

PLM Weekly Summary

Editor: CIMdata News Team 29 May 2020

Contents

CIMdata News	1
CIMdata to Host Free Webinar on Digital Skills Transformation	1
Platform Success with Aras Innovator – A CIMdata Commentary	3
Company News	8
Autodesk Announces New Ways to Connect to Autodesk Construction Cloud	8
	~
Cenit: Home Office for Robot Operators?	11
HCL And BROADCOM Expand Their Partnership	_12
Materialise Launches Mindware, Advisory Service for 3D Printing	12
SHIMA SEIKI Produces Masks for Schools	_13
SHIMA SEIKI Produces Masks for Schools	_14
Events	15
Discover What's Next in the World of Simulation At Virtual Altair 2020 Global Experience	15
TECHNIA PLMIF Virtual Experience Gathers Over 2000 PLM Professionals Online 28 May 2020	_15
Financial News	16
Autodesk, Inc. Announces Fiscal 2021 First Quarter Results	16
DXC Technology Reports Fourth Quarter and Fiscal 2020 Results	17
HPE Reports Q2 Results	_19
Implementation Investments	21
De Nora Group Goes Live on SAP S/4HANA During COVID-19 Lockdown	21
Hexagon - Rutland Plastics moulds 25,000 headbands for visor masks	21
Sunwin Boosts Value Creation with Centric Software PLM	_22
Product News	23
Product News Centric Releases Easy Digital Collaboration with Personal PLM	23
Hexagon Releases JAVELIN 2021	24
Hexagon: Time-Saving and Productivity Enhancements in Latest VISI	26
IronCad Releases 2020 Update	28
Lantek launches its 2020 version, a version focused on remote working and process efficiency	29
SAP Cloud ALM Enhances Support for Cloud-Based Solutions	30
xBOM for configurable products – explained by Variantum	_31

CIMdata News

CIMdata to Host Free Webinar on Digital Skills Transformation

27 May 2020

CIMdata, Inc., the leading global PLM strategic management consulting and research firm, announces an upcoming free educational webinar, "Digital Skills Transformation: Assessing, Defining & Enabling the Workforce of the Future." The webinar will take place on Thursday, 25 June 2020, at 11:00 a.m.

CIMdata, Inc. 3909 Research Park Drive Ann Arbor, Michigan 48108 Tel: +1 (734) 668–9922 Fax: +1 (734) 668–1957 E-mail: info@CIMdata.com Web: http://www.CIMdata.com

(EDT) and will last for one hour.

A company's employees are its most critical asset. Many organizations are embarking on digital transformation initiatives, but many fall short as reskilling of the workforce, and the enhancement of their skills is not part of the transformation process. This webinar will offer attendees the opportunity to learn from CIMdata's over 35 years of leading organizations through the assessment, definition, implementation, and continuous improvement of the digital skills of its employees. By focusing on these skills and the creation of a repeatable standard, the enterprise is in a better position to handle growth, reduce employee turnover, and successfully deal with technological and process changes.

This webinar will help attendees:

- Learn how a company-specific digital skills transformation strategy can be developed by determining needs, analyzing potential participants, and establishing goals.
- Understand the elements of a company-specific digital skills transformation framework.
- Learn about the need for and structure of a digital skills assessment, including the roles that a company's goals and objectives, development and execution of evaluation strategies, and associated tools all play.
- Understand the critical elements of a company-specific digital skills transformation implementation roadmap.

According to Peter Bilello, CIMdata's President & CEO, and the host for this webinar, "A well-defined Digital Skills Transformation program is multi-faceted, and typically includes organizational, process, technology, and content considerations. The resulting education and training framework, implementation, and support structure typically cover several different organizational processes and supporting technology platforms, as well as incorporating different experience and skill levels into one repeatable standard applicable throughout an enterprise, no matter its size or complexity." He continued, "With such a structure in place, the enterprise is in a better position to proactively handle growth, reduce employee turnover, and successfully deal with technological and process changes encountered in today's rapidly evolving digital world."

Mr. Bilello has more than 30 years of experience in the development of business-enabling IT solutions for research, engineering, and manufacturing organizations worldwide. He has participated in PLM analysis, selection, implementation, and training; CAD/CAM/CAE/CIM implementation and management; synchronous and lean manufacturing consulting; software engineering; and general data management strategy development and support. He has authored numerous papers and research reports on PLM and related topics, and his articles, commentaries, and perspectives have appeared in publications throughout the Americas, Europe, and Asia.

This webinar will be useful to a broad audience, including Chief Digital Officers, business transformation leads, human resource, training, and development leads, PLM program managers, digital process owners, digital tool owners, solution providers, and anyone interested in learning more about this topic.

To find out more, visit: <u>https://www.cimdata.com/en/education/educational-webinars/digital-skills-transformation-assessing-defining-enabling-the-workforce-of-the-future.</u> To register for this webinar, please visit: <u>https://register.gotowebinar.com/register/4348436952567307275.</u>

1 Click here to return to Contents

Platform Success with Aras Innovator – A CIMdata Commentary

28 May 2020

Key takeaways:

Ensuring that the use of enterprise data, especially product data, is optimized to maximize innovation and profit, while at the same time delighting customers, is a never-ending challenge.

Platform strategies are the best practice approach for products and for the enterprise solutions used to bring those products to market.

Aras Innovator was conceived and built as a platform. Its service-oriented architecture has been proven over many years and manufacturers are seeing the benefits it promises and believe it will be a long-term sustainable solution.

CIMdata recently discussed the platform journey with 9 manufacturing companies to better understand the benefits of a platform approach and how they are breaking through the dogma of "Only Out of The Box" (OOTB) and "Customization Not Allowed" while still achieving the benefits of digital transformation.

All the interviewees spoke highly of Aras, were satisfied with what they achieved, and would make the same decision again.

Introduction

A <u>product innovation platform¹</u> is a set of functional domains—lifecycle stages and disciplines (e.g., system ideation, profitability management, and quality and compliance) that support all product-related disciplines through the entire product lifecycle. These are orchestrated by the product innovation platform with a "system of systems" approach that, in essence, makes a product innovation platform a fundamental support for the next generation of PLM-enabling solutions needed to develop, produce, and support products. An effective platform optimizes across the multiple functional domains from a product's conception through its entire life.²

CIMdata has <u>published</u> extensively on the topic of platforms, especially the product innovation platform. ³ We chose to develop this definition as part of our mission to drive PLM forward, and it is helping move PLM solutions from IT-oriented technologies and toolkits into business solutions that enable innovation and maximize profit, while improving user satisfaction and delighting customers.⁴

¹ https://www.cimdata.com/en/resources/complimentary-reports-research/position-papers/item/8484-product-innovation-platforms-definition-their-role-in-the-enterprise-and-their-long-term-viability-position-paper

² https://www.cimdata.com/en/resources/about-plm/cimdata-plm-glossary

³ https://www.cimdata.com/en/resources/about-plm/a-cimdata-dossier-plm-platformization

⁴ Research for this commentary was partially supported by Aras.

Platforms are used across many domains from automobiles to vaccines, and especially in creating IT infrastructure and software products. Getting the various platforms, tools, and solutions deployed in an enterprise to function as an end-to-end business platform is a complex, never-ending process. This is largely due to regular changes in all the different requirements that drive a company, as well as the general environment in which businesses operate.

At CIMdata, we are passionate about the product lifecycle—how products are conceived, produced, operated, maintained, and retired and/or recycled. We often hear of companies executing digital transformation programs. We are sometimes astonished to hear that PLM is out of scope for those projects. It's hard to imagine that anything not related to the product can have as large a transformational result on any business. While the core of CIMdata's business is helping management develop strategies around PLM, we often end up educating executives on what PLM is. Many are quite surprised to hear the scope of what PLM covers and how it can directly impact their business—its top, as well as its bottom line.

Certainly <u>PLM is often hard.⁵</u> Older technology may require lots of customization to fit into the PLM strategy. Getting users to adopt new process changes when the existing user interface is less than friendly, if not hostile, requires a lot of effort. The difficulties with older enabling technologies are not unique to PLM, most enterprise solutions have similar issues and require extensive customization. In a public presentation by Ford, they summarized the competing drivers of the make vs. buy software discussion as:

The need to keep business processes proprietary drives us toward developing software in-house.

We have specific processes that providers of commercially available off-the-shelf (COTS) solutions don't address.

The desire is to be able to leverage COTS capabilities and keep proprietary knowledge in-house, while being able to upgrade to the latest versions of the COTS platform in a timely and low-cost way. This can be accomplished with a solution that meets high-level abilities to:

Create templates and custom libraries to implement business processes and enforce process discipline.

Stay in sync with commercial releases.

Layer in the business processes in a tool agnostic manner.

Avoid having multiple versions deployed at the same time.

CIMdata <u>evaluated Aras Innovator against our Product Innovation Platform model.</u>⁶ We found it to meet our expectations for supporting the purpose of a Product Innovation Platform and ranks extremely high across CIMdata's comprehensive criteria.

^s https://www.cimdata.com/en/resources/complimentary-reports-research/position-papers/item/13455-why-is-plm-often-so-hard-simple-is-best-position-paper

⁶ https://www.cimdata.com/en/news/item/8806-cimdata-publishes-ebook-product-innovation-platform-assessment

Research Results

For this research CIMdata arranged interviews with nine Aras subscribers. We sent questions to the subscribers, then had a phone interview to discuss their responses. The companies and what they have done with Aras Innovator were diverse. Production usage ranged from three to ten years in the automotive, industrial, electronics, and medical device industries. User counts ranged from 300 to over 10,000 active users, a couple were single sites, and several were global. The companies were headquartered in the US, Europe, and Japan. Many of the companies are well-known brands, but most wanted to stay anonymous because it was too hard to get responses approved by legal departments.

