilities and the services add value to their platform, they have an incentive to complete the incorporation. CIMdata is looking forward to seeing the rollout and adoption of MRO support within the Aras platform which is currently scheduled for the first half of 2019. It should help customers with service components in their business to better integrate lifecycle processes.

Additionally, Mr. Sperling reviewed a large number of new solutions, enhancements to existing solutions, and talked about upcoming solutions. The best way to review these is to check out the online public roadmap at <https://www.aras.com/plm-roadmap/>.

# CIMdata PLM Industry Summary

Mr. Rob McAveney, Aras' Chief Architect, talked about the Aras vision and roadmap and how it supports digital transformation. Mr. McAveney made the point that digitalization is much more than just a pile of electronic data and files stored in a vault. CIMdata agrees with Mr. McAveney's point and believes that the only way for digital transformation programs to achieve significant value is to ensure product definition data control is a core element of the program. Figure 1 depicts Aras' digital transformation vision.



**Figure 1—Digital Transformation is Much More than Just Digital Data**  
*(Courtesy of Aras Corp.)*

Mr. McAveney gave examples of what Aras is building—a more complete, advanced, usable, personable, and connected product innovation platform. He believes PLM solutions are far from complete, and there is still much work to be done. The examples he gave regarding what Aras is building are impressive and will serve their customers well. Some of the more interesting solutions include: system architecture solution, simulation process management, innovation management, task focused applications, document & procedure modeling, and semantic technologies.

## Systems Engineering

Aras has been working for the past several years with partners such as IBM, No Magic, Big Lever, and Dr. Martin Eigner to understand the data and process requirements that will enable the integration of requirements and digital system architecture design tools that model the conceptual functional, logical, and physical aspects of a system (RFLP) with the detailed physical design BOM type data that is typically managed in a PLM solution such as the Aras Platform. The result of these development efforts is now taking shape in the form of a new System Architecture data model and application layer for integrating MBSE data and processes with PLM/PDM. Expected to be formally released later this year, this new application provides a high-level graphical representation of the system design from within the Aras Innovator GUI that bi-directionally connects with and manages the systems design information that is authored in external tools such as IBM DOORS, No Magic Magic Draw or even MS Excel spreadsheets. At the same time, systems engineers can have continuous access to the latest detailed physical BOM/parts information that is available for use in the system design activity. Since many systems are variants of previous designs with a large number of carryover physical components, this enables the systems architect to leverage “approved” design data at a finer level of granularity for use in conceptual trade studies to define the optimal physical aspects and costs of the conceptual design.

In addition, design engineers and managers, as well as supply chain partners who are not familiar with requirements engineering or systems engineering tools and modeling languages such as SysML, can

# CIMdata PLM Industry Summary

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visually understand and collaborate with systems engineers through a “single source of truth” system architecture model that takes advantage of all the core services of the Aras platform (i.e., multi CAD visualization, change management, configuration management, roles/data access/permissions, requirements management, etc.). CIMdata expects that this new approach to integrating the currently disconnected engineering silos within the SE, PDM, and ALM domains via this Innovator Systems Architecture functionality will be a major step forward in enabling the emerging Digital Thread vision for Aras customers.

## Many New Faces

Last year, Aras received \$40M in funding primarily from Silver Lake and GE Ventures. This has enabled them to hire a significant number of people to accelerate their growth. They have increased headcount 50% across the board and doubled the size of Mr. Sperling’s product management group. At Aras, a product manager role is complex, in addition to specifying applications, they need to specify the underlying services that are flexible enough to be used across the platform in potentially unique and unanticipated ways. They also need to create specifications for the automated test suite that can test the services to ensure they will meet all solution development challenges. In CIMdata’s discussion with members of the product management team, they described this as one of their biggest challenges.

## Conclusion

The Aras ACE conferences have grown in size and complexity every year, and 2018 was no exception. Large customers such as BMW, Audi, Schaeffler, and Microsoft delivered interesting presentations on the progress they have made on their digital transformations using the Aras solution.

The Aras Platform continues to grow and appears to be meeting the scalability claims promoted by Aras. The automated upgrade process included within the subscription works as advertised. The large, sophisticated, mature companies choosing Aras for their PLM needs certainly is expanding Aras’ credibility, bringing in new customers, and validating the selection choice made by earlier adopters.

CIMdata has been following and engaging with Aras from its inception in 2000. It has been a long process for them to get recognized. They have continued to develop their technology and it is still innovative while well proven. They are an exciting company to watch within the PLM space, and as always, CIMdata is looking forward to seeing Aras’ next move.

## 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.

 [Click here to return to Contents](#)

# CIMdata PLM Industry Summary

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## ***CIMdata to Host Free Webinar on Barriers & Solutions to Industrializing Additive Manufacturing***

22 May 2018

CIMdata, Inc., the leading global PLM strategic management consulting and research firm, announces an upcoming free educational webinar, “Barriers & Solutions to Industrializing Additive Manufacturing.” The webinar will take place on Thursday, June 14, 2018 at 11:00 a.m. (EDT) and will last for one hour.

Huge advances have been made over the past five years to bring the prospect of final production-ready Additive Manufacturing (AM) parts closer to reality. Numerous examples prove that it is possible but at what cost? How much investment in terms of human labor, capital equipment, R&D effort, and acquisitions must be made before getting those precious few AM parts? And can we be sure that the AM parts are authentic; manufactured by the OEM and approved by the associated regulatory body? Who are the players and what can they offer? In this educational webinar CIMdata will explore the industrial AM landscape identifying barriers and outlining some opportunities.

James White, CIMdata’s Director for Additive Manufacturing Strategy, and the host for this webinar, stated, “Media and solution providers will have you believe that we are on the brink of mainstream industrialization of AM; to make practical for end-use production parts. Many advances have been made but there are still challenges with reliability, traceability, material science, cost, and the time needed to make AM parts, not to mention regulatory approval in regulated industries. The key to success is following a pragmatic plan with goals, milestones, and metrics and above all, knowing when to seek help.”

Mr. White has over 30 years of PLM, Additive Manufacturing/3D Printing, and general manufacturing industry experience. He has held roles in Fortune 1000 software and consulting companies where he was responsible for Product Management, Sales Management, Strategic Alliances, Major Account Management, and Business Development. He has extensive experience in market development, new product introduction, and client management across various geographies. His extensive industry experience includes Hi-Tech, Medical Device, Software, and Heavy Industrial, delivering new disruptive products, systems, and solutions. His passion for AM/3D Printing comes from a belief that customers need guidance to fully take advantage of recent advances in AM materials, machines, and design tools.

This webinar will be of interest to CFO’s, VP’s of Engineering, Manufacturing, and Strategy, product planners and managers, PLM team leaders, CAD department managers, CAD engineers, manufacturing engineers, IT leadership, manufacturing financial analysts. and anyone else who wants to learn more about industrializing additive manufacturing.

During the webinar attendees will have the opportunity to ask questions about the topics discussed. To find out more, visit: <https://www.cimdata.com/en/education/educational-webinars/barriers-solutions-to-industrializing-additive-manufacturing>.

To register for this webinar please visit: <https://register.gotowebinar.com/register/904659862265560065>

## **About CIMdata**

CIMdata, a leading 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) solutions. Since its founding in 1983, CIMdata has delivered

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world-class knowledge, expertise, and best-practice methods on PLM solutions. These solutions incorporate both business processes and a wide-ranging set of PLM-enabling technologies.

CIMdata works with both industrial organizations and providers of technologies and services seeking competitive advantage in the global economy. In addition to consulting, CIMdata conducts research, provides PLM-focused subscription services, and produces several commercial publications. The company also provides industry education through PLM certificate programs, seminars, and conferences worldwide. CIMdata serves clients around the world from offices in North America, Europe, and Asia-Pacific. To learn more about CIMdata's services, visit our website at [www.CIMdata.com](http://www.CIMdata.com), follow us on Twitter: <http://twitter.com/CIMdataPLMNews>, 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.

 [Click here to return to Contents](#)

## ***CIMdata Publishes “Industrializing Additive Manufacturing”***

23 May 2018

CIMdata, Inc., the leading global PLM strategic management consulting and research firm, announces the publication of an eBook titled “Industrializing Additive Manufacturing.”

Hobbyists and early adopters used Additive Manufacturing (AM) machines to make freeform organic shapes they couldn't make any other way. Now, driven by investments by industrial companies seeking to improve engineering processes and make better products faster and cheaper, attempts are being made to use AM for industrial end-use product production. Big challenges remain such as materials, regulatory compliance, speed, price, and reliability, but momentum in key areas such as material science help improve material print properties such as the build-rate to resolution ratio, meaning end-use production quality parts are now possible.

There is low or no cost penalty for geometric complexity when using AM. What this means is AM manufactured components can have very complex organic-like forms yet cost no more than a much simpler shape. This means engineers need to change from defining the shape features and focus upon the desired function instead.

This eBook introduces some key AM concepts such as Design for Additive Manufacture (DfAM) to identify opportunities to improve both existing and new designs, new organizational considerations including using a Vee Model to map out the end-to-end AM workflow, provides example use-cases of AM, and highlights the often-overlooked area of security.

According to Mr. James White, CIMdata Director, Additive Manufacturing Strategy Consulting Practice, “This eBook highlights the advantages of implementing AM to produce for-end-use quality products, but also some of the barriers. There are many great examples of Industrial AM but generally AM is not being utilized to its full potential; too often being used like an alternative to a traditional molding machine. An holistic approach is needed commencing with requirements gathering, high level and detailed design, performance simulation, and above all, imagination to re-think design since many manufacturing conventions like draft tapers, blend radii, and parting lines are no longer necessary.”

To find out more and to download the eBook on Industrializing Additive Manufacturing, visit  
<https://www.cimdata.com/en/resources/complimentary-reports-research/white-papers>

# CIMdata PLM Industry Summary

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## About CIMdata

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 [Click here to return to Contents](#)

## ***CIMdata's Vice President, Stan Przybylinski, to make a Keynote Presentation at ESTECO's International Users' Meeting***

22 May 2018

CIMdata, Inc., the leading global PLM strategic management consulting and research firm, announces that its Vice President, Stan Przybylinski, will make a keynote presentation at ESTECO's International Users' Meeting entitled, "Trends in Product Development and Manufacturing." The meeting will be held on 23 and 24 May in Trieste, Italy. Mr. Przybylinski's presentation will take place during the afternoon of day 2 of the event, on 24 May.

In his presentation, Mr. Przybylinski will provide an update on the Product Lifecycle Management (PLM) market, which includes simulation and analysis and a range of other solutions. He will also discuss how changes in materials and manufacturing methods are making simulation and analysis even more important to design and manufacturing.

Mr. Przybylinski has over 30 years of experience in the development of business-enabling IT solutions for research, engineering, and manufacturing organizations worldwide. He has worked in R&D, marketing, and communications with both Fortune 100 companies and small organizations. Stan is responsible for CIMdata's research agenda, including the CIMdata PLM Market Analysis Report series. Mr. Przybylinski has been directly involved with selection, consulting, integration, and implementation of large-scale PLM solutions, and has worked on projects for both PLM solution suppliers and end-user organizations in the automotive, aerospace, consumer packaged goods, high-tech, and medical devices industries. He has spoken on PLM-related topics in Europe, North America, and Asia.

For more information about the presentation please visit: <https://www.cimdata.com/en/events/event/393-esteco-s-international-users-meeting>

# CIMdata PLM Industry Summary

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 [Click here to return to Contents](#)

## ***Connecting the Core: IFS World Conference 2018 (CIMdata Commentary)***

24 May 2018

*Key takeaways:*

- *A global stalwart in mid-market enterprise resource planning, IFS is taking on today's market challenges, relying on the cloud, and delivering on IoT and AI.*
- *EQT, their private equity owners since 2015, have continued to invest in the company, its products and ecosystems, and M&A, extending their years of strong financial performance.*
- *IFS' investments, particularly on the cloud, seem perfectly timed to hit the cloud adoption wave evolving enterprise software.*
- *With these investments, and the work in IFS Labs and R&D, the company is well positioned for the years ahead.*

CIMdata recently attended the IFS World Conference 2018, held in Atlanta, Georgia on 1-3 May 2018. IFS' largest event ever totaled about 1,400 people, including 75 partner firms, IFS staff, and customers and prospects. Founded in 1983, IFS is known for IFS Applications, their component-based enterprise offering shown in Figure 2. Version 10 was launched in 2018. IFS also has other strong offerings, including field service management and maintenance, repair and overhaul (MRO). Today IFS has over 3,700 employees worldwide supporting over 10,000 customers and over one million users in over 60 countries. IFS is included in CIMdata's global product lifecycle management (PLM) market results because enterprise asset management (EAM), field service management, and MRO are all applications included in CIMdata's PLM market definition. IFS Applications also supports a few product development use cases with their IFS Engineering stack shown in Figure 2.