While CIMdata knows Aras well, we wanted to get a users' perspective on our hypothesis that Aras is different from other PLM mindshare leaders in that they promote customization. This is because with the Aras solution, extreme configurability allows users to achieve custom results but doesn't inhibit upgradeability. We wanted to understand what users were using Aras for, how well it met the upgradeability promise, and what was the level of subscriber satisfaction. To test the hypothesis, we asked the following open-ended questions:

Please describe why you chose Aras Innovator.

Can you describe any unique or innovative aspects of your Aras Innovator deployment?

What benefits have you achieved with Aras Innovator that you were not able to achieve previously?

Getting to operating at scale in production is difficult, can you share any roadblocks you faced and the remedies?

What surprised you most about Aras Innovator after your selection?

Survey Results

Please describe why you chose Aras Innovator.

All the respondents were experienced PLM users. They had a wide variety of commercial and custom solutions prior to configuring and putting Aras Innovator into production. Frustration with the legacy solution providers was mentioned by several companies. The frustration was sometimes related to the lack of capabilities and/or the inability to migrate to a newer version due to customization. The biggest positive reason given was the adaptability of the Aras PLM platform. It has out of the box (OOTB) applications that can be extensively configured, provides open access to a complete data modeling and application development environment that is used to build custom applications, and can integrate with siloed solutions, all of which can be upgraded at no additional cost and with minimal risk or concern with regard to future usability. The subscription business model was also mentioned as a positive factor. Aras's approach of including all capabilities within the subscription made developing and deploying solutions simpler⁷.

⁷ Integrations to external applications such as CAD are extra cost.

CIMdata's view

The adaptability of Aras innovator and Aras' business model are critical to the respondents' success.

Can you describe any unique or innovative aspects of your Aras Innovator deployment?

The respondents had varied backgrounds, some were IT or development focused, and others were more business focused, so the answers to this question were quite diverse. Several respondents commented on software development-oriented activities ranging from being able to use lower skilled developers, agile methodology, and replacing the Aras user interface and forms with a commercial JavaScript environment. Others did more traditional Aras custom application building to support business functions such as RFQ and sourcing management. Another was operating at a large scale—with over ten thousand active users and eighty applications—integrated into an enterprise change management solution.

An implementation organized around building a digital twin seemed unique as it was focused on a very data-centric implementation approach. Finally, a conglomerate that adopted Aras Innovator at the corporate level supported multiple divisions using a SaaS approach. Each division was able to configure their own instance while leveraging a corporate center of excellence.

CIMdata's view

No one is running Aras Innovator OOTB and the extent of configuration ranges from minimal to extensive. A key feature that enabled this was the confidence that they would be able to upgrade without additional cost. As one long-time user said, we can "customize without regret."

What benefits have you achieved with Aras Innovator that you were not able to achieve previously?

Like the previous questions, the answers depended on the role of the person answering. The businessoriented respondents focused on data and process management, noting the following three points:

Able to deploy a fully integrated change process, at scale.

We can keep our processes and data model current.

We can fully connect our data, no more Microsoft Excel "databases."

Several others noted the simplicity and uniqueness of the upgrade process with Aras' subscription business model. The concept of every user getting access to every capability without having to subscribe to different modules was a game changer for many. Getting funding to scale user counts when a demo, or even product-ready solution can be demonstrated, is much easier than pitching a concept to get funding to develop a prototype.

CIMdata's view

The respondents reported many different successes based on their challenges. Aras Innovator's capabilities and Aras' business model, eased development and deployment, as well as reduced risk, making it easier to be successful.

Getting to operating at scale in production is difficult, can you share any roadblocks you faced and the remedies?

Several respondents claimed to have no significant issues. "Difficult" was not defined, but getting that response multiple times in a such a small sample was notable. For those that did experience scaling issues, the issues tended to have technical solutions, which included upgrading the Aras software to get better performance, as well as using distributed vaulting and multiple application servers. One respondent did note that eliminating the use of Microsoft Excel which reduced process and data complexity made it easier to support their ten percent per year headcount growth.

An important point brought up was that even though it was easy to get Aras applications developed quickly, one still needs to write good code. Another noted that very complex system configuration and security settings can degrade the response, and their remedy was to execute SQL statements directly, which can have security implications. The business focused respondents noted that finding a system integrator to work with has been difficult, so they developed an internal team as the remedy. Another noted that eleven different ERP solutions made integration a scaling issue.

CIMdata's view

Scaling issues often occur when the user count gets large and/or multiple sites get added, and very often when sites are added in other countries around the globe. Most interviewees, and others using non-Aras solutions that we have talked with in the past, also have scaling challenges. What Aras does, is to work through issues as well as any tool solution provider.

What surprised you most about Aras Innovator after your selection?

The Aras users CIMdata spoke with were satisfied. They felt well treated and well supported even as Aras has grown significantly. We were a bit surprised that one respondent was not aware of Aras' upgrade policy related to customized configurations, this is usually well understood, but this person may not have been involved with the selection process. Another, from a medium-sized manufacturing organization, noted that their three developers could output more functionality in a release than users could absorb, not a common response in CIMdata's experience. On the negative side, reporting is still an issue, while Aras' self-service reporting is useful, it is still far from meeting enterprise needs, but this respondent also noted that the issue also exists with many of their other solutions provided by other companies.

CIMdata's view

We still see the included upgrades for custom configured solutions as a major differentiator. We are curious to see how Aras reporting evolves as their subscribers expand their implementations across the lifecycle making data more accessible under the single, logical source of the truth.

Conclusion

CIMdata would like to thank Aras and especially the subscribers who participated in this research. With this type of input, everyone within the PLM economy learns and has the opportunity to become more innovative and effective. The respondents are all making good use of the Aras solution and are making headway on their digital transformation journeys. The technology available within the Aras PLM Platform delivers a robust technology baseline and through minimal to extensive configuration, Aras customers are able to deliver value to their organizations while not being left with a legacy solution. All respondents said they were happy and would choose Aras again. Companies interested in digital transformation should be sure to include Aras Innovator on their shortlist.

1<u>Click here to return to Contents</u>

Company News

Autodesk Announces New Ways to Connect to Autodesk Construction Cloud

28 May 2020

Autodesk, Inc. announced powerful new integration capabilities for Autodesk Construction Cloud with the release of a new integration platform Autodesk Construction Cloud Connect and an expansion of its partner ecosystem. Autodesk added several new APIs enabling custom connections for BIM 360® and PlanGrid®, and 15 new native integrations, bringing the total number of direct integrations in the Autodesk Construction Cloud ecosystem up to over 140. Project teams can now more easily build custom integrations and streamline data across workflows – from design to planning, building and operations – so they can increase efficiency and productivity.

Autodesk Construction Cloud Connect (ACC Connect), an evolution of PlanGrid Connect, is an intuitive, ready-to-use integration platform that allows customers to create flexible integrations without writing code. Powered by Workato, ACC Connect supports integrations for Assemble, BIM 360, BuildingConnected and PlanGrid. Customers can connect their Autodesk Construction Cloud products to automate continuous or scheduled data flows with a wide range of SaaS applications including Box, Smartsheet, DocuSign, and QuickBooks Online.

Autodesk Construction Cloud customers can collaborate on workflows across the building lifecycle, and they may turn to point solutions for specific activities such as file sharing, expense management and time tracking. Instead of dedicating software development resources, which can be costly and challenging to find, to build custom integrations between Autodesk products and these specialized solutions, customers can now rely on ACC Connect to easily configure their own integrations.

"Transferring data between the applications we use and those used by our clients and subcontractor partners can often be a complex, expensive, and error-prone process," said Blaine Crawford, director of information technology, C.W. Driver. "ACC Connect lets us easily build custom integrations between the solutions used across each of our project teams and workflows so we can streamline our data management, spend more time on project-critical tasks and ultimately drive more productivity."

New APIs and native integrations provide direct connections to ACC products Autodesk's newest APIs also allow both customers and partners to build bidirectional custom integrations with BIM 360 and PlanGrid. Permissions APIs for BIM 360 can automatically ensure collaborators only can access specific project information, and Cost Management APIs allow connections with specialized accounting tools. Partners can

leverage PlanGrid's new Advanced RFI, Submittals and Custom Forms APIs to populate and extract data so customers always see the latest information, regardless of which integrated application they access.

The ecosystem of partners taking advantage of APIs for direct integration to Autodesk Construction Cloud products has also expanded with 15 new additions. The new integrations simplify data management for processes ranging from material tracking to identifying components of a build that can be prefabricated.

Customers using BIM 360 can now leverage integrations with Agile

Handover, Contecht, Matterport, MSuite, Plannerly, Reconstruct, Shedmate, SignNow; customers using PlanGrid can now leverage integrations

with DataStreet, Extracker, FACS, ProjectMates and Zters. Both BIM 360 and PlanGrid now integrate with Allegion Overtur and StructionSite as well.

"The construction industry is increasingly adopting model-driven collaboration across the project lifecycle," says Britton Langdon, president of MSUITE. "Autodesk is uniquely positioned to provide strong integrations with design files and integrating with Autodesk Construction Cloud enables us to provide our customers the strongest access to their design data throughout preconstruction, fabrication and site construction workflows."

"Construction projects today involve multiple technology applications serving various team members and workflows," said Angi Izzi, director of partnerships for Autodesk Construction Solutions. "When those applications can't talk to each other and data becomes siloed, productivity is compromised across workflows. The expansion of our integration capabilities underscores our commitment to driving construction productivity and empowering the industry to collaborate with deeper connections to technologies and teams."

1Click here to return to Contents

Cenit: Home Office for Robot Operators?

27 May 2020

Challenges open up unexpected opportunities. In the field of digital factory and robot software, many things in planning and engineering can already be done remotely and offline. But for those who are responsible for production execution, home office is almost impossible. Not at all? Well, disruptive times are also forcing us to take previously unimagined steps and work methods. This might open up our mind to envision new opportunities.

White collars vs. blue collars?

We all experience disruptive times these days. Physical distancing and working from home is forcing us to change the way we work in a much faster way than we've ever imagined.

Of course there are many jobs that can easily be switched from office work to smart work. I can even imagine that we now experience a more efficient way of working in some areas. This is because you miss out on the permanent disturbance from your co-workers, you can better focus on your actual project. Also the team communication can be improved and democratized because you automatically involve more people into web conferences that you have left out in previous times when many things were informally discussed in inner circles during lunch breaks or at the coffee machine.

A bright new future for everyone? Smart working, agile networks everywhere? It might be partially true

for the white collar workers, but what about the shop floor managers and robot operators? Reality is: there are many things you cannot do in your home office; building cars and airplanes, assembling machines and automation cells, maintenance services on production equipment, commissioning of new products and start of production.

But yet, in disruptive times like these, some things are possible that we couldn't imagine before. Let me give you some examples from my perspective, working in the area of digital factory solutions and robotics simulation software.

Software evaluation - remotely

Testing and exploring new software solutions is a very obvious step. It might be that you were always thinking about using robot simulation software for process validation, for offline-programming and to support process commissioning tasks, but you've never had the time to carefully test and select the right software solution?

No matter if it is about a major software upgrade, about an extension of existing solutions including additional processes and robot cells, or about a completely new software installation; we have proven concepts at hand, which we can provide to you remotely, with a comprehensive test installation and all required support.

If you are curious: we will provide you with a FASTSUITE software installation and with a self-learn tutorial to get yourself acquainted with the functionality of the product. Then, we will set up a web session to help you install the software and license correctly, and we will also explain the tutorial concept for you to get started. The tutorial comes along with step-by-step instructions and self-explanatory exercises that can be directly recaptured by using training data. Then, in order to support your learning progress, we will arrange regular review sessions in which we can explain some aspects in more detail, or help you transfer the skills from sample parts into your real project data.

Even though we were always convinced that there is nothing better than a face-to-face training session, we are very much surprised how smoothly this remote learning works – even for complex robot functions and operations.

OLP implementation and robot cell calibration – remotely

A key factor for successful OLP integrations is a perfect match between the real robot cell and the virtual twin. Usually, our engineers show up on-site at customer installations to capture the robot cell layout, to design the virtual model and - last but not least - to carefully calibrate the base frames and reference objects, especially when external axis and positioners are involved.

Again, this is a typical activity that was only possible by going on-site, but to our surprise even this can be done remotely by using the tools that we all already have in our pockets. One of our engineers just recently told me that we have done a full robot cell calibration and commissioning project remotely, and only with a smartphone and a webcam as communication tools. The robot operator has simply shared the teach pendant via webcam, so we could directly see the base frame coordinates and all other information that we needed to adjust the virtual robot cell model, and we could see his every move as if we were right there next to him. The result: we could build the robot cell layout in our home office from start to finish, and we could customize the robot code output correctly, and last but not least, we have achieved a successful OLP implementation for a new robot cell.

Case studies - remotely

Being trapped in a home office situation also means less access to hardware and production equipment. Time to think about process improvements by using virtual equipment instead? It is a no-brainer that customers are using the robot simulation software to perform some robot cell design studies, to do reach studies, test and evaluate new automation concepts, and so on. Last but not least, the advantage of these virtual try-outs is that bad ideas can easily be discarded, while good ideas can be validated and brought to perfection with a few iteration steps.

Even if you are not yet using a simulation software, these case studies are possible. During the last weeks some of our customers have contacted us to support them with our own licenses, and we have done the simulation work as a service. Thanks to regular reviews via web-meeting, this kind of engineering work can be done very efficiently.

First steps towards virtual commissioning - remotely

Many robot manufacturers currently offer their teach-in software at no charge – why not use them as virtual controllers to take a first step into the area of virtual commissioning? Our FASTSUITE software provides standardized connectors to integrate the virtual controllers from many relevant robot manufacturers. The same applies to virtual PLC controllers. This enables you to build up a virtual robot cell or even a complete automation system, and to directly execute and validate the robot programs and PLC program definitions with this virtual cell.

Using the test licenses that are currently offered is a perfect opportunity to get a hands-on experience with virtual commissioning, and the benefits of a digital twin.

Maybe you have additional ideas on how to take advantage of this unexpected, unprecedented and most of all, disruptive time that we are all currently facing? Do you have a project in mind and want to get your free FASTSUITE test licenses to try it out? Feel free to contact me directly: jens.fetzer@cenit.com

1 Click here to return to Contents

CGS Expands Global Customer Service Offering through its Israel Office

29 May 2020

CGS announced added services available through its Israel office. The expansion enhances the company's delivery of comprehensive Business Process Outsourcing (BPO) services to existing global clients and prospects.

Located in Netanya, the Israel office enhances the CGS global offering of 26 languages by providing services in Russian, Hebrew, English, French and Arabic. The 200-seat facility offers advanced, modern data center with a telecom infrastructure, servicing clients requiring technical and customer support as well as back office services. The area is well-known for its educated workforce, offering a diverse population and quality resources to fulfill CGS's growing customer base.

"For nearly five years we've provided BPO services in this region," said Eitan Lombard, CGS country manager, Israel. "Yet, expansion of global needs by our existing customer base has emphasized a greater need for support in Israel. Our team's technology expertise and experience in high-quality outsourcing services supports such industries as telecommunications and computer technology, among others. Furthering client relationships have strengthened our global network capability to better service clients' needs."

With optimized call center resources to serve global clients, CGS offers a unique hybrid approach through automation and live agents in its contact centers located in North America, South America, Europe, Asia and the Middle East. Its AI-enriched chatbot and RPA technologies complement the customer support services provided by thousands of multilingual call center agents. CGS supports many of the world's industry-leading global brands from retail, hospitality, healthcare, technology and

telecom. CGS's innovative, scalable and flexible business process outsourcing (BPO) solutions include technical and customer support, telesales, channel enablement and back office support.

1 Click here to return to Contents

HCL And BROADCOM Expand Their Partnership

29 May 2020

HCL Technologies announced an expansion of the preferred services partnership signed in 2018 with Broadcom Inc. HCL will broaden its professional services offerings to include Symantec Enterprise Division (SED)consulting services, which was part of Broadcom's enterprise security solutions.

As part of the partnership, the majority of Broadcom's Symantec enterprise consulting team will transition to HCL. This includes expertise across endpoint security, web security services, cloud security, and data loss prevention. Symantec enterprise consulting employees will join HCL's Enterprise Studio, which provides professional services for Broadcom Enterprise Software solutions. The Symantec U.S. Federal Consulting Services and Cyber Threat Analysis Programs will remain with the Symantec Enterprise Division of Broadcom.

"The enhanced partnership with Broadcom combined with HCL's rich legacy in CyberSecurity will help our customers establish a secure environment to further explore and pursue their enterprise growth objectives," said Abhishek Shankar, Senior Vice President, HCL Technologies.

"This is the next phase of a successful relationship between our two companies, built on HCL's proven professional services model and their Enterprise Studio offering" said Art Gilliland, Senior Vice President and General Manager, Symantec Enterprise Division, Broadcom. "This agreement will provide Broadcom customers the expertise and services needed to ensure their mission-critical infrastructure software needs are met."

1 Click here to return to Contents

Materialise Launches Mindware, Advisory Service for 3D Printing

26 May 2020

Materialise is launching Mindware as an advisory service to offer businesses strategic, tailored and technology-neutral insights on the use of 3D printing to address their business challenges.

3D printing offers businesses a way to establish more sustainable supply chains and reduce the costs associated with operational inefficiency, by enabling decentralization of manufacturing and production on-demand. The technology is also known for its ability to enable new business models such as mass production of customized products, and bring innovation to market in record time.

However, business leaders frequently cite one barrier against the widespread adoption of 3D printing: the lack of know-how. Materialise conducted a survey last year which illustrated that nearly 50% of manufacturers expect the use of 3D printing to double in the next 5 years, but 41% see the lack of expertise as a major hurdle.

As companies begin to resume their operations after lockdowns lift, rising financial pressures are likely to render businesses more sensitive to investment risks. Bart Van Der Schueren, Chief Technology Officer at Materialise, notes, "3D printing offers unique opportunities for businesses looking to gain or maintain a competitive edge, while keeping investment risk low. It is critical, however, to tap into a source that is both knowledgeable and unbiased.

3D printing covers a range of technologies which are each ideally suited to varying applications, and neutrality is key in ensuring that the right technologies are chosen in each context."

Materialise is a pioneer in 3D printing and home to some of the 3D printing industry's most experienced veterans, who have been the driving force in several of the industry's most successful technological developments, applications and innovations since 1990. Mindware brings businesses in direct contact with Materialise's experts and their insights, building a substantial foundation of knowledge to build their 3D printing strategy upon.

"We have spent the past three decades working out how to make 3D printing efficient, reliable, meaningful, and scalable. Now, we're sharing our know-how and capabilities to assist businesses. Hardware and software are critical ingredients, but nothing substitutes the right know-how. Unbiased advisory is in the Materialise DNA, and I believe where we can really make a difference for our customers is with Mindware."

- Bart Van Der Schueren, Materialise CTO

Mindware is managed by a dedicated team of business strategists at Materialise, and supported by a wide network of experts throughout the 2000-employee company. Clients receive customized insights from specialists in disciplines ranging from R&D, to design and engineering, to process engineering, as well as specialists dedicated to verticals such as the medical and aerospace industries. Mindware can help companies with exploring or developing applications for 3D printing as well as defining strategy, qualify manufacturing processes.

1 Click here to return to Contents

SHIMA SEIKI Produces Masks for Schools

26 May 2020

SHIMA SEIKI MFG., LTD. has produced 3D knitted masks for use at elementary schools and junior high schools (primary and intermediate schools) in Wakayama Prefecture where the company is based.

The masks are produced at SHIMA SEIKI headquarters by request of the prefectural government of Wakayama, based on knitting data for one of several types of masks released by the company since 19th March in its effort to help alleviate the worldwide shortage of masks due to the spread of the COVID-19 coronavirus infection. The data is originally intended for SHIMA SEIKI users to knit masks on their own knitting machines, and is available for download from the SHIMA SEIKI Users' Site, a knit sample archive featuring over 10,000 items. There have been over 300 downloads for various mask data so far.