# CIMdata PLM Industry Summary

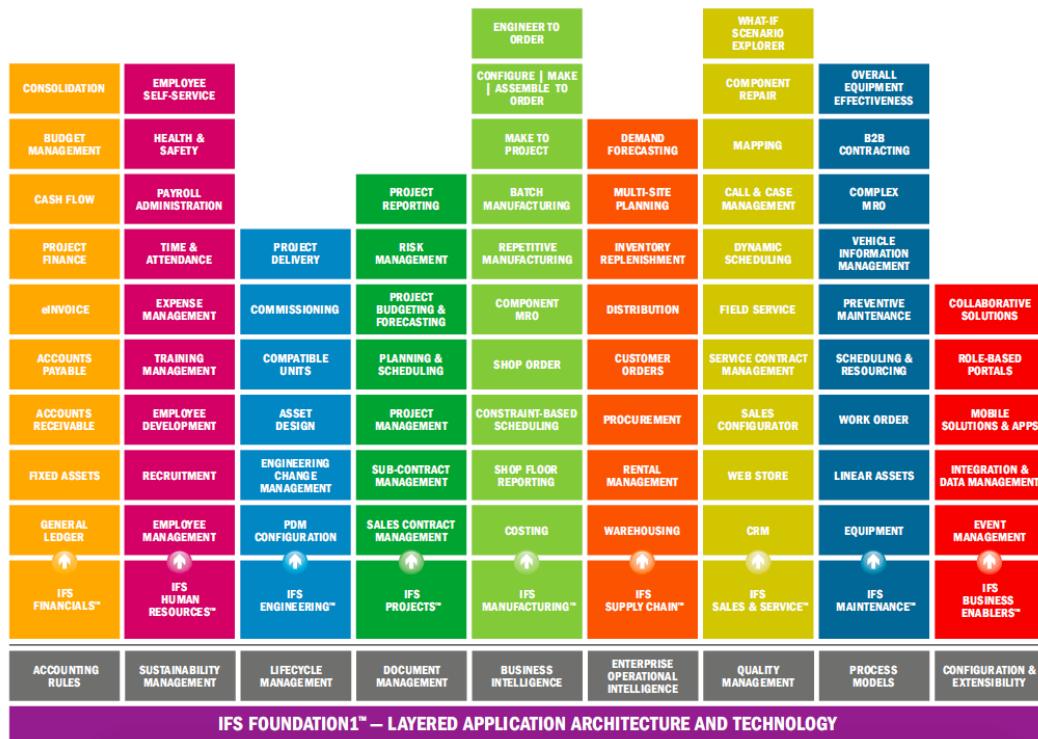


Figure 2—IFS Applications

IFS had been successful as an independent public firm and was taken private by the Swedish private equity company EQT in late 2015.<sup>1</sup> After the acquisition the new owners claimed they would:

- Support long-term product investments into the customer offering and the organization to further strengthen the market position in selected customer verticals.
- Support IFS in developing its global partner ecosystem so that it can continue to improve its ability to offer cost-effective global solutions.
- Provide financial and strategic resources to accelerate its M&A strategy<sup>2</sup>.

Scanning the IFS newsroom on IFSWorld.com since the acquisition shows that IFS has indeed continued to add channel and technology partners. The company has also been active in M&A in that period, adding: Mxi Technologies, a provider of intelligent maintenance management software for the global aviation industry,<sup>3</sup> augmenting their existing A&D solutions; mplsystechs Ltd. for omni-channel contact center and engagement software;<sup>4</sup> Field Service Management, Ltd. (FSM partner in the UK and Ireland); and WorkWave LLC, a provider of cloud-based SaaS Field Service, last mile delivery, and logistics solutions that was their largest acquisition to date.<sup>5</sup> Based on public reporting the firm continues to provide their run of success under EQT.

Unlike many private equity firms, EQT left the IFS management team largely intact after the

<sup>1</sup> <https://www.eqtpartners.com/Investments/Current-Portfolio/ifs/>

<sup>2</sup> <https://www.enterprisetimes.co.uk/2015/12/01/ifs-copies-infor-with-pe-buy-out/>

<sup>3</sup> <http://www.ifsworld.com/au/news-and-events/newsroom/2016/12/13/ifs-acquires-mxi-technologies-ltd/>

<sup>4</sup> <http://www.ifsworld.com/au/news-and-events/newsroom/2017/08/01/ifs-extends-leadership-in-service-management-with-two-acquisitions-mplsystems-limited-and-field-service-management-limited/>

<sup>5</sup> IFS Annual Report 2017.

# CIMdata PLM Industry Summary

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acquisition. 2018 brought the retirement of Mr. Alastair Sorbie, IFS' President and CEO, at the end of the first quarter of 2018. In early March, IFS announced that it has hired Mr. Darren Roos as the Chief Executive Officer of IFS effective April 1, 2018. Prior to joining IFS, Mr. Roos was President of SAP's Cloud ERP business. Before SAP he led Software AG's international operations to significant growth helping, the company triple in size during his tenure.

Mr. Roos led off the initial plenary session, but he was upstaged a bit by the innovative choreography and videography used to emphasize IFS' messaging on the main screen. Nine dancers, each holding their own flat screen TV, wove back and forth and, when positioned together, reflected and extended the images in synchrony with the main screen. Early in his remarks, Mr. Roos admitted that he was only one month into his new role, too soon to expound on some topics. He did make one pronouncement: IFS' branded artificial intelligence (AI) product would be named Nobel, but that was only said in jest. Mr. Roos agrees that AI, machine learning and other techniques are important going forward but IFS will not have a branded AI offering (a la IBM's Watson, Wipro's Holmes, Infor's Coleman, etc.). According to Mr. Roos, IFS plans to leverage "world-class open source AI capabilities" in their applications. Embedding the intelligence in the applications is consistent with actions from Oracle, SAP, and Infor in the enterprise software market.

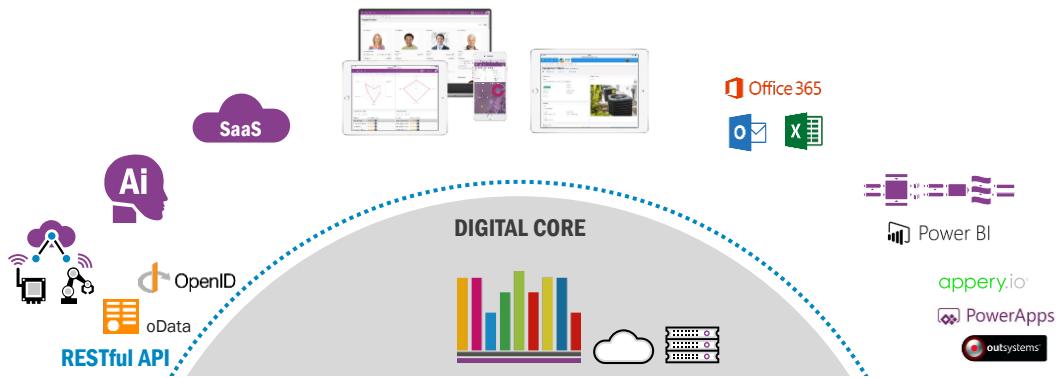
This is only one part of giving customers what Mr. Roos believes they really want: faster time to value. They want mitigated risk because they cannot afford to fail. Mr. Roos plans to keep IFS focused on engaging customers around value. You can't value what you cannot readily use, so IFS is developing a next generation user interface designed to be more intuitive and easier to use. IFS does have a branded solution here, IFS Aurena, a name that is a mashup of "aura" and "arena." It supports the leading Web browsers—Chrome, Safari, and Edge—and HTML5, AngularJS, TypeScript, and other standards. In IFS Applications 10 they are replacing their Web client with IFS Aurena and also use it for their next iteration of mobile applications. CIMdata agrees that improving the usability and utility of enterprise applications is a must. It is not clear why firms need to brand that experience, like IFS with Aurena, SAP with Fiori, and others. At least in SAP's case Fiori was a saleable item, so it made some sense. Perhaps marketing believes that signifying a break with the past is necessary to move forward.

In the following session, Mr. Dan Matthews, IFS' CTO, used the image in **Error! Reference source not found.** to suggest how the extended enterprise needs to connect to the Digital Core, IFS' core applications (IFS Applications, IFS Field Service Management, and IFS Maintenix). Of course, IFS Aurena accessed by browser or mobile is one mode of interaction and connection. Another way is to connect using AI. Mr. Matthews said that IFS is focused on putting AI in their core products in three key areas: (1) human-machine interaction (chatbots, language processing, image processing); (2) predictive maintenance and service; and (3) automation—automating human decisions, but also automating things they automate today using configurations and simple business rules. The conference sessions highlighted human-machine interaction by IFS Aurena Chatbots using text or voice<sup>6</sup>.

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<sup>6</sup> Using Cortana from Microsoft. The demonstration was interesting, but showed it needed much more work.

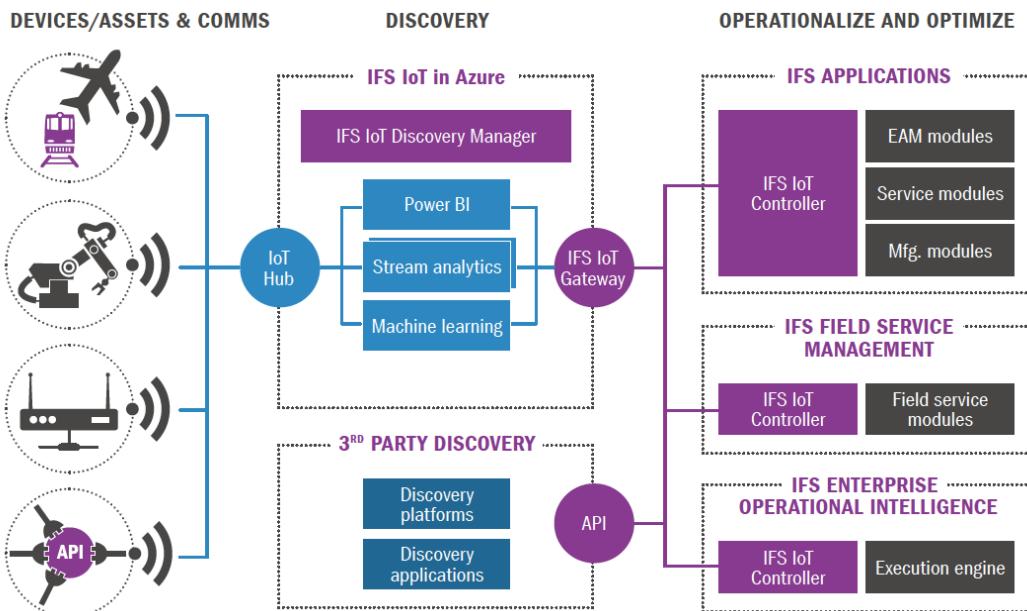
# CIMdata PLM Industry Summary



**Figure 3—Connecting to the Digital Core**

IFS' strong partnership with Microsoft (of over 20 years) is clearly evident in Figure 3. Of course, linking with Office 365 and all of the intellectual assets produced in those tools makes perfect sense for an enterprise solution provider like IFS. Power BI, a Microsoft analytics offering is a perfect add-on for the ubiquitous Microsoft Excel. Microsoft is also core to IFS' cloud strategy. IFS Managed Cloud, a full-service, managed single-tenant offering is delivered on Microsoft Azure. IFS manages the cloud infrastructure, operating system, database, middleware, and IFS products. According to IFS, their IFS Applications are optimized for seamless operation on Microsoft Azure.

IFS also relies on Microsoft to help them deliver their Internet of Things (IoT) solution, as shown in Figure 4. The blue boxes are provided by Microsoft and the purple as part of IFS' offerings. The data flows from "things" to an IoT Hub on Microsoft Azure, where it can leverage other Microsoft analytics solutions like Power BI and machine learning. IFS leverages this data using the IFS Business Connector, an IFS solution that has three components: (1) the IFS IoT Discovery Manager, where users can create and connect the IoT suite components and visualize components and data flows involved; (2) the IFS IoT Gateway to support communication with IFS on-premise and cloud offerings; and (3) the IFS IoT Controller, which helps determine what actions to take based on data and analytics provided to the IFS applications.



# CIMdata PLM Industry Summary

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## Figure 4—IFS IoT Strategy Leverages Microsoft Offerings

Mr. Matthews also described IFS' software development approach. IFS will use the same code everywhere. IFS Applications will continue to be delivered on-premise, but the on-premise solution will maintain parity with its other delivery modes: hosted, IFS Managed Cloud, or IFS SaaS, a new SaaS solution that is a cloud-native and cloud only multi-tenant solution that is loosely coupled to the core with open APIs. IFS Field Service Management will be delivered cloud-first. WorkWave, their recent acquisition is cloud-only, as are what IFS terms their "Value Add" solutions: IFS Customer Engagement, IFS IoT Discovery Manager, IFS Maintenix Fleet Planner, and Maintenix Line Planner, with more to come.

According to Mr. Matthews, IFS Managed Cloud was their first offering in the cloud, where the customer owned the software and IFS was running it for them. Managed Cloud was more of a grey box. The customers knew what they were running, and they could pay extra for more horsepower if they needed it. They also had more freedom to delay updates. Last year they introduced SaaS, a black box where the customers do not know or control how it is delivered. Today, SaaS is so new, they have few SaaS customers, with most cloud customers running on Managed Cloud. Looking at new customers sold to in the last 12 months (in the US, Europe and Scandia), about 1/3 were cloud. Four new SaaS offerings are in development. Clearly the way forward is on the cloud.

Another stated goal of EQT, the private equity owners of IFS, is to make IFS a leader in field service management. In a session entitled "What About Service?" Mr. Mark Brewer, IFS Global Industry Director, claimed that service is at the top of the EQT "investment stack" as evidenced in their recent M&A activity. As a result, Mr. Brewer noted that service revenue as a percentage of total revenue has increased substantially over the last 18 months. This is an area where they have had good success targeting SAP accounts where they can bring a much-needed high quality supplemental application.