The mask data drew interest from the prefecture, which promptly made its request for mask production. It is rare for SHIMA SEIKI to accept requests for knit production in mass quantities, but the company views it as an opportunity to contribute to its community, which it has continuously cherished. The arrangement also benefits children of SHIMA SEIKI employees who attend school in those school districts.

8,000 children's masks have been produced on SHIMA SEIKI's SVR093SP computerized flat knitting machine in 14 gauge. Although a conventional shaping machine, SVR093SP is capable of producing masks in one-piece without the need for sewing afterward, identical to the WHOLEGARMENT masks whose data is also available for production on the company's SWG-N2 series WHOLEGARMENT knitting machines. The children's masks are available in 3 sizes to cover the wide age-range of school children.

The 3D form-fitted masks provide superior fit and comfort. Integral ear straps that are knitted along with the mask portion reduces stress on the ears, and require no further sewing for quick response production. A filter-pouch is knitted-in for inserting commercially available virus filters and other filtration fabrics. Holes are also knitted-in for insertion of wires that provide further adjustment for improved fit.

The knitted cotton masks can be washed and reused repeatedly. Unlike common non-woven surgical masks however, knit masks do not have virus- and pollen-filtration functionality. Their main purpose is to contain spray from coughing and sneezing, and for reducing exposure to allergens.

1 Click here to return to Contents

Wipro launches Global Channel Partner Program for innovative products and platforms

26 May 2020

Wipro Limited announced the launch of its Global Channel Partner Program.

Wipro's products and platforms have been instrumental in helping clients deal with the impact of the COVID-19 pandemic. Market uncertainties have led organizations to focus on Business Continuity Planning and establish new ways of working. Several Wipro products have helped clients meet their requirements for remote working, business continuity, security, and seamless supply chain and worker safety among others. As the market continues to evolve in the coming months, Wipro will collaborate with the channel partners to identify new business challenges that can be quickly addressed.

Ajay Bhaskar, Vice President and Global Head of Corporate Strategy and Intellectual Property, Wipro Limited said, "Products and platforms are central to Wipro's strategy to stay relevant and deliver differentiated value to our clients. A key part of accelerating our footprint across segments and geographies is the Channel Partner Program. We believe channel partnerships can accelerate adoption and bring innovation in relatively under penetrated industry segments and geographies. Together, we can take some of the most innovative and differentiated products and platforms to the industry and open newer sources of growth."

"The program offers partners an opportunity to leverage Wipro's best-of-breed products and open new revenue streams for themselves," said Mandar Vanarse, General Manager, Intellectual Property Unit, Wipro Limited. "Our partners will receive the best possible support to augment new markets for Wipro's products and platforms. We have established a robust onboarding process for new partners which includes special training for their staff at the Wipro Product Academy. In addition, our partners will enjoy access to special pricing models, sales enablement support, benefit calculators and other sales and marketing material. They will also benefit with a Wipro Expert assigned to them to assist throughout the customer engagement journey."

Wipro has a large portfolio of cutting-edge products and platforms which are designed to transform business operations, increase the speed of change, and reduce the cost of change across industry domains. They are aligned to Wipro's 'Digital First' strategy, focused on the outcomes of Business Transformation, Modernization, Connected Intelligence, and Trust. They are easily and quickly deployable and offered in flexible and simplified outcome-based and as-a-service commercial constructs.

1 Click here to return to Contents

Events

Discover What's Next in the World of Simulation At Virtual Altair 2020 Global Experience

28 May 2020

You are invited to join thousands of business leaders, designers and engineers from around the world for the Altair 2020 Global Experience. This interactive virtual event will showcase the most significant update release to Altair's simulation solutions in the company's history.

Join us to learn how simulation is driving better business decisions and accelerating the path of innovation.

This virtual release event caters to all global time zones, and the agenda will include:

Keynote addresses by Altair's CEO and executive team

Altair's entirely new user experience and business models

New product releases and technology introductions

Technical sessions and "What's New" product demonstrations

Live interaction with Altair thought leaders and technology experts

1 Click here to return to Contents

TECHNIA PLMIF Virtual Experience Gathers Over 2000 PLM Professionals Online 28 May 2020

26 May 2020

TECHNIA announced that their online PLM conference - PLM Innovation Forum Virtual Experience 2020 - brought together over 2000 industry experts, PLM professionals and digital pioneers to network and discuss sustainable product innovation.

The PLMIF Virtual Experience is a departure from the previous standard of a physical conference and has been part of TECHNIA's sustainable development plan for some years.

Traditionally a biennial conference, TECHNIA hosts the PLM Innovation Forum to bring together the world's foremost authorities on PLM innovation. For the past few years, TECHNIA have asked that their partner, sponsors and guests join them in their mission to make product creation sustainable.

The PLMIF Virtual Experience 2020 delivered 35 industry and partner booths, 22 live streaming sessions, 90+ on demand sessions and much more to over 2000 registrants during the opening live dates of April 28th and 29th. While the entire portfolio of on demand content remains accessible to registrants for the duration of the month of May.

TECHNIA are reopening the virtual doors to their event and inviting attendees to return for the Virtual Wrap Up on May 28th 14:00-16:00 CET. This additional live day is open to all with more live streaming presentations on the PLM world's most exciting developments, Q&A sessions with industry leaders, all the industry and partner booth content, and many more opportunities for online networking. Join the digital pioneers at www.plmif.org.

"Sustainable product creation is at the heart of what we do at TECHNIA. We promise to provide our customers with measurable and sustainable business improvements, to accelerate performance and transform your vision into value." Jonas Gejer, CEO TECHNIA.

1 <u>Click here to return to Contents</u>

Financial News

Autodesk, Inc. Announces Fiscal 2021 First Quarter Results

28 May 2020

Autodesk, Inc. reported financial results for the first quarter of fiscal 2021.

All growth rates are compared to the first quarter of fiscal 2020 unless otherwise noted. A reconciliation of GAAP to non-GAAP results is provided in the accompanying tables. For definitions, please view the Glossary of Terms later in this document.

First Quarter Fiscal 2021 Financial Highlights

Total revenue increased 20 percent to \$886 million;

GAAP operating margin was 15 percent, up 11 percentage points;

Non-GAAP operating margin was 28 percent, up 10 percentage points;

GAAP diluted EPS was \$0.30; Non-GAAP diluted EPS was \$0.85;

Cash flow from operating activities was \$327 million; free cash flow was \$307 million.

"We posted solid first quarter results," said Andrew Anagnost, Autodesk President and CEO. "Our ability to succeed through challenging times is driven by our people, products, and technology and how they adapt to a rapidly changing world. Our priorities in light of COVID-19 have been the well-being of our employees, the support of our customers, and the health of the communities we work in. I'm very proud of the impact we've made thanks to all the Autodesk employees who have embraced these efforts at every level. We have also maintained our focus on long-term opportunities and remain confident in our growth drivers and fiscal 2023 targets."

"Our resilient business model, backed by a strong balance sheet, gives us a sturdy foundation to weather ongoing economic challenges," said Scott Herren, Autodesk CFO. "We posted strong revenue growth and continued to expand operating margin. Our investments in monetizing non-compliant users, construction and manufacturing will enable us to deliver double-digit growth in the near term as well as our long-term goals."

Additional Financial Details

Total billings increased 11 percent to \$884 million.

Total revenue was \$886 million, an increase of 20 percent as reported, and 22 percent on a constant currency basis. Recurring revenue represents 98 percent of total.

Design* revenue, previously described as Core, was \$798 million, an increase of 20 percent as reported, and 22 percent on a constant currency basis. On a sequential basis, Design revenue increased 1 percent as reported and on a constant currency basis.

Make* revenue, previously described as Cloud, was \$67 million, an increase of 49 percent as reported, and 50 percent on a constant currency basis. On a sequential basis, Make revenue increased 6 percent as reported and on a constant currency basis.

Subscription plan revenue was \$803 million, an increase of 35 percent as reported, and 36 percent on a constant currency basis. On a sequential basis, subscription plan revenue increased 3 percent as reported and on a constant currency basis.

Maintenance plan revenue was \$62 million, a decrease of 45 percent as reported, and 44 percent on a constant currency basis. On a sequential basis, maintenance plan revenue decreased 22 percent as

reported and on a constant currency basis.

Net revenue retention* rate was within the range of 110 to 120 percent.

GAAP operating income was \$131 million compared to \$25 million in the first quarter last year. GAAP operating margin was 15 percent, up 11 percentage points.

Total non-GAAP operating income was \$248 million compared to \$132 million in the first quarter last year. Non-GAAP operating margin was 28 percent, up 10 percentage points.

GAAP diluted net income per share was 0.30, compared to GAAP diluted net loss per share of (0.11) in the first quarter last year.

Non-GAAP diluted net income per share was \$0.85, compared to non-GAAP diluted net income per share of \$0.45 in the first quarter last year.

Deferred revenue increased 40 percent to \$3.01 billion. Unbilled deferred revenue was \$470 million, a decrease of \$119 million compared to the first quarter of last year. Remaining performance obligations (RPO) totaled \$3.5 billion, an increase of 27 percent. Current RPO totaled \$2.4 billion, up 18 percent.

Cash flow from operating activities was \$327 million, an increase of \$106 million compared to the first quarter last year. Free cash flow was \$307 million, an increase of \$101 million compared to the first quarter last year.

1 Click here to return to Contents

DXC Technology Reports Fourth Quarter and Fiscal 2020 Results

29 May 2020

DXC Technology reported results for the three and twelve months ended March 31, 2020.

"I am very proud of how our team at DXC has navigated this world crisis, with an industry leading 99% of our people enabled to work virtually from home," said Mike Salvino, president and CEO. "If COVID-19 taught us anything, it reinforces that what we do is incredibly relevant to today's market. Our people have done a phenomenal job taking care of themselves and their families, while helping our customers enable their employees to work from home, fix needed upgrades to their IT infrastructure estates, stand-up cloud environments, deal with sudden surges of demand, and innovate. I am pleased with where we ended FY20. We have taken steps to ensure a strong financial position and enhance our financial flexibility. We are making good progress with our transformation journey to deliver and build stronger relationships with our customers, optimize our costs to better serve our customers, and capture a unique market opportunity by cross-selling the services that we do every day for our customers. The actions we are taking set up a solid foundation for growth."

Financial Highlights - Fourth Quarter Fiscal 2020

Diluted earnings per share from continuing operations was (13.79) in the fourth quarter, including (0.01) per share of restructuring costs, (0.28) per share of transaction, separation and integration-related costs, (0.45) per share of amortization of acquired intangible assets, (15.00) per share of goodwill impairment, 0.76 per share of pension and OPEB actuarial and settlement gains, and 0.02 per share of tax adjustment. This compares with 1.01 in the year ago period.

Non-GAAP diluted earnings per share from continuing operations was \$1.20.

Revenue in the fourth quarter was \$4,815 million compared with \$5,280 million in the year ago period.

Loss from continuing operations before income taxes was (3,562) million for the fourth quarter, including (4) million of restructuring costs, (92) million of transaction, separation and integration-

related costs, \$(148) million of amortization of acquired intangibles, \$(3,854) million of goodwill impairment, and \$244 million of pension and OPEB actuarial and settlement gains. This compares with \$354 million in the year ago period.

Non-GAAP income from continuing operations before income taxes was \$292 million compared with \$778 million in the year ago period.

Net loss was \$(3,501) million for the fourth quarter, including \$(2) million of restructuring costs, \$(72) million of transaction, separation and integration-related costs, \$(114) million of amortization of acquired intangibles, \$(3,812) million of goodwill impairment, \$193 million of pension and OPEB actuarial and settlement gains, and \$6 million of tax adjustment. This compares with \$271 million in the prior year period.

Non-GAAP net income was \$300 million.

Adjusted EBIT was \$352 million in the fourth quarter compared with \$827 million in the prior year. Adjusted EBIT margin was 7.3% compared with 15.7% in the year ago quarter.

Net cash provided by operating activities was \$288 million in the fourth quarter, compared with \$748 million in the year ago period.

Adjusted free cash flow was \$131 million in the fourth quarter.

Financial Highlights - Fiscal 2020

Diluted earnings per share from continuing operations was (20.76) in fiscal 2020, including (0.80) per share of restructuring costs, (0.98) per share of transaction, separation and integration-related costs, (1.73) per share of amortization of acquired intangible assets, (25.78) per share of goodwill impairment, 2.43 per share of gain on arbitration award, 0.74 per share of pension and OPEB actuarial and settlement gains, and (0.13) per share of tax adjustment. This compares with 4.35 in the year ago period.

Non-GAAP diluted earnings per share from continuing operations was \$5.58.

Revenue in fiscal 2020 was \$19,577 million compared with \$20,753 million in the year ago period.

Loss from continuing operations before income taxes was \$(5,228) million for fiscal 2020, including \$(252) million of restructuring costs, \$(318) million of transaction, separation and integration-related costs, \$(583) million of amortization of acquired intangibles, \$(6,794) million of goodwill impairment, \$632 million of gain on arbitration award, and \$244 million of pension and OPEB actuarial and settlement gains. This compares with \$1,515 million in the year ago period.

Non-GAAP income from continuing operations before income taxes was \$1,843 million compared with \$3,063 million in the prior year.

Net loss was \$(5,358) million for fiscal 2020, including \$(208) million of restructuring costs, \$(255) million of transaction, separation and integration-related costs, \$(450) million of amortization of acquired intangibles, \$(6,699) million of goodwill impairment, 632 million of gain on arbitration award, \$193 million of pension and OPEB actuarial and settlement gains, and \$(33) million of tax adjustment. This compares with \$1,262 million in the prior year period.

Non-GAAP net income was \$1,462 million.

Adjusted EBIT was \$2,061 million in fiscal 2020 compared with \$3,269 million in the prior year. Adjusted EBIT margin was 10.5% compared with 15.8% in the prior year.

Net cash provided by operating activities was \$2,350 million in fiscal 2020, compared with \$1,783 million in the prior year.

Adjusted free cash flow was \$1,341 million in fiscal 2020.

Global Business Services (GBS)

GBS revenue was \$2,308 million in the quarter compared to \$2,191 million for the prior year. GBS revenues increased 5.3% year-over-year, reflecting the contribution from the Luxoft acquisition which was closed in June 2019. GBS profit margin in the quarter was 9.7%, down from 20.4% in the prior year, reflecting the impact of the resolution of certain customer disputes, the profit impact of lower revenue in our traditional applications business, and higher cost-take out activities in the prior year. New business awards for GBS were \$2,185 million in the fourth quarter.

Global Infrastructure Services (GIS)

GIS revenue was \$2,507 million in the quarter compared to \$3,089 million for the prior year. GIS revenues decreased 18.8% year-over-year. The GIS revenue reflects the run-off and termination of certain accounts,. GIS profit margin in the quarter was 7.7%, down from 14.1% in the prior year, primarily driven by the profit impact from lower revenue. New business awards for GIS were \$2,183 million in the fourth quarter.

Returning Capital to Shareholders; Suspension of Dividend

During the fourth quarter, DXC Technology returned \$53 million to shareholders in the form of common stock dividends. To enhance the company's financial flexibility under current uncertain market conditions the company has elected to suspend payment of a quarterly dividend. This decision will be reevaluated by the Board of DXC Technology as market conditions stabilize.

1 Click here to return to Contents

HPE Reports Q2 Results

26 May 2020

Hewlett Packard Enterprise announced financial results for its fiscal 2020 second quarter, ended April 30, 2020.

"The global economic lockdowns since February significantly impacted our fiscal Q2 financial performance," said Antonio Neri, president and CEO of HPE. "We exited Q2 with \$1.5 billion dollars in orders across the portfolio, representing two times the average historical backlog1."

"Despite challenging circumstances, HPE GreenLake, our as-a-service offering, gained traction with 17% ARR growth and our Intelligent Edge business grew 12% in North America outperforming the market while expanding margins," added Neri.

"We are taking decisive steps to navigate the near term uncertainty, while ensuring we align resources to priority growth areas so that we are well positioned to accelerate our edge-to-cloud strategy and address the needs of our customers in a post-COVID-19 world," Neri said.

Second Quarter Fiscal Year 2020 Results

Net revenue of \$6.0 billion, down 16% from the prior-year period and 15% from the prior-year period when adjusted for currency, driven primarily by supply chain constraints and delays in customer acceptance, which resulted in significantly higher levels of backlog, particularly in Compute, HPC & MCS, and Storage.

Annualized revenue run-rate (ARR) of \$520 million, up 17% from the prior-year period. We are reiterating our 2019 Securities Analyst Meeting ARR guidance of 30-40% Compounded Annual Growth

Rate from fiscal year 2019 to fiscal year 2022.

GAAP gross profit margin of 31.9%, compared to 32.2% from the prior-year period and Non-GAAP gross profit margin of 32.0%, compared to 32.2% from the prior-year period.

GAAP operating profit margin of (13.9%), compared to 6.1% from the prior-year period and Non-GAAP operating profit margin of 6.1%, compared to 8.9% from the prior-year period.

GAAP diluted net earnings per share ("EPS") was (\$0.64), compared to \$0.30 in the prior-year period, includes non-cash write-down of legacy goodwill impacting GAAP EPS by \$0.67.

Non-GAAP diluted net EPS was \$0.22, compared to \$0.42 in the prior-year period. Second quarter non-GAAP net earnings and non-GAAP diluted net EPS exclude after-tax adjustments of \$1.1 billion and \$0.86 per diluted earnings per share, respectively, primarily related to impairment of goodwill, transformation costs and amortization of purchased intangible assets.

Cash flow from operations of \$100 million, compared to \$987 million in the prior-year period.

Free cash flow of (\$402) million, compared to \$402 million in the prior-year period.

Segment Results

Intelligent Edge revenue was \$665 million, down 2% year over year when adjusted for currency, with 11.0% operating profit margin, compared to 5.3% from the prior-year period. Enhancements to North America sales leadership and go-to-market segmentation are paying off with 12% year over year growth in North America. Despite the challenging business environment, we are gaining market share in both campus switching and WLAN markets, while significantly improving profit margins.

Compute revenue was \$2.6 billion, down 19% year over year when adjusted for currency, with 4.7% operating profit margin, compared to 9.3% from the prior-year period. Revenue in the quarter was pressured primarily by component shortages and supply chain disruptions related to the COVID-19 pandemic that impacted our ability to fulfill customer demand.

High Performance Compute & Mission Critical Systems (HPC & MCS) revenue was \$589 million, down 18% year over year when adjusted for currency, with 5.6% operating profit margin, compared to 12.8% from the prior-year period. Revenue was impacted by COVID-19-related delays in installations and customer acceptance resulting in elevated backlog that should flow into the second half of the year. Our HPC business has been actively involved in COVID-19-related research activity and is providing COVID-19 researchers worldwide with access to the world's most powerful HPC resources to advance the pace of scientific discovery in the fight to stop the virus.

Storage revenue was \$1.1 billion, down 16% year over year when adjusted for currency, with 13.4% operating profit margin, compared to 18.5% from the prior-year period. Revenue in the quarter was pressured primarily by component shortages and supply chain disruptions related to the COVID-19 pandemic that impacted our ability to fulfill customer demand. Big Data showed continued momentum, up 61% year over year when adjusted for currency and Nimble Services revenue grew 20% year over

year with services intensity at record highs as customers added high-margin value-added services.

Advisory & Professional Services (A&PS) revenue was \$237 million, down 8% year over year when adjusted for currency, with 0.8% operating profit margin, compared to (5.4%) from the prior-year period. A&PS is a strategic business that pulls through significant infrastructure and operational services sales.