IFS Labs managed to highlight yet another hot industry topic, the digital twin. This makes perfect sense given their focus on IoT, and asset and field service management. Mr. Bas De Vos, the Director of IFS Labs, showed he knew the NASA roots of the digital twin but is clearly looking to the future, beyond just twins of the asset, but how their data can be linked to totally different data sources, like connecting maintenance with ordering, with health applications, then compliance. The connections between IFS core applications could be endless.

In conclusion, IFS was a solid company made stronger by the private equity investment. Their loyal customers are willing to move ahead with them on their application journey, and now to the cloud. Based on their recent results, how is all this working for the company? In their last fiscal year, calendar year 2017, IFS reported license revenues up over 21% year-on-year, a good sign. We saw how cloud uptake seems to be on the rise. What about getting people to move to IFS Applications 10 so they can best leverage all of these investments? In one session, IFS stated that 35% of customers were on IFS Applications 9, claimed to be a relatively easy step from 10. That also bodes well for IFS, as does their work in their Labs and R&D. Their lead customers played a visible role in helping to define their new offerings and in demonstrating their early returns at the IFS World Conference 2018. How well they can connect their new sources of value with their core offerings will help determine how rapid that time to value can be for their current and new customers. Based on what transpired at the 2018 IFS event, IFS' future looks bright with a strong chance of "cloud." CIMdata looks forward to the next chapter at the 2019 conference.

## 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.

 [Click here to return to Contents](#)

## Company News

### ***Altair and Cray Extend Their Collaboration in High-Performance Computing***

22 May 2018

[Altair](#) announces a 3-year extension to its original equipment manufacturer (OEM) agreement with Cray Inc. Under the terms of this agreement, PBS Professional will remain bundled as the preferred commercial scheduler on new systems manufactured and shipped by Cray.

“Our relationship with Altair continues to benefit our common customers, as we deliver unique, integrated technologies that are ready to meet their highest HPC requirements,” said Fred Kohout, Senior Vice President of Products and Chief Marketing Officer at Cray. “Altair and PBS Professional are established leaders in HPC workload management, and we will continue to leverage this agreement for growth in commercial and other emerging market segments.”

PBS Professional gives Cray users a more efficient, reliable solution for HPC workload management. Altair collaborates with Cray to ensure tight, seamless integration. As a Cray-integrated product, PBS Professional optimizes job scheduling on Cray systems to achieve the highest possible utilization levels.

“After being selected last year as the first software company to receive Cray’s supplier of the year award, we are honored that Cray continues to name Altair as their premier workload management software supplier,” said Sam Mahalingam, Chief Technical Officer HPC/Cloud Solutions, Altair. “This agreement represents a continuation of Altair’s long-standing relationship with Cray.”

The joint Cray-Altair solution provides a superior solution for HPC users, ensuring the availability of reserved resources, optimizing the usage of non-reserved resources, and improving scheduling predictability so users have greater insight into the timing of their workload.

 [Click here to return to Contents](#)

# CIMdata PLM Industry Summary

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## ***BeProduct and Stars Design Group Celebrate PLM Success***

22 May 2018

Fashion technology house BeProduct is pleased to unveil a successful Product Lifecycle Management (“PLM”) initiative in partnership with design-to-delivery apparel company Stars Design Group Incorporated.

The culmination of a rigorous selection process, Stars Design Group (hereafter “Stars”) chose to work with BeProduct in 2017, and today the company has around 30 active users of BeProduct’s eponymous social product development platform, in offices around the world.

Founded in 2000, Stars undertakes design, development, and distribution processes on behalf of a range of clients – working on brands, private labels, licensed products, uniforms and other product categories, primarily in menswear. Through its client networks, Stars’ products are sold in the USA, Canada, Europe, and Asia, and the company currently designs and develops thousands of styles per year across its different accounts.

Headquartered in St. Louis, Missouri, Stars also maintains overseas operations in India, China, Ethiopia, and Vietnam. Through these satellite offices, the company oversees manufacturing at around 70 different hand-selected factories, working to ensure that quality and margin are achieved within a clear code of practice.

Stars began its search for PLM as a way of managing the complexity of multinational design, development, manufacturing and distribution for multiple clients, before discovering the limitations of more traditional solutions - as CEO & President Bret Schnitker explains:

“One of the biggest challenges of our business model is the diversity of our customer base – particularly because we’re so heavily involved in design, development, and the creation of technical specifications for many of those customers. Traditional PLM solutions are almost universally set up to deal with single brands and rigid categories, whereas our clients all have different identities and different quality, performance, and delivery requirements. Today’s world requires us to be both agile and organised, so what immediately appealed to us about BeProduct was the ability to develop products for multiple clients on one platform, quickly and in an organised way.”

A veteran of several PLM implementations in previous roles, Schnitker and his team were also drawn to BeProduct’s affordability and accessibility. “With systems like PLM, historically the up-front investment was so massive that businesses felt burdened once they’d purchased a solution,” he explains. “People recognise that they need PLM in order to maintain performance and grow, but the result is often a complex implementation with heavy customisation, meaning the solution quickly falls behind the times. But with BeProduct, the whole solution is cloud-based, with an affordable monthly fee and no up-front investment in software or infrastructure. Being built that way also means BeProduct can be a living, breathing thing; as a user, you sign in one day to discover that an updated module or all-new functionality is available and ready to go. And that’s just so much more exciting than having an expensive, static solution that you’re stuck with until a milestone release is manually installed.”

As well as the strengths of the solution itself, Stars relished the opportunity to work closely with the BeProduct team to help shape the development of the solution – something that BeProduct Founder Daniel Pak believes is essential for any software vendor in the modern fashion market. “We are thrilled to consider Bret and his team as equal partners,” Pak says. “We understand the value of agility, and our goal is to build the most flexible tool for modern fashion businesses, making sure that a single solution

# CIMdata PLM Industry Summary

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can be deployed on the cloud and then configured, non-destructively, to meet the needs of almost any business model.”

Following a successful implementation and on-boarding process, BeProduct and Stars continue to collaborate, with future functionality in the areas of 3D and supply chain collaboration targeted for deployment very soon.

 [Click here to return to Contents](#)

## ***Biomimicry and Transportation: Nature Inspiring Innovative Technologies***

15 May 2018

[Altair](#) is pleased to have been part of a collaborative effort with the Museum of Ingenuity J. Armand Bombardier for the inauguration of its temporary Exhibition Inspiring NATURE, inspired TECHNOLOGY: Biomimicry and Transportation which is now open to the general public. Altair's OptiStruct®, RADIOSS® and Inspire™ were used in the design of a vehicle frame structure which is prominently showcased at the museum.

Biomimicry is an approach for creating solutions to human challenges by emulating designs and ideas found in nature. The original designs for velcro, aircraft winglets, innovative water filtration materials and adhesives were all inspired by studying phenomena in nature. Using Altair's optimization technology, designers and engineers are able to investigate structurally-efficient concepts based on biomimicry principles to exploit ideas from nature by generating innovative material layouts using the loads and forces the product is subjected to as inputs.

“The Grand opening of the expo was a great success. Some hi-tech, yet intelligible, material was presented and people were quite impressed with the quality of our demo installation. The Altair and BRP team’s passion is contagious – it is always a pleasure collaborating with such good partners,” said André Denis, BRP Director of Technical Services.

Visitors to the museum can explore how nature inspires some of the innovative technologies used in transportation, discover close to thirty natural specimens and technological objects that share common principles, and manipulate interactive displays highlighting these concepts. Presented for a whole year at the Museum of Ingenuity J. Armand Bombardier, the exhibition will then circulate across Canada.

“This exhibition showcases the work done by the Museum team and several partners whose collaboration has been most valuable. Did you know that nature rewards cooperation? As was the case with Inspiring NATURE, inspired TECHNO, it leads to amazing results,” said Carol Pauzé, Director of the Museum of Ingenuity J. Armand Bombardier.

“It is a pleasure and an honour for Altair to have been invited to collaborate with the Museum of Ingenuity J. Armand Bombardier to develop the cross-Canada exhibition on innovation from nature and biomimicry,” said Bob Little, Managing Director, Altair Engineering Canada. “Altair’s solutions for simulation-driven design and optimization are having a real impact on the ability of our customers to develop innovative new designs with greater confidence and in less time.”

# CIMdata PLM Industry Summary

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For more information on visiting the museum please visit <http://www.museebombardier.com/>. For more information on Altair products and services please visit [www.altair.com](http://www.altair.com).

 [Click here to return to Contents](#)

## ***CONTACT Software Switzerland grows rapidly***

23 May 2018

CONTACT Software Schweiz AG can look back on an excellent business year and expects continued growth in 2018 and beyond. High investments in research and development are a matter of course for the globally oriented Swiss industry - and here more and more companies rely on the open CONTACT Elements platform.

"Our flexibly scalable offering for PLM and IoT has met with a great response in mechanical engineering, the electrical industry and other high-tech sectors," says Michael S. Murgai, Managing Director of CONTACT Software Schweiz AG. "The excellent references we have and our cooperation with HSR help in this respect."

The HSR University of Applied Sciences Rapperswil is in constant knowledge transfer with the industry. With research institutes such as the IPEK (Institute for Product Design, Development & Design), the VPE Symposium and other professional events, it is regarded as a top address for virtual product development. The HSR is a member of the CONTACT University program.

The key figures of CONTACT Software Schweiz AG speak for themselves, as Murgai emphasizes: "Order intake has grown on average of more than 40% annually since 2014, the customer base is expanding continuously and the number of employees has increased by a factor of three compared to the previous year." Now the company has established an additional location in the pharmaceutical stronghold of Basel in order to inspire the Swiss medical technology industry with its branch solution CONTACT Medical.

 [Click here to return to Contents](#)

## ***Dassault Systèmes and Granta Design Partner to Deliver Materials Knowledge***

24 May 2018

[Dassault Systèmes](#) is collaborating with [Granta Design](#) to help product innovation teams make more informed decisions about the materials they use for the products they are developing and the experiences they want to deliver. Dassault Systèmes' 3DEXPERIENCE platform will integrate with Granta Design's GRANTA MI system for materials information management, improving productivity and collaboration.

Thanks to the integration of GRANTA MI technology, approved information from a company's materials database will be directly available to its product innovation teams on the 3DEXPERIENCE platform. Designers, engineers, simulation analysts and other stakeholders will be able to quickly access accurate and consistent information on materials and their properties, and check that requirements on their structural behavior, cost, application, compliance or sustainability are fulfilled.

# CIMdata PLM Industry Summary

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“Science-driven companies using the 3DEXPERIENCE platform to explore materials now gain higher levels of confidence and flexibility in their innovation process,” said Leif Pedersen, CEO, BIOVIA, Dassault Systèmes. “The ability to search and assign the right material directly impacts the user experience, from the stiffness of a tennis racket or the cushioning of a car seat, to the right material for additive manufacturing, all while addressing increasing consumer awareness of the environmental impact of their product investment. Our customers need to understand the materials they are using, throughout the product innovation process.”

Materials are at the core of the next generation of products and experiences, giving rise to lighter and faster airplanes and automobiles, flexible high-tech devices, smart clothing, or 3D-printed medical devices. Improved and consistent access to materials data throughout the design, development and manufacturing process will boost innovation, reduce the time needed to bring a product to market, and lower risks of product design errors or poor performance.

Further details of the integration will be presented at the [Science in the Age of Experience](#) event in Boston from June 18-21.

“We’re pleased to be working with Dassault Systèmes to bring the benefits of material intelligence to users of the 3DEXPERIENCE platform,” said Patrick Coulter, Chief Operating Officer, Granta Design. “We know that customers are eager to see this integration, and we look forward to delivering it to them – and to working along with Dassault Systèmes to build further applications that help engineering enterprises to get more value from materials knowledge.”

 [Click here to return to Contents](#)

## **Ectobox Announces IoT Partnership with PTC**

24 May 2018

Ectobox, Inc., a custom software and IoT development firm specializing in the manufacturing industry, announced that it has become a PTC Technology Partner and Solution Provider.

PTC is the global software company behind ThingWorx, an industrial IoT technology platform, as well as providing other solutions that help companies design, manufacture, operate and service products to achieve product and service advantages.

As a result of the partnership, Ectobox will build custom IoT solutions on the latest version of PTC's ThingWorx platform, the leading IoT software platform on the market. The partnership will empower Ectobox to provide a wider array of services and have a bigger impact on manufacturers and heavy industry in Pennsylvania and the mid-Atlantic region.

“This partnership streamlines our development process and expands our capabilities as we deliver IoT solutions. Building directly on the ThingWorx platform eliminates a lot of back-end and front-end development costs, making it more affordable and accessible for our clients to start benefitting from IoT initiatives,” says Kevin Jones, President and CEO of Ectobox.

Ectobox will be utilizing several capabilities within the ThingWorx suite of products to interface with manufacturer databases, operations, and other systems, including user data visualizations, data analytics, machine learning, and augmented reality.

# CIMdata PLM Industry Summary

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Jones notes that adding PTC's extensive industry experience strengthens Ectobox's ability to create successful outcomes for small and mid-sized manufacturers by providing stronger assurance of the right product for their unique manufacturing situation, along with faster development times and more affordable and scalable solutions.

 [Click here to return to Contents](#)

## ***Gerber Technology Solidifies its Market Leadership by Empowering Digitally Connected Supply Chains Critical in an On-Demand World***

22 May 2018

Big data, cloud computing, Internet of Things, or Industry 4.0, they are the buzzwords in news headlines and industry forums every day and all around the world. At their core these trends are all focused on data integration and finding ways to effectively streamline operations to address an ever increasing on-demand world. "The simple fact is, no matter what buzzword you use, Gerber has been the first to actively support our customers in their pursuit of Industry 4.0 and the proof is in the actual working micro-factory we are displaying on the show floor with our partners," said Scott Schinlever, president & chief operating officer, Automation Solutions at Gerber Technology.