Financial Services revenue was \$833 million, down 5% year over year when adjusted for currency, with 9.0% operating profit margin, compared to 8.6% from the prior-year period. Net portfolio assets were up 4% year over year when adjusted for currency, and financing volume was up 10% year over year when adjusted for currency, despite the impact of COVID-19. The business delivered return on equity of 15.3%, down 30 basis points from the prior-year period.

1<u>Click here to return to Contents</u>

Implementation Investments

De Nora Group Goes Live on SAP S/4HANA During COVID-19 Lockdown

27 May 2020

SAP SE announced that the De Nora Group, a global supplier of sustainable technologies, completed its SAP S/4HANA implementation, fully remotely during the COVID-19 lockdown, at its subsidiary De Nora Water Technologies U.S. with the help of Capgemini.

"For De Nora, it was strategic to stay on track with the SAP S/4HANA implementation road map defined more than a year ago," Industrie De Nora CIO Carlo Paschetto said. "Despite the difficult and extraordinary global situation, we completed the implementation in order to consolidate the integration between our companies within the De Nora Group, and support technological updates to support the business."

The De Nora Group benefits from the extension of the integration and standardization of accounting processes across all companies. Other benefits are innovative cross-functional and multilevel reporting models, the usability of information through mobile devices, and the rationalization and consolidation of infrastructure security.

Capgemini managed the U.S. deployment as part of a global project to bring SAP S/4HANA technology to all companies within the De Nora Group. De Nora Water Technologies' water purification business will soon extend its transformation process to other locations in Italy, China, Abu Dhabi and the United Kingdom.

Founded in 1923, the Milan-based De Nora Group offers water and wastewater treatment technologies and manufactures electrodes and coatings for electrochemical processes. With customers in 119 countries, 12 production plants and three research and development centers across the world, De Nora is committed to developing innovative and unconventional solutions to provide low- and zero-emission energy solutions while helping customers get clean water.

Click here to return to Contents

Hexagon - Rutland Plastics moulds 25,000 headbands for visor masks 29 May 2020

An injection moulding specialist helped a public school in Rutland to produce thousands of pieces of PPE for frontline workers during the early days of the COVID-19 crisis.

While Oakham School was closed during lockdown, staff used 3D printers and laser cutters from the Design and Technology Department to begin making face shields. They approached local company, Rutland Plastics, to help them boost productivity, which took them from manufacturing just a handful a day, to 8,000 a day.

Rutland Plastics' Technical Manager Carl Martin says they were originally asked to 3D print a number of headbands for the shields, but decided it would be more cost effective to manufacture a mould tool using their VISI software package, and then injection mould the plastic product from it.

"We received the initial design for the 3D printed product, and modified it in VISI to make it injection mouldable. Once that was completed and approved, we designed the tool in VISI using a Meusburger bolster with aluminium bolster plates."

The design then went into the toolroom and was milled on their Mazak VCN 530C CNC machine with toolpaths created through VISI's extensive CAM functionality. The process from taking in the initial 3D design, through turning it into a mouldable product, and finalising the mould tool, took less than a week.

When the two-impression mould was setup on their 80-tonne Engel moulding machine, both parts of the headband were formed from a medically-accredited polypropylene every 24 seconds during the production run of 25,000.

To complete the full screen face masks, Oakham School arranged for the headbands to be attached to plastic visors, which were then distributed to front line NHS staff and key workers at hospitals, doctors surgeries, care homes, specialist schools and mental health institutions.

As medical products were already part of Rutland Plastics' portfolio, they remained fully open during the Coronavirus lockdown, and extended their output with additional components aimed at fighting COVID-19.

Their suite of VISI products and modules, from Hexagon's production software portfolio, has been instrumental in the design and production of a number of mould tools for those products, which include two components for a contactless door-opener. "That device allows doors to be opened and closed without having to touch the handles – particularly important to stop the spread of Coronavirus," says Carl Martin.

The company is also part of a national consortium geared up to increase the manufacture of ventilators, and have taken delivery of a mould tool from Taiwan, moulding ventilator front covers from ABS thermo plastic polymer.

1 Click here to return to Contents

Sunwin Boosts Value Creation with Centric Software PLM

26 May 2020

Shanghai Sunwin Industry Group Co., Ltd. (Sunwin), the Chinese 'King of Throws and Blankets', has selected Centric Software®'s Product Lifecycle Management (PLM) solution. Centric Software provides the most innovative enterprise solutions to fashion, retail, footwear, outdoor, luxury, consumer goods and home décor companies to achieve strategic and operational digital transformation goals.

Founded in 2002, Sunwin provides integrated services including original design, marketing strategy and supply chain management of home textile goods for middle- and high-end retailers across the world,

including Nordstrom, Macy's, Pottery Barn, John Lewis and Dillard's.

Sunwin has a fully-integrated supply chain management system that stretches from fabric selection to manufacturing to shipment. The company decided to invest in PLM to give designers and R&D personnel the visibility and collaborative tools they need to create more value-added and innovative products.

"Sunwin advocates the principle of integrated value chain management to be responsible to customers, suppliers and consumers," says Mr. Wang Yaomin, Chairman of Sunwin. "The design and research teams need a greater ability to predict and create value, based on in-depth insights into product data using PLM digital solutions."

Sunwin identified four key objectives for the PLM project: collaborating more effectively, establishing a research knowledge base, making better decisions and improving efficiency. Following consultations with Centric, Sunwin selected Centric Home PLM. Despite the challenges of Covid-19, Sunwin is forging ahead with implementation.

Wang says, "Companies with long-term strategic plans will not cease to move forward because of shortterm difficulties. Competitiveness must come from the product itself, and Centric PLM can help us to strengthen the power of our products."

"By making full use of Centric's rich resources, including its expert consultant team and industryleading innovative technology platform, we can focus on improving our team's efficiency and digital capabilities to lay a solid foundation for Sunwin's future development," he concludes.

"We are delighted that Sunwin has selected Centric PLM and looking forward to working with them," says Chris Groves, President and CEO of Centric Software. "Sunwin is at the forefront of digital transformation in China's textile industry, and this project will be an industry benchmark."

1Click here to return to Contents

Product News

Centric Releases Easy Digital Collaboration with Personal PLM

28 May 2020

Centric Software® is proud to announce that the latest release of its flagship Product Lifecycle Management (PLM) solution, Centric 8 PLM version 7.1, is now available. 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.

Centric 8 PLM v7.1 was developed in response to customer feedback and the evolving needs of the market during a time of unprecedented transformation opportunity. Digital transformation solutions to fuel collaboration are now fundamental, but user interface isn't a one-size-fits-all experience. Users can individualize their experience with Personal PLM.

Personal PLM in Centric 8 v7.1 furthers custom views, a long-time Centric Software innovation which enables users to quickly and easily create their own individualized PLM experience for a more efficient, data-driven way of working. A user-favorite for over 10 years, Centric PLMTM Custom Views have continued to evolve, and now with v7.1, are even more powerful.

Centric 8 v7.1 also introduces an interface redesign that enhances the user experience for people with vision impairments to extend innovation through accessibility and improve collaboration.

"Giving individual users flexibility to optimize and personalize their workspace in just a few clicks streamlines for even better productivity and improved efficiency while also enhancing user adoption and happiness," explains Ron Watson, VP Product at Centric Software. "Version 7.1 reduces visual clutter so users can access the information they need, faster. The interface colors have been adjusted to be more eyesight-friendly and users can also personalize Centric PLM with a choice of fun color themes."

Centric Software already introduced robust 3D features such as a 3D material viewer, 3D sample reviews and PLM connectors with prominent 3D design applications such as Browzwear, Optitex and CLO. Version 7.1 includes several new 3D innovations.

"Reducing physical samples and replacing them with 3D representations is quickly becoming the standard, enabling brands to reduce development timelines, become more sustainable and continue business-critical operations while working remotely," explains Watson.

"Our latest innovations enable designers to create new, 3D colored materials directly in PLM without switching between their 3D CAD solution and Centric. Enhancements empower users to more efficiently create digital product samples and high resolution, photorealistic 3D models for e-commerce and marketing. Product development teams can now visualize simple color changes with the Centric PLM 3D Material Viewer allowing them to contribute to the 3D digital workflow."

Centric 8 v7.1 also introduces updates to sourcing with Multicategory Quick Spec for retailers to drive product category expansion in more markets and regions, faster and empower business growth. These enhancements were also developed hand-in-hand with Centric PLM customers.

"Multicategory retailers have hundreds of product categories with thousands of unique product characteristics, whether it's the size of a lightbulb for a lamp, number of batteries in a toy or voltage and plug style of a toaster, as well as varying regulatory and compliance requirements in different geographical regions. We partnered with our customers to enhance solutions in Centric PLM for an even faster and more efficient way to capture that unique data in product spec sheets. Updates in Centric PLM enable users to personalize product characteristics quickly and easily to save time when creating their supplier requests. This makes product sourcing more accurate and more efficient so retailers can make sourcing decisions easier and move more products along for development, faster," says Watson.

"We're delighted to announce the latest release of Centric 8 PLM, making the user experience more dynamic, intuitive, personalized and streamlined," says Chris Groves, President and CEO of Centric Software. "The ease with which users can collaborate in office or from home with Centric PLM every day has a direct impact on user adoption and happiness, productivity and ultimately, on business efficiency and growth."

1<u>Click here to return to Contents</u>

Hexagon Releases JAVELIN 2021

28 May 2020

The latest release of JAVELIN MRP and production control software from Hexagon introduces the new Despatch Pallet function with automatic allocation of delivery notes to Pallets. Plus, a Master Production Schedule has been launched to manage bottlenecks by levelling the load, leading to increased output and smarter production.

With the new Despatch Pallets feature, as parts are added to a Delivery Note, JAVELIN 2021 automatically assigns the goods to an available pallet...and if any aren't available it will create a new one. A pallet can contain several Delivery Notes to the same address, and a Delivery Note can also be

spread over several pallets.

The Master Production Schedule enhances MRP and gives greater control on forward planning. For example, users can enter or import their own schedule for designated parts in specific periods, which MRP will honour instead of the normal supply or demand. The entry screen shows real demand and the available quantity each week. The screen can be filtered for parts that use a specific work centre. Part Maintenance and Supply vs Demand will indicate when MPS is in use for that part.

Amongst a raft of updates to JAVELIN, a new program in the Purchasing environment, Expedite Feedback, speeds up the updating of supplier results for Acknowledged date, Review Date and Comments, by importing from an Excel or csv file. The confirmation screen in Request for Quotation now displays all responses, and allows the best option to be selected, with the ability to change Due Date before confirming. Other updates include Supplier Price Books specified by Part Issue; a new Profile option of Automatic Acknowledgement that creates Purchase Order Lines as acknowledged; and in the Subcontract Update program acknowledged dates can now be updated as well as due dates.

Customer Profile functionality has been renamed Trader Profile, and extended to Suppliers, enabling purchase documents to be customised for specific groups of suppliers.

Works Orders improvements include how splitting of orders is managed, with two options to suit different requirements. The new Works Order Split fully splits a WO into multiple Refurbishment Works Orders, apportioning outstanding materials and operations, while keeping traceability to the original. The other option, Works Order Partition, splits off part of the order, leaving the original open to continue processing. Material, labour and outwork costs are transferred, but unlike the WO Split, previously processed operational data, including Outwork, is not available to the newly created order.

The new Update Ops button refreshes outstanding operations in line with the current Part Routing; and there is now increased visibility of Excess Supply, with this field displayed on several Works Order screens.

Advanced Scheduling now has a Priority Escalation field, for high priority Works Orders to be fast tracked by scheduling, before other orders in the work to list. This provides greater control over scheduling output for business-critical situations.

JAVELIN 2021's new Part Security feature controls user access to data for specific parts and is of particular interest to companies with ITAR and other security requirements. The part security code is defined against a part, or inherited from the Item Type defaults, with only designated employees given access to that component's Document View data.

Icons added to Shop Floor Data Capture's Work to list clearly indicate which operations are available to start, according to the previous operation having finished, and material issue status.

For companies dealing with third-party forward shipping, a new Proof of Export function allows HMRC export information to be entered and tracked against the invoice details.

A range of general enhancements include:

A taskbar icon showing outstanding actions, CRM actions, project tasks, NCR tasks, and WIP validation failures, acting as a quick access to the relevant screen

VAT category is now a customisable list of options, in readiness for possible Brexit changes

On the Multi Sales Issue screen, new icons to show the OTIF (on time in full) status of the lines being shipped i.e. late, on time or early to the OTIF

Added efficiency in creating NCR templates, by copying items from previous templates

Stock Take output now has an option to include Part descriptions on printed count sheets and stock take tickets

MAP Up buttons throughout the system show any top-level Sales Order demand as a Tool Tip

Quotes have a new comment box; and in the Quote print function the customer reference is included in the email header and body text

Dashboard sales graphs now have options to breakdown by Sales Order Type, and to select whether to exclude either Consignment or Call Off Orders.

1<u>Click here to return to Contents</u>

Hexagon: Time-Saving and Productivity Enhancements in Latest VISI

26 May 2020

CAD, Mould, Progress, CAM, Simulation and Wire Functions all Benefit in VISI 2021

A raft of new and enhanced functionality features in VISI 2021 – the latest release of Hexagon's specialist mould and die CAD/CAM software.

CAD:

CAD analysis benefits from a new function which improves the suite of analysis shading modes. Draft Analysis has been added to the existing Undercut and Accessibility shading, performing an on-the-fly analysis of the draft angle. This uses the same technique as in the undercut mode, but extended to more ranges. The colours and angular value of each range can be changed by simply clicking on the colours or numeric labels on the graphics toolbar.

Repair functions used in the Repair Invalid Faces of Bodies command are now integrated in the Validate command. It is now also possible to zoom in on any potential issues using the Auto Zoom function.

Developments to the CAD Reverse module enhance the Reverse and Casting processes. VISI Product Owner Marco Cattaneo explains that the scanning operation has been improved with the shaded view, giving better and faster feedback. . "Also, new Part Unfolding features have been added to encapsulate the unfolding process of linear and non-linear bends; the system is able to integrate adjustments made to the original part, rebuilding the changes to all unfolded stages in one-click. And Reverse projects now benefit from faster and more precise surface creation."

With Point Scanning, the shaded point cloud is now shown during the scanning operation, giving the operator an immediate view of what has been correctly scanned, and if anything is missing.

An additional option has been added to automatically create a mesh as a scanning result, which he says is particularly valuable when a quicker, rather than detailed, result is needed.

Enhancements to probing during the Reverse process now detect the correct diameter of the part in relation to the position of the probed points. A Circle/Slot probing feature has been added for probing and designing a circle or slot, giving several options to guarantee the probed element is the correct size and in the correct position.

"The new Curve probing feature allows the user to probe a curve alongside the part. This can save time where curves are used to identify the shape – they can be used to create the relative surfaces, avoiding

the need to create a mesh first."

All features relative to surface creation when working on planes, radii and cones from the mesh, have been reviewed, leading to time savings, and better quality surfaces during model preparation. "There's now the ability to define the reference direction or surface of some constraints. While creating the surface, users can select a direction, and then add the constraint type – parallel, perpendicular or concentric."

A Mesh to Advanced Surface feature has been added for creating a good quality surface, representing an alternative to the standard Mesh to Surface command.

MOULD – Body to Mould

Additional options to existing commands, along with new items of functionality, make part position management considerably easier.

With Body to Mould, there is a new option to select multiple elements, including solids and surfaces, and move the selected bodies to the mould position. During the part positioning, 'non-uniform scaling values' can now be defined by the user, and the system automatically sets the relative shrinkage data in a special Assembly Manager field (Bill of Materials).

With Mould to Body, the system allows multiple element to be selected, including solids and surfaces, and to move the complete mould back into Body position. "This will be valuable for operators using CMM to check tools in the body position. When they select the part to move back, they get an option to select multiple elements to go with the tool back to Body position," says Marco Cattaneo.

When browsing mould parts, the system lists those which have been defined as 'body to mould,' showing all relevant data. And defined 'shrinkage' data can be edited in the 'reset scale on parts' function.

PROGRESS - Part Unfolding

To provide a powerful and complete solution to this new unfolding approach, additional features have been included for flanges and non-linear bends. "The aim is to study and modify a part, preserving the links between the different unfolding steps."

The Part Definition feature has been improved, giving better and faster part analysis, identifying the different face types, defining material, and setting linear bends unfolding. Different colours can be set, relating to different neutral fibre values, giving quick identification for unfolded linear bends and fibre value. "After automatically analysing the part, VISI 2021 can now edit the faces recognition, giving a warning description, meaning the user can better understand why an operation has failed, making it easier to decide a different approach."

A new feature manages flange unfolding on the analysed part, and shows the result in preview mode, so the operator can evaluate the result and set different parameters, while preserving the link with the original part. This automatically recalculates the flanged part, meaning all linked parts can then be rebuilt in reference to a modification on the original.

CAM Simulation

An interface with Hexagon's G-code simulator, NCSIMUL Advanced comes as a cost option in VISI 2021. Marco Cattaneo explains that NCSIMUL manages the complete machining process from the NC

program to the machined part. "Its capabilities include automatic G-code reprogramming, G-code simulation and cutting tool management."

He says the most significant points are:

Read and simulate any G-code and machine tool macros

Preview toolpath G-code program analysis to detect errors before simulation

Precise material removal and machine simulation

Integrated G-code program editor for online modification

Dimensional analysis

Analysis and optimisation of cutting conditions.

An enhanced waveform algorithm prevents tool damage around pegs (or thin walls) left during the milling process. Those areas are now identified, and the XY step reduced, smoothing the corners. This reduces tool stress, making damage or breakage much less likely.

WIRE

Finally, VISI 2021 introduces a new command, which duplicates an existing wire EDM machine, improving project management for manufacturers using two or more different models from the same machine manufacturer such as Sodick and Agie.

1Click here to return to Contents

IronCad Releases 2020 Update

27 May 2020

IronCAD introduced the first update for IRONCAD 2020, the latest release from the leader in design productivity of 3D CAD programs and preferred software of Machine Designers and Engineers globally. The IRONCAD 2020 Product Update #1 (PU1) features exciting enhancements and capabilities that enable IronCAD users to accelerate productivity and improve product development, from conceptual design to manufactured products, and create value for their organizations.

Designed with a focus on performance, quality improvements, and design productivity, IronCAD's research and development team delivered IRONCAD 2020 PU1 in response to enhancement requests from the IronCAD community around the world. With the many new capabilities and enhancements in PU1, users can benefit from an array of options and opportunities to improve system performance in their daily operations, streamline workflows and seek new levels of collaboration and agility to more quickly and cost-effectively deliver products to their customers.

Among the many new improvements and capabilities in IRONCAD 2020 Product Update #1 are:

Open/Save/Import Performance: Continued improvements have been performed in this area to reduce the load/save times of extremely large assembly data sets to improve the overall performance when designing with large assembly files.

IronCAD Drawing (ICD) View Creation/Update – Improvements have been made to improve the view creation and view update speed in the drawing environment, especially with large assembly files.

IronCAD Drawing (ICD) View Camera Performance – New options to control functions additional performance settings have been added to aid in the overall camera interaction performance when interacting and detailing drawings.

Further improvements within Product Update #1 also include enhanced general quality improvements to the 2D Technical Drawing Area. Aligned with IronCAD's position as a productivity leader for CAD software, PU1 also boasts improvements to the Bulk View Creation for automated drawing creation, including new search capabilities and creation from a selected set of parts/assemblies. Additional productivity improvements in PU1 improve the Sheet metal capabilities for Out/In Bend Automatic alignment to the angled stock, Quick Access commands added to right-click menus to improve speed and visibility in accessing commands as well as improvements to now create singled drawing sheets quickly from the selected elements in the scene.