The wide variety in the textile, fashion and apparel industries means that different supply chains demand different approaches. Some require mass production with speed and efficiency in high volume, while others demand small batch or short run production to increase speed and optimize inventory. Gerber has been supporting these variants with cloud connected design and cut room technology for more than 10 years. "Our customers are leading the way, capitalizing on the benefits of our cloud-based digital solutions," said Karsten Newbury, senior vice president, Software Solutions at Gerber Technology. "With our industry leading AccuMark® Platform of 2D and 3D applications, data is passed seamlessly to our smart machine cut room solutions, all supported by GERBERconnect™. We are enabling incredible agility in our customers' processes, which is critical to winning in today's "on-demand" economy."

Technology is a key enabler supporting the needs of an on-demand world, improving both the bottom line and socially responsible manufacturing practices. To demonstrate how Gerber is empowering Industry 4.0 tenets, the company will showcase two fully-integrated workflows at Texprocess Americas. Their mass customization workflow includes a collaboration with Kornit Digital and Henderson Sewing Machine Company to demonstrate a complete on-demand micro-factory with 3D simulation, vision-aided cutting, direct-to-textile digital printing and robotics for transportation and sewing. The concept highlights how data management, connected systems and automation can enable purchase activated production, redefining the concept of just-in-time manufacturing. "The benefits of on-demand manufacturing are countless," said Mohit Uberoi, CEO Gerber Technology. "We are investing in new technology and plan to continue pushing the boundaries of innovation to help our customers embrace digitalization, compete and win."

 [Click here to return to Contents](#)

# CIMdata PLM Industry Summary

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## ***NITI Aayog and ABB India partner to make India AI-Ready***

23 May 2018

The National Institution for Transforming India ([NITI Aayog](#)), the think tank of the Indian government, and ABB India have signed a Statement of Intent (SoI) to support the Indian government to realize its ambitious vision of “Make in India” through advanced manufacturing technologies that incorporate the latest developments in robotics and artificial intelligence.

NITI Aayog will work with ABB to prepare key sectors of the economy, such as the power and water utilities sector, industries like food as well as the heavy industries sector; and the transport (rail and metro) and infrastructure sectors for digitalization, the Internet of Things (IoT) and Artificial Intelligence (AI). The initiative also covers the fast growing segment of electric mobility. Jointly, NITI Aayog and ABB will work with government ministries, solicit feedback for areas critical to them and discuss solutions using industrial automation, and digitalization technologies.

“We are looking forward to learning more about practical applications of future technologies such as AI and IoT, especially in streamlining governance and economic systems. This collaboration, which will include cross-sectoral understanding of digitalization at ABB’s world class centers, will be key in driving progress of key sectors in India. This collaboration is meant to lead to actionable insights and focused plans that will help India become a center for advanced manufacturing,” said Amitabh Kant, CEO of NITI Aayog.

Through this SoI, NITI Aayog will facilitate policymakers and government functionaries’ participation in workshops and training programs organized by ABB India. Such programs will feature subject matter experts and will aim to sensitize policymakers and government officials about relevant AI capabilities, and explore ways they can be used for revolutionizing manufacturing productivity.

“We are excited to partner with NITI Aayog and develop ways for key areas of India’s economy to benefit from and implement the latest technologies in digitalization, artificial intelligence, robotics, and industrial automation. We look forward to working with key stakeholders in the Indian government, and supporting key initiatives of Prime Minister Modi such as ‘Make in India’,” said Dr. Ulrich Spiesshofer, CEO of ABB. “ABB’s more than a hundred years’ presence in India and our pioneering technology leadership in industrial digitalization position us well to support India in its ambitions for the next phase of its transformation.”

Anna Roy of NITI Aayog and Sanjeev Sharma, managing director of ABB India, sign a statement of partnership in advanced manufacturing technologies, including digital and AI, in New Delhi today. Looking on are Amitabh Kant, CEO of Niti Aayog, and Ulrich Spiesshofer, CEO of ABB

The first workshop for senior government officials, under this collaboration, would be organized in June, 2018, at the ABB Ability Innovation Center in Bengaluru. Given the importance of the Indian food processing sector, the workshop will focus on digital and automation technologies for this sector. Senior officials from the Central and State Governments as well as autonomous bodies will be nominated for this workshop. Similar workshops will be organized for other sectors such as power, urban development and transport in the near future.

NITI Aayog and all stakeholders will experience hands-on experience of [ABB Ability™](#), the company’s comprehensive digital portfolio of solutions that deliver value of industrial digitalization to utilities, industries and transportation & infrastructure. ABB Ability™ integrates all of ABB’s services and domain expertise to turn data into analytic insights and direct action to drive competitiveness of Indian

# CIMdata PLM Industry Summary

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and global customers.

The workshops and training programs will be held at the ABB Ability Innovation Center (ABB AIC). As the company's biggest research and development center in the world, located in Bengaluru, it develops technologies in areas such as AI, cyber security, automation engineering, data analytics, augmented and virtual reality and industrial software. ABB AIC also collaborates with premier academic institutes to pool expertise and funnel synergies for the benefit of society.

In addition, workshops will be held at [ABB Power Technology Experience Center](#) (ABB PowerTEC), Vadodara, India's leading technology and knowledge training institute, which focuses on power engineering, grid automation and digitalization. Both facilities integrate best-in-class technologies and in-depth technical knowledge.

Based on the interactions with ABB India, NITI Aayog will also make recommendations to government ministries for guidelines and policies regarding development and adoption of AI technology in sectors such as power & water utilities, manufacturing, e-mobility and infrastructure, with industrial automation and digitalization as the backbone.

 [Click here to return to Contents](#)

## ***Siemens partners with Clean Motion to enable innovative digitalization journey***

21 May 2018

Siemens announced today a new partnership with Clean Motion AB, manufacturer of the electric vehicle Zbee, which will help enable Clean Motion to build and maintain a digital master factory using Siemens' technology and solutions. Clean Motion has a global expansion strategy based on distributed local manufacturing in many smaller factories close to the end customer. To succeed in such an expansion, it is important to ensure a digitally defined product and manufacturing process together with a centrally controlled supply chain. Clean Motion is now taking the next step in its digitalization process with Siemens PLM Software to reach fully digital twins of both the product, the manufacturing process and the factory.

As part of the digitalization strategy, a digital master factory will be built with Siemens' product lifecycle management (PLM) software. This factory will then allow adjustments for the introduction of new variants and optimization of production flows. Clean Motion will be able to build a large number of independent physical plants and help ensure they operate in exactly the same way worldwide, by using Siemens PLM Software solutions that will maintain and manage the digital twin mirroring the Clean Motion digital master factory. Clean Motion plans to deploy Mindsphere, the cloud-based open Internet of Things (IoT) operating system from Siemens, powered by Amazon Web Services (AWS), to enable the connected factory and create a closed loop process that monitors and feeds back live data from usage and factory to further optimize Clean Motion's business and process.

"The use of Siemens' solutions for IoT will provide opportunities to record how the product is produced and used in real time," said Göran Folkesson, CEO of Clean Motion. "With this information we can optimize our existing business model but also develop new business opportunities. This also means that we will be able to return information about usage and manufacturing, ensuring that we are constantly building with the same high quality throughout the world."

Clean Motion's business model is based on a central purchasing and logistics organization with local

# CIMdata PLM Industry Summary

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production units building, servicing and providing Zbee on the local market. The goal is that each micro factory will have an annual capacity of approximately 5,000 vehicles. The concept is based on the fact that each micro factory contains all parts for the entire vehicle's life cycle, where production, sales and aftermarket are aggregated. Clean Motion will make use of Siemens' NX™ software, a leading integrated solution for computer-aided design, manufacturing and engineering (CAD/CAM/CAE), the Teamcenter® portfolio, the world's most widely used digital lifecycle management software, the Simcenter™ portfolio, a robust suite of simulation software and test solutions, and the Tecnomatix® portfolio, the industry-leading digital manufacturing software solutions to build and maintain the digital twin. Clean Motion will also use Siemens' Managed Services with Teamcenter on the cloud, powered by AWS, with a goal to have an end-to-end industrial software solution on the cloud.

"We will create a closed system with a network of centrally controlled production units. This would not have been possible without a partner like Siemens," said Niklas Ankarkrona, chairman, Clean Motion.

"Clean Motion's business model provides a solid base for their digitalization journey, and our software provided as a hosted cloud service on AWS can give the end-to-end solution necessary for their critical next steps," said Mats Friberg, CEO, Siemens PLM Software, Sweden. "Collaborating with companies such as Clean Motion allows Siemens to achieve a high level of innovation and realization of these new technologies in combination with already developed working methods."

The collaboration will not be limited to the factory. Zbee is already building a virtual product, and with the Siemens PLM software portfolio, Clean Motion will build a digital twin of the product, process and factory, enabling even greater opportunities to simulate, optimize and verify both product and production. Using the digital twin, Clean Motion will be able to simulate the vehicle's entire life cycle before it is completed.

For further information on the digital twin and Siemens' PLM portfolio, please see <https://www.plm.automation.siemens.com/global/en/>



[Click here to return to Contents](#)

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## **Vanguard Software Signs Oracle Platinum Partner as Value Added Reseller**

22 May 2018

Vanguard Software signed a deal in which NexInfo will sell, implement, and support Vanguard Software's unified cloud platform for Integrated Business Planning (IBP) and forecasting.

Vanguard Software Chief Sales and Marketing Officer Neal Goffman believes the partnership will help Vanguard increase its presence in the Oracle ERP user market, as well as among users of other top-tier enterprise systems, including SAP and Microsoft.

"NexInfo's experience with Oracle and other top-tier systems will help Vanguard extend its reach into those user communities," said Goffman. He added that the deal also complements NexInfo's strong base of enterprise system makers with a best-of-breed plugin platform for forecasting and planning. "It's a stronger go-to-market offering for all involved," he said.

Vanguard Software's cloud platform includes applications for sales forecasting, demand planning, inventory optimization, budgeting and forecasting, [sales and operations planning \(S&OP\)](#), and [IBP](#) with full financial integration.

# CIMdata PLM Industry Summary

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NexInfo is an Oracle Platinum Partner that specializes in value chain planning and implementation, product lifecycle management, data security and management, and analytics.

Under the deal, NexInfo will sell Vanguard Software as part of larger integrated consulting and implementation solutions. NexInfo will also handle post-implementation services, including maintenance, level-1 support, training, and ongoing systems integration.

 [Click here to return to Contents](#)

## Events News

### *ASSESS 2018 Congress Announces Dassault Systèmes as Sponsor*

22 May 2018

[ASSESS Initiative](#) is proud to announce that Dassault Systèmes will be a Gold Sponsor for the upcoming [ASSESS 2018 CONGRESS](#) to be held at Chateau Elan Winery & Resort Oct 28th -30th, 2018.

“Due in part to stricter regulations, global supply chains, and consumer expectations for low cost, high-quality products, manufacturing companies are looking for ways to expand their use of realistic simulation to help them achieve their goals,” stated Sumanth Kumar, VP SIMULIA Brand Marketing at Dassault Systèmes. “We are very glad to support the ASSESS Initiative and its Annual Congress as part of the collaborative effort of ASSESS to bring together thought leaders from various organizations to take action on improving the awareness and value of Engineering Simulation to the industry.”

The ASSESS 2018 Congress is the 3rd annual ASSESS congress. The ASSESS 2018 Congress is the 3rd annual congress for ASSESS organized to “enable” both strategies and relationships related to significantly increasing the use and benefit of Engineering Simulation. Key business drivers are forcing a “simulation revolution” to overcome the issue of required expertise which is limiting the expansion of Engineering Simulation usage. The theme of the ASSESS 2018 Congress is “Launching the Engineering Simulation Revolution”

Registration for the ASSESS 2018 Congress is by invitation only and is limited to 115 attendees. Registration will close either when all available seats are taken but no later than October 24, 2018.

Dassault Systèmes has also agreed to be a Silver Sponsor of the ASSESS Initiative activities outside of the annual congress.

“Dassault Systèmes has been an active participant and supporter of ASSESS through the SIMULIA brand since its inception and we appreciate their continued support of and participation at our annual congress and in our activities outside of the congress”, says Joe Walsh, CEO and Co-Founder of the ASSESS Initiative.

The ASSESS Initiative was formed to bring together key players, both users and developers of simulation software, to guide and influence the software tool strategies for performing model-based analysis, simulation, and systems engineering with a vision “To significantly expand the use and benefit of software tools for model-based analysis, simulation, and systems engineering in the engineering applications domain.”

The [ASSESS Initiative Membership](#) program provides the ability for the ASSESS Initiative to expand

# CIMdata PLM Industry Summary

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its efforts and community benefits beyond the annual congress. The ASSESS Membership Program is appropriate for all organizations engaged in Analysis, Simulation, and Systems Engineering activities related to Engineered products & processes. The ASSESS Membership Program will be offered in individual or group memberships. Active ASSESS Initiative Members receive access to [Members Only](#) content on the ASSESS website and a discount on the ASSESS Congress Registration Fees.