1Click here to return to Contents

Lantek launches its 2020 version, a version focused on remote working and process efficiency 26 May 2020

Lantek reveals the new features and improvements in the latest version of its software - Lantek Global Release 2020.

In total, there are over 100 improvements and updates across the whole range of solutions. The most significant include collision prevention on the cutting machine and a new algorithm for destroying scrap metal efficiently on tube cutting machines.

However, one aspect of this version that is very relevant at the moment, is the possibility of using your software remotely. "In a time of great uncertainty, and without a clear understanding of what will happen later this year or next year, many clients are demanding a solution prepared for teleworking. The 2020 version of Lantek software includes a huge advance in the support, installation and configuration of the software and machine without requiring visits from our technicians and, allows different configurations so that technical teams for machining, production planning or budgeting can work from their homes ", states Carlos Martínez, CTO of Lantek.

Lantek Expert: safety in cutting and automation

The update to Lantek Expert, the suite of programs for cutting and punching sheet metal, focusses on providing clients with functions that maximize the productivity and efficiency of their machines. In the new version of its accredited CAD-CAM 2D software, Lantek has added a total of 34 new features.

The main development is the capability of running an algorithm to prevent collisions during the cutting or punching process. This works by automatically adding fasteners (or micro-joints) to the holes or parts that, once they have been cut, could cause a collision between themselves and the cutting head.

Lantek has also improved the usability of all of the functions related to fasteners (or micro-joints) focusing on two aspects: the improvement in precision of the final width of these elements and accurate simulation, in real-time, when they are added manually. For shapes that the user does not want to fasten into the sheet with micro-joints, Lantek offers the possibility of scrapping them using a new zig-zag technique ensuring that the waste material discharges safely.

Lantek Expert now includes functions to help with production management in the workshop. Waste or leftover sheet material can be automatically marked on cutting machines so that it is easy to identify. The material can be marked with the company's identifier code as well as its measurements and weight.

Lantek Flex3d optimizes tube cutting to avoid collisions

The tube cutting market is growing exponentially thanks to the fact that new machinery manufacturers are beginning to develop this technology and, that existing machinery is evolving with new devices and systems to improve efficiency and automate the cutting of tubes.

Evolving with the needs of the market, the new V40 version of Lantek Flex3d incorporates a new algorithm that allows you to destroy scrap generated from cutting holes in tubes. Without this new capability, hole cutting can cause numerous collisions with the machine head as well as possible damage when scrap falls onto supports. Furthermore, a new head management algorithm allows contours that have previously been cut to be avoided to minimize collisions and, machining time reduced by avoiding unnecessary raising and lowering of the head.

The combination of these two new features eliminating over 80% of current machine downtime caused by collision, is a highlight of this version of the software.

For new devices that automate the loading and unloading of parts, Lantek Flex3d V40 incorporates automated management of supports and unloading trays allowing the machine to work fully autonomously.

This new support management function, as well as avoiding collisions with the supports, allows for optimal use of material that would previously have been considered scrap, obtaining improvements in the utilization of tubes of over 5%.

"The many new features incorporated into the new version of Lantek Flex3d have been designed to satisfy the tube, pipe, and structural steel market's search for "intelligent" solutions that allow for the automation of large production cycles by avoiding unnecessary downtime while, keeping track of production and reducing costs", highlights Carlos Martínez, CTO of Lantek.

Lantek Integra & MES

The new 2020 version of Lantek Integra incorporates significant improvements in its interface to adapt it to the current design standards in applications. The new graphics offers better use of space on the screen and an improved visual experience that includes changes to the colour palette, icons, font sizes and some navigation mechanisms. This results in greater efficiency in the users' daily tasks. In addition, the advanced visualization dashboards of the commercial function, Customer Analytics has been enabled.

For Lantek MES, the improvements aim to continue equipping production managers with control mechanisms for carrying out workshop operations. Lantek MES Manager now has a new extension, MES Monitoring, which displays, graphically and in real-time, the sequence of operations on each work center. It offers different Gantt display modes, as well as different mechanisms that allow you to visually search and skip through the operations according to different criteria. Furthermore, this version enables the advanced manufacturing visualization dashboards, Manufacturing Analytics.

1 Click here to return to Contents

SAP Cloud ALM Enhances Support for Cloud-Based Solutions 26 May 2020

SAP SE announced multiple updates to the SAP Cloud ALM solution. The cloud-based application lifecycle management (ALM) solution helps track and manage the needs of customers of cloud solutions from SAP.

As a result of the update, SAP Cloud ALM will support additional SAP solutions – including SAP S/4HANA Cloud, SAP SuccessFactors solutions, SAP Customer Experience solutions and SAP Ariba solutions. SAP Cloud ALM was redesigned with improved capabilities to simplify the implementation and operations experience as more customers move to the cloud.

"As the cloud landscape advances and cloud solutions become more important, it's critical to continuously update SAP Cloud ALM to meet expectations of a cloud customer mind-set," said Marc Thier, SVP, Application Lifecycle Management, SAP. "Over the last year and a half, we've focused on simplicity and evolving SAP Cloud ALM so the platform can be used by business and IT roles with no need for technical knowledge."

SAP Cloud ALM benefits customers during various innovation cycles, including:

Easy deployment for companies that choose SAP S/4HANA Cloud and SAP SuccessFactors solutions: SAP Cloud ALM helps with team onboarding and fit-to-standard workshops for configuring the customer's cloud solution. It tracks project progress by guiding customers through the implementation process and reports project status automatically.

Integration for customers who use more than one cloud service: When managing multiple cloud services – such as SAP S/4HANA Cloud, SAP SuccessFactors solutions, or SAP Cloud Platform Integration Suite – customers must monitor the integration themselves, a process which SAP Cloud ALM can help them manage.

Outlook for managing hybrid solutions: Customers adopting the Intelligent Enterprise will see increased support for on-premise solutions like SAP S/4HANA. Monitoring the integration of on-premise or other cloud products is an additional discipline SAP Cloud ALM will focus on in the future.

Customers who subscribe to a cloud service from SAP that includes SAP Enterprise Support, cloud editions, have access to SAP Cloud ALM at no additional cost.

SAP is dedicated to simplifying and improving users' journeys to cloud-based solutions and supporting companies of all sizes in their goal of digital transformation. In extending full ALM support, the current update to SAP Cloud ALM takes an important step toward a more agile, innovative future.

1Click here to return to Contents

xBOM for configurable products – explained by Variantum

26 May 2020

xBOM has been lately raised as "hot topic" in PLM world. Variantum's VariSuite covers solutions to whole product lifecycle from offering process to delivery and service. As a pioneer of a configurable product management, Variantum includes configurable products into its all VariSuite solutions:

VariSales, sales configurator and quote tool for CPQ (Configure-Price-Quote)

VariPDM, product data management system

VariProd, production configurator

VariTrace, product individual management known as installed base system

In this article, different information structures, known as xBOM, is described to different solution and process areas. Variantum's system supports all different BOM structures in one database.

VariSuite xBOM for configurable products

VariSales:

Offer BOM: Offer consists rows for offered fixed or configurable products, product groups, discounts, additional installation and delivery services or any other miscellaneous items. Structure can be many levels, but typically 1-level.

Sales BOM: When configuring a sales product, product can have 1 to N levels based on options and selections to get a price. Flat level is the simplest which means feature-pricing, rule pricing requires few level and cost pricing requires product structure until fixed parts or modules, which is called structure-pricing on in Variantum slang cost-plus pricing. Configured product is then added to Offer BOM as one row or sub-row.

3D BOM: VariSales includes option for visualization and specially 3D requires own structure for lightweight visualization which follows product pricing. 3D adjusts also for dimensional changes, because Variantum's configurator technology allows ranges to be used as sellable option.

VariPDM: Engineering BOM: Known as eBOM, is structure that defines design structure into PDM. This structure can come from design tools (ECAD or MCAD) but can be manually created as well. If company design rules target to make design as they are manufacture this can be call also as manufacturing BOM (mBOM), but in Variantum's world, this is only BOM's for fixed components or products.

Configuration BOM: known as maxi-BOM, product-family-BOM or Super-BOM, is BOM for configurable product. This BOM includes all designed options in different positions with parameters, rules, assignments, and refinements. This determines product's configurability and including modules, components, or items with all the configuration rules.

Maxi CAD BOM: CAD can include configurations BOM and addition to Configuration BOM, CAD can include rules for geometry or feature manipulation. Configurator BOM does not typically include geometry features, but CAD BOM can include rules e.g. for positioning screw into hole when dimensions change. Maxi CAD BOM can be driven manually or automatically after product configurator.

VariProd:

Individual Manufacturing BOM: After production configuration, delivered product is generated to individual which has own structure. All changeable items will get own id and structure. Fixed items are included into structure, but these are only links or relationships to existing production revision. Some selections may be run during configuration, e.g. configured module weight might be selection rule for frame.

CAD BOM: Based on production configuration, CAD can select only needed assemblies and parts and run own geometry configuration which creates manufacturing documents and files and attach these to Individual mBOM to be used in production.

Delivery BOM: After production configuration, additional rules can be added for example to break individual structure to new structure. These might be needed, when product is manufactured in different plants, or logistic might require own structures for product delivery.

Installation BOM: Installation structure can be generated based on these rules as well, but it might require own configuration setup. Implementations tasks can be configured as own structure based on individual BOM.

VariTrace:

Service BOM: Individual manufacturing BOM supports manufacturing, but service BOM re-structures that BOM as a service BOM. This means individual product structure to be built like service sees it. Service has typically own hierarchical categories for product levels or module/component visibility. Service BOM is updated, whenever product is been serviced with changes.

Spare-part BOM: Spare-part BOM is BOM where only spare-parts are listed. Typically, there are similar spare-parts around product structure, and it is important to see where it can be connected to. Spare-parts can be component level, but also whole module can be spare-part replaceable. Every spare-part installation, product individual structure must be updated to know products history.

Spare-parts might be changed during product in use, this means that updating and changing spare-part information must be easy.

1Click here to return to Contents