 [Click here to return to Contents](#)

## ***CGTech to Highlight Modernized User Interface, Optimization, and Additive Enhancements at IMTS***

22 May 2018

At the 2018 International Machine Tool Show (IMTS), September 10-15, 2018, CGTech's VERICUT Product Manager Gene Granata will be giving a presentation on choosing part optimization strategies. Attendees can attend the presentation on Thursday, September 13 at 11:00am in room W192-C. Throughout the show, the new release of VERICUT, version 8.2, will be featured in CGTech's booth 133346. VERICUT CNC machine simulation, verification and optimization software simulates all types of CNC machining, including drilling and trimming of composite parts, water jet, riveting, robots, mill/turn and parallel kinematic/hexapods. It operates independently, but can also be integrated with leading CAM systems.

VERICUT is at the heart of the CNC manufacturing process for many of the world's leading engineering businesses in all industry sectors, including: aerospace and defense, oil and gas, power generation, motorsport, automotive and transport, medical device and implant, as well as general precision and heavy engineering.

Machine simulation with VERICUT detects collisions and near-misses between all machine tool components such as axis slides, heads, turrets, rotary tables, spindles, tool changers, fixtures, workpieces, cutting tools, and other user-defined objects. Users can also set up 'near-miss zones' around the components to check for close calls, and detect over-travel errors. Machine movements can even be simulated while stepping or playing backwards in VERICUT's Review Mode.

### **Modernized User Interface**

Head-Up Display (HUD) shows the NC program or status items on top of Views. HUD keeps tabs on the NC program and important machine functions, while still keeping simulation Views as large as possible for optimal viewing. HUD is customizable. Program Alerts highlight errors and warnings in NC programs. You can hover over the alert to see exactly what the error or warning is. When running multiple NC programs, Program Alerts highlights the programs with errors in red.

### **Force Turning & Calibration**

Force is a physics-based NC program optimization module that analyzes and optimizes cutting conditions throughout CNC Program operations. Force is available on Turning/Lathe and Milling machines. Force Turning makes it easy to change and limit the chip thickness and feed rates while cutting in corners, diameters, and tight spaces. Force Calibration creates Force Material Files from dynamometer test data, and includes a Design of Experiment (DOE) planner, validates data, and shows statistics.

### **Improvements to the Additive Module**

VERICUT 8.2 adds realism to additive simulation to improve verification of the additive build

# CIMdata PLM Industry Summary

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processes. These processes include, but are not limited to: the buildup of overlaps, acute corners, tight overlapping bead paths, and double-deposits (overlapping start/end points). An alert message will appear when the laser focal point is too far from the part's surface, when there are excessive overhang conditions, and/or when there is too much build up at corners and overlaps. The excessive corner and overlap alert helps determine when it may be beneficial to make a milling cut.

## Other Products

VERICUT Composite Applications are being used by leading manufacturers to program and simulate automated fiber placement and tape-laying machinery from machine tool builders such as: Electroimpact, MTorres, AFPT, Automated Dynamics, Fives, Accudyne, BA Composites and others.

The automated drilling and fastening machines used for the production of aero-structure components are also supported by VERICUT Drilling & Fastening (VDAF). It allows the user to visualize and simulate CNC drilling and fastening machines using the same NC program code that will be run on the machine. Simulation is independent of programming, and VDAF can simulate NC programs from any programming system for any CNC-automated drilling and fastening machine.

With the modular format of VERICUT the software provides flexibility, so companies purchase only the capabilities they need. It is easy to add modules as required as CGTech provides a license that gives immediate access. VERICUT runs on Windows platforms and is delivered as 64-bit application. Post-processed G&M codes or CAM center-line (CL) formats are both supported.

 [Click here to return to Contents](#)

## ***ESTECO International Users' Meeting lineup with focus on Effective Efficiency in product design: May 23-24***

22 May 2018

*CIMdata's Stan Przybylinski to present; his talk is titled "Trends in Product Development and Manufacturing"*

ESTECO has announced the addition of new high-profile speakers to its 8th International Users' Meeting (UM18) agenda, including the representatives of the PSA Group, VOLVO Cars, Cummins and Air Force Research Laboratory. The event will take place on 23rd-24th May, 2018 at the Stazione Marittima in Trieste, Italy. The leading engineering technology forum, first run in 2004 and held biennially ever since, will draw hundreds of optimization experts from all over the world looking to network, exchange knowledge and get the latest industry updates.

In the light of this year's focus on Effective Efficiency, keynote speakers from some of the world's most innovative companies will showcase how big players stay ahead of the game with the aid of ESTECO Technology. With the increasing amount of data generated throughout the product development process, effective data management is now crucial to get the best out of numerical efficiency, especially when dealing with complex products, like those in the automotive and aerospace industries - key fields of application of the ESTECO technology.

A rich agenda of presentations from industry and academic experts includes Fabien Figueres, Data Engineer for Numerical Computation at the PSA Group, who will explain how ESTECO technology - and in particular, a VOLTA-based platform - can help accelerate vehicle development during the numerical design phase.

## CIMdata PLM Industry Summary

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Other two high-profile keynotes from the automotive industry have been announced. On behalf of VOLVO Cars, Mikael Tormanen, Technical Expert MDO & P/T Attributes Balancing will join the UM18 lineup with a keynote Effective Optimization in Early Development Phases.

Bob Tickel, Director of Structural & Dynamic Analysis at Cummins, an American corporation that designs engines, filtration, and power generation products, will address the UM18 participants with a keynote The Future of Modeling, Simulation and Optimization at Cummins.

As for the aerospace industry - another key area of application of the ESTECO technology - Richard Snyder, Senior Research Aerospace Engineer, MSTC Center of the Aerospace Systems Directorate, U.S. Air Force Research Laboratory, will talk about the ongoing challenge to meet stringent performance requirements along with the necessity to advance the current aerospace tools and processes.

Finally, the third edition of the ESTECO Academy Design Competition aimed at engineering students and organized in collaboration with Cummins will be announced from the UM18 stage.

The UM18 also provides a unique opportunity for a hands-on experience of the ESTECO's best-in-class process integration and multiobjective optimization platform. Following the main event, on May 24th, two technical focus sessions will be held on May 24th at the same venue of the ESTECO International Users' Meeting 2018.

With over 200 attendees, 47 speakers, 3 parallel rooms, and a roundtable focusing on multidisciplinary optimization, the 2016 edition of the ESTECO International Users' Meeting confirmed its reputation as a leading forum for sharing innovative optimization applications and techniques.

Past editions of the conference bear witness to the global scope of the initiative with more than 600 users from over 50 countries and more than 180 speakers from leading multinational companies and research centers, including ABB, Bombardier, Embraer, Ford, Petrobras, Volvo and Whirlpool.

For more information: [um18.esteco.com](http://um18.esteco.com)

 [Click here to return to Contents](#)

### **Prostep Sponsors Siemens PLM Connection Americas 2018**

23 May 2018

PROSTEP announces their Premium Sponsorship at [Siemens PLM](#) Connection Americas 2018 held in Phoenix, AZ on June 4-7, 2018.

The event provides PROSTEP experts the opportunity to educate the audience in PLM, secure data exchange, and 3D PDF technologies to expand knowledge of PLM connections and interoperability.

PROSTEP, together with Siemens, will provide a co-presentation titled Managing Simulation Data in a Multi-PLM Environment. Other presentations include 3 Keys to a Successful Siemens, Benefits of MBD Enabled 3D PDF in Enterprise, Secure Additive Manufacturing Data Exchange using Blockchain Technology, and How to Securely Exchange Data Outside Your Enterprise. If you are unable to attend the event, please request PROSTEP presentations [here](#).

To register for Siemens PLM Connection Americas 2018, please [click here](#). For more information about PROSTEP, please visit [www.prostep.com](http://www.prostep.com).

 [Click here to return to Contents](#)

## **SEAMS Hosts Annual Gala Networking Event at 2018 Texprocess America**

21 May 2018

SEAMS today announced the sponsor lineup for its upcoming networking Gala at Texprocess America taking place May 22 - 24, 2018 at the Georgia World Congress Center in Atlanta, Georgia. SEAMS hosts the must attend “Building the Bridge for a Better US Supply Chain” networking Gala on Wednesday, May 23, 2018 at the Omni Hotel.

Will Duncan, Executive Director, is driving the growth and momentum for SEAMS leading up to this event with new members, a new brand and website, and a strong network of leading manufacturers, brands and suppliers. “We are growing and attracting new members daily and our network is becoming stronger as we Build a Bridge for a Stronger US Supply Chain,” Duncan states. “The attendance for our Gala and our strategic sponsors will make this a very special year to attend.” We are honored to have them participate in the SEAMS organization and in the Gala Event.”

Sponsors for the 2018 Gala include Champion Thread Company and LACorp, two long-standing SEAMS members as the Platinum Sponsors. Additional sponsors include Contempora Fabrics, Buhler Quality Yarns, Dunn Trimming & Binding, Eastex, Hemingway Apparel, J. Smith Lanier & Co., Messe Frankfurt, Methods Workshop and Will Duncan & Associates.

In addition to the Gala Event, SEAMS members will be available to meet with industry attendees at The SEAMS “Supply Chain USA” Pavilion (Booth #'s 1409 – 1814), where 35 member companies represent Retailers/Brands, Manufacturers, Textile Providers, Suppliers and Technology Providers. “We urge everyone to visit our Pavilion and meet the dynamic industry leaders that are a part of the SEAMS movement for Made in America”. Duncan continues “this is one of the most exciting times in our industry as we see this movement take off and the momentum we are experiencing in member growth is just the tip of the iceberg.”

 [Click here to return to Contents](#)

## **Financial News**

### ***Autodesk's First Quarter Results Led by Strong Annualized Recurring Revenue (ARR) Growth***

14 May 2018

[Autodesk, Inc.](#) today reported financial results for the first quarter of fiscal 2019.

#### **First Quarter Fiscal 2019**

Note: Starting the first quarter of fiscal 2019, Autodesk reports its results under two new accounting standards. Revenue is now reported under Accounting Standard Codification ("ASC") 606 and sales commissions are now reported under ASC 340-40. We did not recast historical information as we elected to use the modified retrospective transition method. These new standards did not result in a change in timing or amount of revenue recognized for the majority of our maintenance and subscription

# CIMdata PLM Industry Summary

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offerings. However, we are required to capitalize and amortize sales commissions under the new standards. ASC 606 and ASC 340-40 do not affect cash flows or subscriptions.

- Subscription plan ARR was \$1.40 billion, an increase of 103 percent compared to the first quarter last year as reported, and 101 percent on a constant currency basis. Under the prior revenue accounting standard, ASC 605, subscription plan ARR was \$1.43 billion, an increase of 106 percent compared to the first quarter last year.
- Total ARR was \$2.13 billion, an increase of 22 percent compared to the first quarter last year as reported, and on a constant currency basis. Under ASC 605, total ARR was \$2.17 billion, an increase of 25 percent compared to the first quarter last year.
- Subscription plan subscriptions increased 307,000 from the fourth quarter of fiscal 2018 to 2.57 million at the end of the first quarter of fiscal 2019. Subscription plan subscriptions benefited from 154,000 maintenance subscribers that converted to product subscription under the maintenance-to-subscription (M2S) program.
- Total subscriptions increased 101,000 from the fourth quarter of fiscal 2018 to 3.82 million at the end of the first quarter of fiscal 2019.
- Deferred revenue was \$1.81 billion, flat compared to the first quarter last year. Unbilled deferred revenue at the end of the first quarter was \$412 million. Total deferred revenue (deferred revenue plus unbilled deferred revenue) was \$2.22 billion, an increase of approximately 21 percent compared to the first quarter last year. Under ASC 605, total deferred revenue was \$2.28 billion, an increase of approximately 24 percent compared to the first quarter last year.
- Revenue was \$560 million, an increase of 15 percent compared to the first quarter last year as reported, and on a constant currency basis. Under ASC 605, total revenue was \$574 million, an increase of 18 percent compared to the first quarter last year.
- Billings were \$411 million, a decrease of 18 percent compared to the first quarter last year driven primarily by the initial impact of the adoption of ASC 606. Under ASC 605, billings were \$561 million, an increase of 12 percent compared to the first quarter last year.
- Total GAAP spend (cost of revenue plus operating expenses) was \$615 million, an increase of 2 percent compared to the first quarter last year. Absent ASC 340-40, total GAAP spend was \$602 million, a decrease of 1 percent compared to the first quarter last year.
- Total non-GAAP spend was \$531 million, an increase of 1 percent compared to the first quarter last year. A reconciliation of GAAP to non-GAAP results is provided in the accompanying tables. Absent ASC 340-40, total non-GAAP spend was \$518 million, a decrease of 1 percent compared to the first quarter last year.
- GAAP diluted net loss per share was \$(0.38), compared to GAAP diluted net loss per share of \$(0.59) in the first quarter last year. Under ASC 605 and absent ASC 340-40, total GAAP diluted net loss per share was \$(0.27).
- Non-GAAP diluted earnings per share was \$0.06, compared to non-GAAP diluted net loss per share of \$(0.16) in the first quarter last year. Under ASC 605 and absent ASC 340-40, total non-GAAP diluted net income per share was \$0.16.

"Our first quarter results are a good start to the new fiscal year and demonstrate Autodesk is firmly in

# CIMdata PLM Industry Summary

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the growth phase of our business model transition," said Andrew Anagnost, Autodesk president and CEO. "Once again, our focus on driving growth in ARR has yielded strong results, which we believe will accelerate as we move through the year. Our focus and investment on our customers' experience continued to drive customers to migrate from maintenance to subscription during the quarter. We've now seen approximately half a million maintenance subscriptions convert to product subscriptions in less than a year and we expect that number to grow significantly in the coming quarters."

"Our growth in ARR was only part of the story during the first quarter, as we also delivered strong growth in billings, total deferred revenue, and ARPS," said Scott Herren, Autodesk CFO. "This quarter also marked another milestone in our business model transition with our return to non-GAAP profitability. Overall, we remain confident in achieving the targets we set for this year and the long-term targets laid out at our recent investor day."

To read the full release, please visit <http://investors.autodesk.com/news-releases/news-release-details/autodesks-first-quarter-results-led-strong-annualized-recurring>

 [Click here to return to Contents](#)

## ***DXC Technology Delivers Fourth Quarter Growth in Revenue, Earnings per Share, Margins, and Cash Flow***

24 May 2018

[DXC](#) Technology today reported results for the three and twelve months ended March 31, 2018.

"In fiscal 2018, DXC successfully executed on our strategic roadmap, including the integration of CSC and HPE Enterprise Services, achievement of our first-year financial objectives, and a strengthened leadership position in digital transformation," said Mike [Lawrie](#), DXC's chairman, president and CEO. "Revenue in the quarter grew year-over-year and sequentially, and we delivered more than \$1.1 billion dollars of in-year savings. We continue to invest in our digital capabilities and strategic partnerships, and we achieved strong growth in digital this year. Looking ahead, we expect to complete the Perspecta transaction next week, and we have positioned DXC Technology to deliver EPS and margin expansion in fiscal 2019."

### **Financial Highlights - Fourth Quarter Fiscal 2018**

- Diluted earnings per share was \$1.93 in the fourth quarter, including \$(0.50) per share of restructuring costs, \$(0.33) per share of transaction, separation and integration-related costs, \$(0.37) per share of amortization of acquired intangible assets, \$0.55 per share of pension and OPEB actuarial and settlement gains, and \$0.30 per share of tax adjustment related to U.S. tax reform. This compares with \$(1.05) in the year ago period.
- Non-GAAP diluted earnings per share was \$2.28.
- Revenue in the fourth quarter was \$6,294 million compared with \$1,889 million in the year ago period. Revenue grew 4.3% compared with \$6,036 million in the prior year on a pro forma combined company basis.
- Income before income taxes was \$661 million for the fourth quarter, including \$(208) million of restructuring costs, \$(124) million of transaction, separation and integration-related costs, \$(153) million of amortization of acquired intangibles and \$203 million of pension and OPEB actuarial

# CIMdata PLM Industry Summary

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and settlement gains. This compares with \$(187) million in the year ago period.

- Non-GAAP income before income taxes was \$943 million compared with \$548 million in the year ago period on a pro forma combined company basis.
- Net income was \$565 million for the fourth quarter, including \$(145) million of restructuring costs, \$(97) million of transaction, separation and integration-related costs, \$(108) million of amortization of acquired intangibles, \$161 million of pension and OPEB actuarial and settlement gains, and \$88 million of tax adjustment related to U.S. tax reform. This compares with \$(138) million in the prior year period.
- Non-GAAP net income was \$666 million.
- Adjusted EBIT was \$1,017 million in the fourth quarter compared with \$615 million in the prior year on a pro forma combined company basis. Adjusted EBIT margin was 16.2% compared with 10.2% in the year ago quarter which is presented on a pro forma combined company basis.
- Net cash provided by operating activities was \$701 million in the fourth quarter, compared with \$173 million in the year ago period.
- Adjusted free cash flow was \$557 million in the fourth quarter.

## Financial Highlights - Fiscal 2018

- Diluted earnings per share was \$6.04 in fiscal 2018, including \$(2.06) per share of restructuring costs, \$(1.00) per share of transaction, separation and integration-related costs, \$(1.37) per share of amortization of acquired intangible assets, \$0.60 per share of pension and OPEB actuarial and settlement gains and \$1.94 per share of tax adjustment related to U.S. tax reform. This compares with \$(0.88) in the year ago period.
- Non-GAAP diluted earnings per share was \$7.94.
- Revenue in fiscal 2018 was \$24,556 million compared with \$7,607 million in the year ago period. Revenue declined (3.3)% compared with \$25,394 million in the prior year on a pro forma combined company basis, in line with fiscal 2018 targets.
- Income before income taxes was \$1,671 million for fiscal 2018, including \$(803) million of restructuring costs, \$(408) million of transaction, separation and integration-related costs, \$(591) million of amortization of acquired intangibles and \$220 million of pension and OPEB actuarial and settlement gains. This compares with \$(174) million in the year ago period.
- Non-GAAP income before income taxes was \$3,253 million compared with \$2,184 million in the prior year on a pro forma combined company basis.
- Net income was \$1,782 million for fiscal 2018, including \$(597) million of restructuring costs, \$(291) million of transaction, separation and integration-related costs, \$(398) million of amortization of acquired intangibles, \$175 million of pension and OPEB actuarial and settlement gains and \$561 million of tax adjustment related to U.S. tax reform. This compares with \$(100) million in the prior year period.
- Non-GAAP net income was \$2,332 million.
- Adjusted EBIT was \$3,499 million in fiscal 2018 compared with \$2,445 million in the prior year on a pro forma combined company basis. Adjusted EBIT margin was 14.2% compared with

# CIMdata PLM Industry Summary

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9.6% in the prior year which is presented on a pro forma combined company basis.

- Net cash provided by operating activities was \$3,243 million in fiscal 2018, compared with \$978 million in the prior year.
- Adjusted free cash flow was \$2,427 million in fiscal 2018.

To read the full release, please visit:

<https://www.businesswire.com/news/home/20180524006311/en/DXC-Technology-Delivers-Fourth-Quarter-Growth-Revenue>

 [Click here to return to Contents](#)

## Product News

### *A Century of Updates For e2i From Vero Software*

25 May 2018

The latest release of e2i from Vero Software contains more than 100 completed development items, including 22 which have been specifically requested by users.

They include a Goods In function for all users, which automatically updates Purchase Orders without the need to manage stock levels. It means related POs are now updated when parts are received from suppliers, even if only partial deliveries are received.

E2i Product Owner Neil Rowcliffe says in previous releases the Goods In functionality was only available to users with the stock control licence at additional cost, which keeps stock levels up to date as well as recording the arrival of parts from suppliers, with the option to reject them if necessary.

“Many customers asked specifically for this to be added to the standard software, so we’ve included it this time. It means all users can create Goods In records to keep purchase orders up to date, and easily record partial deliveries, instead of having to manually update the POs.”

Sales prices for groups of manufactured parts can now be updated using a similar method for updating prices of purchased items. Data is entered on the Filter page, and the results show in the Reports. This provides the opportunity to choose the parts for updating, and the Sales Price lines if necessary.

“The ability to add sales prices which can be declared on all parts, is intentionally kept separate from the manufacturing cost, to allow for small variations in cost without affecting the price charged to customers. Users could always see how the sales price related to the manufacturing cost, but had to change each part individually. With this enhancement in e2i 2018 R2, they can update the new sales price for a number of parts in one go.”

The Price Update feature has been extended to include price breaks, by adapting the interface used for updating headline prices.

An important new feature in Shop Floor Data Capture allows operators to manually distribute finished quantities for Super Route Cards, which ensures up to the minute accuracy for all related data. Super Route Cards allow workshop operatives to start and finish an operation once to record production of a group of parts. Previously, the system would approximate the quantities of parts finished instead of allowing exact values to be entered. Now, the workshop can declare the actual figures, ensuring total

# CIMdata PLM Industry Summary

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accuracy.

Enhancements have been made to creating Delivery Notes via the inbuilt wizard, allowing the Customer Order number to be specified in the Filter. “This is another way of reducing the data to manageable levels,” says Neil Rowcliffe. “Users asked for another way of finding delivery notes which needed to be created from the system...specifically, each contract has a record of the order number supplied by the customer, and this is the item that can now be filtered.”

The Record Copying function now offers more user control, with the option to copy related data as part of the process. Components have a different set of options to customers, for instance...and selections are remembered the next time the copy function is used.

“Aspects such as parts, quotes and contracts can all be copied to create new data. While some users didn’t want specific details like notes and attached files copying, many others did. So, to support both groups of customers, we’ve added settings to give individual control over each type of record. Once a user gets the settings how they want them, the system remembers them, until they’re manually changed.”

Finally, e2i is seeking customer feedback on a new CAD File Import system launched in 2018 R2, but running alongside the existing function. “Users told us they wanted the import process to allow matches to existing parts in the database to be handled intelligently rather than just overwriting details. That would inevitably require more manual input and slow the process down. So we’ve included those new controls, in the latest release, and are trialling it,” concludes Neil Rowcliffe.

 [Click here to return to Contents](#)

## ***Centric Software Boosts PLM Power with Artificial Intelligence***

24 May 2018

Building on its strategy to develop innovations that drive retail transformation for brands, retailers and manufacturers, PLM leader Centric Software announces the unveiling of its first artificial intelligence-based PLM module. Centric Software provides the most innovative enterprise solutions to fashion, retail, footwear, outdoor, luxury and consumer goods companies to achieve strategic and operational digital transformation goals.

The term ‘artificial intelligence’ dates back to the 1950’s when computer scientist John McCarthy coined the phrase to describe the potential ‘thinking machines’ of the future. Today, artificial intelligence (AI) tools are systems modeled on the problem-solving abilities of the human brain, breaking complex problems down into different layers of information comprised of many smaller problems. Applications vary considerably ranging from virtual assistants like ‘Alexa’ and ‘Siri’ to Netflix viewing recommendations to Amazon recommending things we might like to buy. However, AI applications for brands, retailers and manufacturers to drive product design and development are few and far between.

Centric Software began building AI-based tools a year ago in response to feedback from its customers. The result is Centric AI Image Search, Centric’s first dedicated AI capability for PLM. Humberto Roa, Vice President of Innovation at Centric Software, explains that Centric AI Image Search represents a bid to use AI for better decision-making in design and development.

# CIMdata PLM Industry Summary

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“Creative teams in fashion and retail collect enormous amounts of physical samples of materials, trims, colors and styles that serve both as inspiration for the future and as a record of the past,” says Roa.

“Some companies keep millions of dollars’ worth of physical samples on hand but actually using these physical samples is time-consuming and storing them in an easy-to-access format is very difficult.”

“You can scan everything, but in order to be searchable, these digital files need to be tagged with keywords and organized in a file structure or library,” he continues. “Companies can end up with hundreds of thousands of images in libraries. Often, it’s easier for companies to just order new samples or create new designs than for people to find what they need.”

The new Centric AI Image Search solves this problem using cutting-edge image recognition tools. With Centric AI Image Search, designers can take a picture of a new fabric or trim inspiration and instantly search PLM image archives to find the closest match. If a similar item has been approved or used before, a designer can find out immediately. If there isn’t an existing match in archives, Centric AI Image Search can help find a supplier that provides a close match.

Centric partnered with the Team Head of Material Development at Triumph, one of the world’s leading lingerie companies, to compile a searchable digital library of thousands of lace samples in PLM using the new Centric AI Image Search capability.

Centric AI Image Search will eventually replace physical sample libraries in multiple locations around the world, reducing the huge effort needed to keep physical and digital libraries up to date and allowing users to access the information that they already have as a visual dataset to make more effective decisions.

“Centric AI Image Search for PLM is at the forefront of a new family of AI and machine learning applications to assist with decisions around the PLM lifecycle. This will undoubtedly be the first of many apps that will focus on decision-making and leverage information from systems such as PLM, ERP and PIM. Other possible AI applications could promote better and faster decision-making to reduce time to market, improve quality, lower material costs, select vendors, propose products for sales channels and ultimately make better products.”

“We are excited to announce our launch of the Centric AI Image Search, demonstrating our on-going innovation commitment to the development of AI and machine learning applications,” says Chris Groves, President and CEO of Centric Software. “We continue to be inspired by and innovate with our customers to improve their competitiveness, drive sales and promote growth.”



[Click here to return to Contents](#)

## ***Eurostep announces availability of ShareAspace in Azure***

16 May 2018

Eurostep announces availability of ShareAspace Knowledge Transfer and ShareAspace Export Control trial license, implemented as a service in Microsoft’s Azure cloud.

### **Knowledge Transfer**

Many, if not all, of today’s manufacturing industries are characterized by an ever-increasing pressure to not only reduce cost and lead times but also to incorporate more and more complex technology to support new requirements on digitalization whilst complying with regulations. Joint Ventures and other

# CIMdata PLM Industry Summary

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types of partnerships are seen by many companies as a mean to address some of these challenges. ShareAspace Knowledge Transfer is software to support this type of collaboration. More information [here](#).

## Export Control

Many countries have regulations designed to protect their capabilities, both in commerce and defense. Generally these are known as Export Control Regulations. They are designed to stop both physical objects and related data, including software and design data, falling into “the wrong hands,” thereby protecting that country’s interests. Such regulations place restrictions on who can have access to both physical parts and information. ShareAspace Export Control is software specifically targeting Export Control. More information [here](#).

 [Click here to return to Contents](#)

## ***Hypertherm announces major version release of ProNest CAD/CAM nesting software***

25 May 2018

Hypertherm, a U.S. based manufacturer of industrial cutting systems and software, announced the release of ProNest® 2019, a major version update of its advanced CAD/CAM nesting software for automated cutting. This new release contains more than a dozen new features and enhancements designed to make customers more efficient and profitable.

New features include:

- Raster to vector conversion to quickly convert jpeg and similar images into CAD files for cutting.
- Fly cutting for faster laser cutting on thin material, and the ability to pierce without slowing down or stopping the cutting head.
- Design2Fab® 6 integration so customers cutting sheet metal can access fittings directly from ProNest.
- Drag rotation for faster manual nesting and even better plate utilization, especially when nesting around the contours of larger parts

“Regardless of cutting method—plasma, laser, waterjet, oxyfuel, or combination punch — ProNest 2019 builds on an already strong foundation to ensure customers have the features they need to improve their productivity and profitability,” said Tom Stillwell, Sr. Product Marketing Associate for Hypertherm CAD/CAM software products. “At the same time, this new version continues to include features that more fully automate the cutting process and expand user capabilities through smart factory and Industry 4.0 integration with ERP/MRP systems and a host of other supporting software.”

ProNest software is selected by more cutting machine manufacturers than any other brand. It is the only software with full support for Hypertherm SureCut™ technology, including True Hole®, Rapid Part™, and True Bevel™, plus easy setup, and optimized process parameters.

In addition, Hypertherm is releasing upgrades to its ProNest LT and ProNest LTS software for lighter production environments. Users with an active software subscription can upgrade to the new version of their respective product at no additional charge and continue to receive unlimited technical support, and

# CIMdata PLM Industry Summary

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other benefits. More information is available at [www.hypertherm.com/CAM](http://www.hypertherm.com/CAM).

 [Click here to return to Contents](#)

## ***Introducing Onshape Enterprise***

23 May 2018

Announced on the Onshape blog:

“Today we are introducing Onshape Enterprise, a new premium edition of Onshape designed for modern companies with sophisticated design processes that include multiple contributors across multiple locations. Onshape Enterprise helps these companies accelerate their unique design processes while protecting IP to a degree that is impossible with old CAD and PDM.

We’ve been working on Enterprise secretly for over a year and some of our most sophisticated customers have had production access for six months. They love it. Here’s why...

In larger companies, an ever increasing number of internal and external stakeholders across many locations need access to design data for products that are produced with increasingly complex and encumbered design processes. As these companies strain to make decades-old CAD and PDM technology operate in their complex environment, they are forced to choose between being agile or having some semblance of control. They experience chronic pressures and problems in several areas including:

1. Control – Unmanaged (and multiplying) CAD file copies put many companies’ IP at serious risk.
2. Agility – The average engineer spends less than half his or her time on actual design work, with the balance eaten up by administrative and software issues.
3. Access – Provisioning new CAD seats and PDM vaults requires tremendous IT overhead, which prevents new team members from contributing right away.
4. Visibility – While nearly every other industry has been reshaped by real-time data and analytics, engineering and manufacturing have been left behind.”

To read the rest of the announcement, visit <https://www.onshape.com/cad-blog/introducing-onshape-enterprise>

 [Click here to return to Contents](#)

## ***ITI enhances functionality, usability and performance in release of CADIQ 11***

22 May 2018

International TechneGroup (ITI) announces performance, usability, and functionality improvements with the release of CADIQ 11.

The rise of [model-based initiatives](#) in manufacturing is increasing need for model re-use. For many customers, especially those in the aerospace industry, stringent requirements demand a high level of data integrity. Whether for downstream manufacturing re-use or for inspection, there is a greater emphasis on the need to trust the CAD model as it moves through the digital enterprise. CADIQ is the industry-

# CIMdata PLM Industry Summary

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leading validation solution to identify model-based design (MBD) issues that adversely impact downstream uses and processes.

According to ITI's CADIQ Product Manager, Raphael Nascimento, "CADIQ provides critical technical capabilities to establish trust in the model as well as trust in any derivatives of the model. CADIQ capabilities support sophisticated engineering and manufacturing processes, as well as complex model types."

These are a few of the many [updates included in CADIQ 11](#) to support comprehensive validation of CAD geometry and PMI.

Single page 3D PDF report – The enhancement of a single-page report makes it easier to navigate models with saved views and improves usage and internal sharing by reducing file size.

Enhanced CADIQ viewer and controller – Updates and improvements to the CADIQ interface, including redesigned item and folder icons, make it more user-friendly. Switching between saved views from a single viewer window saves time, while new preferences for overriding native annotation color and circling highlighted areas make the results easier to understand with enhanced visual display.

Enhanced PMI validation for MBD models – This update offers new PMI and saved view diagnostics, as well as improvements to existing PMI diagnostics, making the validation of MBD models more intuitive. Enhanced support for complex geometric tolerances, including improved diagnostics to handle advanced modifiers and compound datum references, complies with more recent GD&T standards.

Improved support for advanced data types – CADIQ 11 provides new capabilities to validate advanced CAD model types. For example, now engineers can validate JT assembly models containing PMI. Solidworks users can now analyze any of the named configurations of their part models. The analysis of NX models has also been enhanced by allowing users to filter geometry according to multiple named reference sets.

In addition to the above highlights, there are many more enhancements in CADIQ 11 that users will find beneficial, including new CAD system version support and improved security and system administration.

"When it comes to quality checking, derivative validation, and revision comparison, CADIQ's capabilities are some of the strongest in the industry," stated Nascimento. "Today more than ever, these capabilities give our customers confidence in their models as they move from design to manufacturing. Early feedback on the latest release has been quite positive, and we are excited to provide CADIQ 11 to our customers."

CADIQ compares CAD models of various formats to identify geometric shape, [quality](#), annotation and PMI saved view differences introduced by engineering changes, translation or manual remodeling. It highlights shape differences in form, mass properties, surface geometry and topology. Quality defects that impede analysis, manufacturing or data exchange processes are clearly identified with no extraneous information. CADIQ analysis uses the native programming interface of each CAD system to maximize accuracy and robustness. Validation results can be provided in an easy-to-use 3D PDF format. All functionality is available in a command line interface for integration into PLM systems.

With CADIQ 11, engineers have added capabilities to enhance mission critical model validation. More information on the latest release is available at <https://www.iti-global.com/cadiq>.

 [Click here to return to Contents](#)

## ***Latest Javelin Improves Business Efficiency and Saves Time***

24 May 2018

Around a dozen key areas in the new 2018 R2 release of Vero Software's Javelin ERP/MRP production control system contain items of new and enhanced functionality.

With an ethos of improving efficiency and cutting down the time taken in a number of areas, the main updates are in Javelin's core business control competencies.

In addition to existing warnings and error messages about non-compliance within operations, the latest release includes a Part Status, which allows the user to create their own warnings. Javelin Account Manager Andy Mills explains that they can be specific to clients. "Examples would be where a part is pending, or a review is coming up. The operator can add a pre-warning, which flashes up on screens such as Sales Orders, Purchase Orders and Works Orders."

A major reworking of Stock Check separates recording the physical and financial changes into two phases, meaning errors are verified and corrected quicker and easier.

A Price Book button has been added to the Part Enquiry so that the price can be amended quickly and easily. And changes have been made to the Bulk Contract functionality, enabling updates to be made to active data while the system is live. Also, parameters and variables...which previously appeared in the order they were put into the system...now have a sequence number, so the operator can specify the order.

A general enhancement throughout Javelin 2018 R2 puts icons on to many key screens, defined by Item Type, Product Group, Responsibility Code, or Part Status. "This means aspects such as individual lines and Orders can stand out, and the icon also shows the status of the orders is open, closed or late."

The Advanced Scheduler was originally introduced three years ago, running in time sequence down to ten millionths of a second, with the results appearing on the Planning board. The latest version includes a valuable Undo button for the last action. And, following client feedback, the Horizon now defaults to the end of the current calendar year instead of ten years, as in previous editions.

Contract costing runs are now managed from the Command line, so they can be scheduled to run overnight. "This is particularly valuable for long, time consuming, runs, meaning the system can be freed up during the day for other functions," says Andy Mills.

A number of enhancements to CRM include an autogenerated 15-character reference on the front page, and booking dates as an optional field which defaults to Due Date, but can also change to range or location. The Add Prospect is now auto populated when the first item is added to the Opportunity...and the delivery date/time display has switched to just the date, for easier reporting.

Works Order and Purchase Order reporting on MRP has been made easier, along with the ability for MAP data to be expanded. And Responsibility Code and Planner ranges have been added to the suggested WO reports, with Responsibility Code and Buyer ranges to the WO report.

It is now possible to add 9,999 lines to the PO. "It used to have 999 lines, but customers requested considerably more. For example, if they supply regular batches of a product they may want a blanket Sales Order, and keep on adding lines...making it an open Sales Order for mass production. Also, icons can be added to the lines as a Favourite."

# CIMdata PLM Industry Summary

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The Supplier Default Ancillary Charge can now be defined against a Supplier, automatically added to all new Purchase Orders. And Crystal Templates will now generate Reject Notes.

Sales Order Copy now allows a New Due Date or Promise Date to apply to all lines at once. The addition of an Optional Reference date on each SO line gives users the ability to add specific items, especially for reporting purposes. Andy Mills says it is a free date field which does not take part in any calculations.

The SO Enquiry screen is larger in Javelin 2018 R2, showing more information at once, including line comments. “Also, instead of having to go through a set sequence, Delivery Note and Picked Items can now be cancelled in one operation from a single maintenance screen. And previously, even Batch Invoicing routines were the same, they had to be managed individually as part of the invoicing process. Now operators can set the way they want to/ do it in the housekeeping customisation function, cutting out repetition and the chance of errors.”

On Work In Progress, the Split Works Order has been streamlined providing the most efficient way of splitting a WO. And WO deletion includes several new range options, along with options to delete unstarted or complete orders.

“When the Refurb WO is created, a new piece of functionality called Default Refurb Routing adds the original principal manufacturing method, such as punching or profiling, to the specific part. This makes it quicker to import the default routing to rework the part.”

Non-productive booking, such as lunch breaks, is now defined within shift patterns, so supervisors can see them across the shift, instead of needing to access each operative’s record. These breaks can automatically take the break duration from the work orders that the employee has been booked onto.

Finally, a number of system changes include additional security measures giving management more control over access to the Javelin database for Crystal Reports...and employee absence data is further restricted, which will assist with GDPR compliance.

An enhancement to the PowerUser Licence Reservation function means an Administrator or Manager may now have reserved a number of licenses, so they can always be able to access the system.

Concluding, Andy Mills says the overall ethos behind the changes in Javelin 2018 R2 is to improve efficiency and reduce time taken to perform tasks. “It shows our continuing commitment to refine the software so users can optimise their business operations and see a live snapshot at all times.

“Many items of new and enhanced functionality in each new release are driven by customer feedback.”

 [Click here to return to Contents](#)

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## **ModuleWorks, Hommel and MMC Hitachi Tool accelerate rotary machining**

22 May 2018

ModuleWorks successfully tested its latest calculation strategies for rotary and geodesic machining using a barrel mill tool for accelerated, high quality finishing.

The trial was conducted at the Hommel and Okuma Technology Center in Langenau, Germany on an OKUMA MULTUS-B200W Multitasking CNC machine with MMC Hitachi Tool standard stock items, including barrel mill tools. The selected workpiece was a spiral mandrel distributor that provided a

# CIMdata PLM Industry Summary

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realistic and technically sophisticated challenge for the new multi-axis milling algorithms.

A key focus of the trial was to test the new barrel mill machining strategies for pre-finishing the walls of the workpiece. The barrel shape of the tool generates smaller cusps and delivers a high-quality surface finish while using large step overs that significantly accelerate the machining process. Using a taper barrel tool optimizes performance further because the walls can be machined using the large barrel section of the tool and the inner corners using the tip.

Deburring was performed using the ModuleWorks deburring cycle that automatically creates a toolpath for spherical tip tools along all sharp edges of a workpiece. This saves a lot of time and effort because machine operators no longer need to manually adjust the conventional generic toolpath strategies. Instead, operators select the entire workpiece and the algorithm automatically finds the edges and applies automatic tilting to calculate a collision-free toolpath.

“Multi-axis rotary machining is technically very challenging, and it’s exciting to see how our new toolpath strategies for barrel mill tools significantly enhance both the efficiency and the quality of the machining process”, says David Plater, Technical Director at ModuleWorks.” This trial demonstrates the effectiveness and potential of the technology and provides the foundation for continued improvements and future developments.”

 [Click here to return to Contents](#)

## **New mechatronic collaboration solution – MECODES for CATIA 3DEXPERIENCE and Xpedition**

24 May 2018

In conventional design approach using ECAD and MCAD authoring tools, electro-mechanical product are designed with many separate rework iterations in each tool. When the design is finished, independently in each tool, the process continues to the common design phase where the MCAD and ECAD designers collaborate to produce the final electro-mechanical product. The mechatronic approach is quite different since there are no separate design phases in each of the authoring tools, instead, there are many common rework iterations with no distinct boundaries between electrical and mechanical design. The nature of common rework iterations implies that real mechatronic collaboration must be integrated into the CAD tools to enable engineers to work across boundaries of their working domain.

**MECODES** is a unique suite of MCAD and ECAD collaboration solutions. It introduces a new methodology for multi-domain collaboration during the design of electromechanical products. To improve product design, achieve cost reduction and enable more interdisciplinary innovation, MECODES adopts the latest technologies, data exchange formats, and protocols.

Why should you use MECODES?

- Improves design quality
- Faster development processes (reduced rework)
- Optimizes development cycles by integration
- Increased product and process innovation through communication

# CIMdata PLM Industry Summary

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- Advanced product analysis of cross-discipline results by 3D product representations
- Decreased time-to-market by resolving hurdles through communication within the entire product development process
- Accelerated return-on-investment by the faster introduction of new products to the marketplace

CADCAM Group developed the new MECODES software generation for integrating the market-leading innovative business platform - the 3DEXPERIENCE platform with the important electrical PCB design system - Xpedition.

3DEXPERIENCE is a comprehensive business platform which enables the creation of more than a product. It integrates various brands and solutions of Dassault Systèmes – CATIA, ENOVIA, DELMIA, SIMULIA, 3DVIA, DYMO LA, ICEM, EXALEAD, NETVIBES. Those solutions are integrated via a consistent user concept and integrated product data model to a seamless solution. All users work integrated into a single collaborative and interactive environment with a unique database as software solutions are integrated into a unique solution through a consistent customer concept and an integrated product data model.

 [Click here to return to Contents](#)

## **Nucleus SafetyCert RTOS achieves TÜV SÜD safety certification for industrial and medical markets**

24 May 2018

Mentor, a Siemens business, today announced that the Nucleus® SafetyCert™ real-time operating system (RTOS) has successfully achieved international safety testing and certification from TÜV SÜD, an independent third-party global leader in safety certification. Deployed in over 3 billion devices, the proven, scalable, high-performance Nucleus RTOS meets the stringent certification and regulatory requirements for device manufacturers developing safety-related software for their respective products.

"The Nucleus SafetyCert RTOS was put through a complete range of tests, from code reviews, analysis, testing, and product life-cycle processes to ensure that it met the critical safety requirements for the IEC industrial and medical safety standards," stated Günter Greil, business line manager responsible for certification of generic safety components at TÜV SÜD. "For device manufacturers, this certification shortens the path for meeting the regulatory and safety requirements for embedded product development in industrial and medical markets."

The Nucleus SafetyCert offering comprises a certified version of the Nucleus RTOS kernel, the Nucleus process model for application partitioning, runtime libraries, networking, and data storage. Compared to competitive products, the Nucleus SafetyCert package includes a file system enablement layer and a User Datagram Protocol (UDP)/IP protocol for setting up low-latency connections between Internet applications. The certification package comes with source code, the Nucleus SafetyCert documentation, and artifacts providing embedded developers with clear traceability across the development lifecycle. These are hyperlinked for quick and easy navigation, enabling the user to streamline audits and reviews.

"There is a significant burden on device manufacturers to ensure the quality of the underlying hardware and software for today's safety certified devices," stated Scot Morrison, general manager of embedded platform technology at Mentor. "Our pre-certified Nucleus SafetyCert product helps to ease this burden by significantly reducing the effort, risks and time pressured our customers face as they develop and

# CIMdata PLM Industry Summary

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deliver world-class safety certified products."

## Product Availability

The Nucleus SafetyCert product for Arm® processors is available today. For additional product information, contact a Mentor sales representative, or visit: <https://www.mentor.com/embedded-software/nucleus/safety>.

 [Click here to return to Contents](#)

## **R3's Corda proves integration with SAP® solution-based business processes**

17 May 2018

Commerzbank, supported by SAP, has successfully completed an end-to-end integration between SAP S/4HANA business processes and R3's Corda blockchain platform.

This is the first step toward enhancing the supply chain network of corporate clients to offer more efficient access to trade and supply chain finance services. This solution has the potential for corporations to significantly enhance and leverage their access to future business models based on distributed ledger technology, via their own corporate SAP system.

By deploying Corda's secure blockchain technology to SAP Cloud Platform, the existing application programming interfaces (APIs) are utilized to access business networks and systems across all industries. The deployment of Corda to SAP Cloud Platform opens up the possibility for the Corda platform to integrate other technologies and capabilities such as API Management, Machine Learning and Analytics. Such an approach enables corporations to operate on a highly distributed but permission based and secure platform while fueling the next wave of business innovations utilizing the key benefits of blockchain-based technologies – trust, transparency and scalability.

Commerzbank is a member of R3's global network and an active participant in a number of R3 initiatives on use cases in areas such as Trade Finance. SAP is actively collaborating with both R3 and R3 members.

"The successful connection test between Corda and SAP, as an important Enterprise Technology Provider, is a significant milestone in our journey to develop and implement digital product solutions. In Trade Finance, we see significant potential and the need to support digital data flows along the supply chain of our corporations. This is only possible by connecting ERP systems to new Distributed Ledger Technology (DLT) networks and platforms. We will share the results of this technical test in our ongoing projects with R3 and aim to use the SAP connection with Corda in future pilot transactions," said Nikolaus Giesbert, Divisional Board Member, Fixed Income, Currencies & Commodities and Trade Finance & Cash Management, Commerzbank AG.

"Trade finance is a key area of focus for R3 as we work with our partners to develop a vibrant ecosystem of applications on Corda. Integrating the platform with SAP's business processes is a further milestone in enabling widespread adoption of Corda by businesses around the globe," said David E. Rutter, Chief Executive Officer, R3.

"This proof of concept, collaborating with Commerzbank, has shown the ease with which SAP S/4HANA via SAP Cloud Platform can easily exchange data with R3's Corda network," said Falk Rieker, Global Head of IBU Banking, SAP.

 [Click here to return to Contents](#)

## ***Release Announcement of CATIA V5 to/from JT DirectTranslator Ver.3.0***

18 May 2018

Elysium is pleased to announce the release of [CATIA V5 to/from JT DirectTranslator](#) Ver.3.0.

### **Key Enhancement**

- Added support of the latest version of CATIA V5

In recent years, the JT format has been growing rapidly in popularity worldwide, and its approval by the ISO (International Organization for Standardization) has spiked that growth.

The advantage of the JT format is that it is very light, yet surprisingly rich with information. It supports not only geometric information, but also non-geometric information such as assembly structures, attributes, PMI (Product Manufacturing Information), etc. Not only that, but it also has the capability to store various LOD (Levels of Detail) to provide good graphic performance.

Elysium has developed a bi-directional translator between CATIA V5 and JT using the data translation technology accumulated over a 30-year history, as well as its official partnerships with both vendors. This translator has been ranked number 1 in the industry for bi-directional capability. It has also been certified as the official translation tool for Daimler supply chain, which strongly supports operations between CATIA V5 and JT.

### **Developed in Compliance with Daimler Quality Standards**

Elysium's CATIA V5 to/from JT DirectTranslator is certified as compliant with Daimler quality standards.

It not only provides accurate translations under these standards, but it is extensively tuned to satisfy Daimler requirements for exact geometry, visualization, and manufacturing and process planning needs. This tool dramatically reduces the amount of manual work required to repair data using the Daimler JT Supplier Package (JTSP).

The CATIA V5 to/from JT DirectTranslator also translates JT data to CATIA V5, automatically editing attributes to the format that can be used in CATIA V5 to guarantee that they can be utilized in various processes at Daimler suppliers.

To learn more about the release, please visit [https://www.elysium-global.com/en/product/v5jt\\_dt/](https://www.elysium-global.com/en/product/v5jt_dt/)

 [Click here to return to Contents](#)

## ***Tombstone Manager and Customer Feedback Drives Number of Updates in Latest Edgecam***

22 May 2018

The new release of Edgecam, from Vero Software, contains 54 items of new or enhanced functionality which improve productivity for manufacturers using a range of cutting technologies and machining strategies.

# CIMdata PLM Industry Summary

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They include significant changes to the Pre-Drill Approach Roughing cycle, creating features from wireframe entities, 3D milling cycles in mill/turn Rotary mode, 28 new technology databases in the Wire EDM module, and Tombstone.

Edgecam Brand Manager John Buehler says every user will benefit from at least one of the enhancements...the most significant of which, has been a complete transformation to the Tombstone Manger, thanks to 13 enhancements.

The new ‘Add Tombstone’ function ensures users never overwrite their master tombstone assembly file (referred to as ‘Seed file’). The originating file is always protected, guaranteeing that vital information is never over-written.

The number of components that can be inserted onto the Tombstone is now limitless, reflecting best industry practice. Once inserted, the toolpaths are not only automatically merged, but the enhanced ‘Closest Next’ ordering further economises the CAM toolpaths.

“Arguably the most significant individual enhancement is the ability to retrospectively edit the CAM toolpaths,” he says. Using the new ‘Edit’ and ‘Reload’ functions, Edgecam will independently open the inserted file allowing the user to perform unlimited edits to the CAM instructions. Once finished, the seed file is automatically updated with the new editions.

## **Pre-Drill Approach Roughing Cycle**

The way the ‘Pre-Drill’ approach strategy is handled, has been significantly improved within the Roughing cycle. “Rather than manually create drill hole positions, which is sometimes time consuming, Edgecam 2018 R2 automatically creates the hole position and keeps the drilling toolpath associative to the Roughing cycle.

“Simply by activating the command, users can deploy the multi-level and depth functions within a hole cycle, to automatically locate the best entry position for the drill cycle.”

## **Extended Lead Parameters Rough Turn Cycle**

The Rough Turn cycle includes several new lead parameters allowing the user to roll in and out of each cut with a tangential arc. A bi-directional toolpath can be created, allowing the cycle to be used in conjunction with Sandvik’s CoroTurn® Prime turning inserts. Significant time savings and reduced tool wear can be achieved when adopting these methods.

Also, the cycle’s collision detection capability has been extended by automatically removing any potential crashes between the tool and the tailstock.

## **Edgecam Inspection**

Edgecam Inspection module’s evolution continues with 14 enhancements, including full postprocessor support from with the Code Wizard.

Major items include the introduction of NC Gateway, which communicates with the machine tool, plus ‘Best Fit’ calculation, which allows alignment of the workpiece. As well as the new ‘Inspect Rectangle’ feature, both the ‘Options’ and ‘Inspect Toolpath’ dialogs include new features. Users may now influence both the Work Datum and the Tool Offset, and view the status from within the NC output and the Inspection Report.

## **Edgecam Designer**

Edgecam Designer’s 2D Drawing Module creates views and sections of the 3D model in the Designer

# CIMdata PLM Industry Summary

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file. Features include dynamic view creation, shaded and wireframe views, fixed and variable sections, detailed views, and outbreaks. The 2D drawing and its associative dimensions can be updated when changes are made to the 3D model.

The many sketching and modelling enhancements throughout Edgecam Designer include the Active Sketch Plane, which allows wireframe to be created directly onto solid and surface models, without the need for workplanes.

In addition, it is now possible to create the Projected Area of solid and surface models, and new analysis functionality calculates aspects such as area, volume, perimeter, and centre of gravity.

## **Profiling Cycle performance and functionality improvements**

Through improvements in the toolpath algorithm, Edgecam 2018 R2 provides a significant performance improvement with the ‘Pick Solid Faces’ function. Time savings of over 50 per cent can be achieved thanks to the manner in which the cycle gathers data for toolpath calculation.

“Users will also gain further benefits when using the Multi-Pass function as the strategy is now supported with helical capability,” says John Buehler.

## **Feature Creation from Wireframe**

He says it wasn’t possible previously, to create a feature from wireframe entities. “In certain situations, such as creating automation routines, that would have been desirable, so Edgecam 2018 R2 now unlocks the ability to deploy workflow strategies where ordinarily a feature couldn’t be created, by converting line and arc data into a solid Feature. Once machined the new feature can be edited and the toolpath will remain associative.”

## **Thread Mill enhancements**

Found in both the milling and turning environments, the Thread Mill cycle has been enhanced to allow closer toolpath control and greater flexibility. Five new parameters allow users to deploy ‘peck’ and ‘multi-pass’ toolpaths. This will especially help when machining hard materials or when a better surface finish is required.

Further new options found in the Lead tab, give additional control with toolpath ordering.

## **3D Milling Cycles available In Rotary Mode**

3D milling cycles in the Mill/Turn environment have now become available whilst in working Rotary mode. Previously, these cycles were restricted to Planar mode. “This enhancement offers greater flexibility in not only unlocking the seven milling cycles which were normally unavailable, but allows users to overcome machine tool limit issues,” says John Buehler.

## **Machine Simulator multiple enhancements**

When being forced to use the same tool number but for different tools, programmers in the turning environment can now use the ‘Replace Active Tool’ function, so the simulator will only display a single tool in the turret during playback. And users can now increase playback performance by using the new ‘simplify solid mill cutters’ command. When using complicated solid model cutters, the function will simplify the profile by converting it into a silhouette.

## **Multiple User Experience enhancements**

John Buehler says: “When viewed individually, small enhancements don’t appear to have a significant

# CIMdata PLM Industry Summary

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impact. However, when added together, their sum total has an important effect on the day to day operation of the software. And all the updates here were driven by customer requests/feedback.”

A good example are the three enhancements found in the ‘Preferences’ section of Edgecam 2018 R2. Users now have the choice to activate a toolkit by simply using the new ‘Automatically Create Toolkit’ check-box. They can also use the new ‘Job/Toolkit Update’ preferences settings when generating NC output. And the new ‘Technology warning’ check-box helps avoid mis-representing tools feed and speed settings.

Manufacturers working with turning tools can now pre-state the ‘CSS’ condition from the tool store. This avoids individually setting the status every time the tool is chosen.

In the case of Face Grooving tools, programmers can now add further details to the description of the tool by adding ‘Maximum/Minimum Diameter,’ which is particularly useful for Strategy Manager authors. Still with turning, Edgecam 2018 R2 allows any tool type to be deployed when executing the Thread Turning cycle.

## **Edgecam Wire EDM**

Edgecam 2018 R2 introduces 28 new technology databases to the Wire EDM module, including the popular Agie, Fanuc, Makino and Mitsubishi controllers.

During the machine simulation stage, the ‘start hole’ (entry position for the wire) is created automatically – alleviating the need to manually create the hole in the stock.”

 [Click here to return to Contents](#)