

## Contents

<b>CIMdata News</b> .....	<b>3</b>
Accelerating Innovation in Embedded Systems by Adopting DevOps – a CIMdata Commentary .....	3
Announcing PLM Road Map & PDT North America 2022 .....	9
PLM Industry Executive Doug Macdonald Joins CIMdata as Director of PLM Success and Executive Consultant.....	10
upFront.eZine #1,119: 2 CAD Guys Talk About the Cloud.....	10
<b>Company News</b> .....	<b>10</b>
Accenture and Celonis Form Strategic Alliance to Help Clients Unlock New Value in Business Processes .	10
Bentley Wins Construction Computing’s Company of the Year Award.....	11
Centric Software® Receives Hong Kong Apparel Business Strategy Award.....	12
Corvid announces partnership with Coreform.....	13
ELISE Low-code Engineering Platform Joins the Altair Partner Alliance.....	13
HCL Technologies Expands Reach in Canada with New Engineering and R&D Center .....	14
Infor Announces 2021 Customer Excellence Award Winners .....	15
Infor Announces New Infor Marketplace .....	18
Introducing the reimaged Autodesk Gallery.....	19
iPoint participates in CEWI project .....	19
LTI Partners with IIT Madras to Innovate in 5G Space .....	20
Nemetschek Group drives Efficiency in the Construction Industry by Investing in Innovative Start-Ups .....	21
New Oracle Cloud Infrastructure Services Authorized for the US Government.....	22
Nexar Announces Partnership with SiliconExpert .....	23
OpenText Announces Strategic Appointments.....	24
Razorleaf Corporation Expands European Reach with New Office in the Netherlands.....	24
Rockwell Automation Names Gina Ayala Claxton President for Americas Region.....	25
Sage Partners with The BOSS Network to empower Black women entrepreneurs with the launch of the Sage Invest in Progress grant.....	26
TCS iON Announces Winners of the 4th Edition of its IntelliGem Contest; Opens Registrations for the 5th Edition.....	27
TCS is a Launch Partner for Microsoft Cloud for Retail.....	28
TECHNIA Support Future Engineers in NTNU SmallSat Project.....	29
Theorem, LLC Announces Rebrand to TheoremOne with the Acquisition of Formula Partners, Launch of Lemma .....	30
Wipro appoints Badrinath Srinivasan as Managing Director for Southeast Asia.....	31
Wipro Awarded the Palo Alto Networks EMEA Systems Integrator Partner of the year .....	31
<b>Event News</b> .....	<b>32</b>
Webinar - CFD-Driven Optimization of an Industrial-Grade Compressor from Your Web Browser with Datadvantage .....	32
<b>Financial News</b> .....	<b>33</b>
Aspen Technology Announces Financial Results for the Second Quarter of Fiscal 2022 .....	33
CENIT AG AD-HOC ANNOUNCEMENT: PRELIMINARY RESULTS FOR FISCAL YEAR 2021 DISTINCTLY BETTER THAN EXPECTED .....	35
Dassault Systèmes to publish its Fourth Quarter and Full Year 2021 Results, Webcast and Conference Call on February 3rd, 2022.....	35
Guardhat Doubles Revenue as Companies Prioritize ESG, Worker Safety Investments .....	36
IBM RELEASES FOURTH QUARTER RESULTS .....	38

# CIMdata PLM Industry Summary

---

IFS Delivers Another Market Beating Year With Software Growth At 22%.....	41
PTC ANNOUNCES FIRST FISCAL QUARTER 2022 RESULTS.....	42
Rockwell Automation Reports First Quarter 2022 Results .....	45
Sandvik announces a new member of the Board of SMT – the new company planned to be listed in 2022 ..	47
<b>Implementation Investments.....</b>	<b>48</b>
American Woodmark Carving Out Improved Supply Chain Efficiency with Tecsys’ Elite™ WMS.....	48
Ansys Boosts Wistron Corporation’s 5G Cellphone Antenna Development .....	48
Bally Takes a Step Forward in Customer Service with Oracle Retail .....	49
Db™ Kicks off their PLM Adventure with Centric Software® .....	50
EcoAct and Greenspector support France Télévisions in the decarbonization of its new media NOWU .....	51
ESI Group and the DesCartes program aiming at transforming Singapore into a hybrid, ethical and sustainable smart nation.....	52
Infor AI Solutions Help Kal Tire’s Mining Tire Group Pump Up Customer Service & Safety.....	53
Lockheed Martin Aeronautics adopts Siemens’ Xcelerator portfolio to support digital engineering transformation.....	54
Medidata Expands and Strengthens Decentralized Clinical Trial Capabilities through Groundbreaking Partnership with Circuit Clinical .....	54
Nestlé Nescafé Deploys EcoStruxure™ Asset Advisor to Ensure Always-on Operational Resiliency and Efficiency at the World’s Largest Soluble Coffee Facility.....	55
NTT DATA Singapore and National Healthcare Group to develop a Digital Healthapps Platform that advances population health.....	56
Pearl Semi selects Siemens’ Symphony AMS platform for its novel low-noise digital PLL design .....	57
ProFrac Selects Canvas Envision to Optimize Design Review and Product Communication Across Ecosystem.....	58
PROS Proven Revenue Management Fuels Digital Transformation and Growth Strategy at Royal Brunei Airlines .....	58
PTC and Schaeffler Announce Strategic Alliance to Accelerate Digital Transformation Roadmap.....	59
Siemens collaborates with UMC on design kits for automotive and power applications.....	60
Simple Energy Selects PROLIM to Drive Digital Transformation .....	60
Valley View Casino & Hotel Partners with Infor for Digital Transformation .....	61
Vanderbilt University Medical Center Extends Partnership with Infor.....	62
Verizon Business and Atos to power industry-leading predictive analytics 5G edge solution.....	62
Wilton Bradley Partners with Centric Software® to Bolster Business Growth .....	63
Yoshimura R&D of America Chooses Canvas Envision to Power Product Communication with Interactive 3D Content.....	64
<b>Product News.....</b>	<b>65</b>
Altair Pollex for Altium, First in Series, Launched for Printed Circuit Board Design .....	65
Altium Announces Release of Altium Designer 22.....	65
Aurigo Software Launches Engage Platform To Transform Public Feedback Using Artificial Intelligence..	66
Autodesk BIM 360 - Insight Updates – January 2022.....	67
Autodesk BIM 360 Cost Management Updates – January 2022 .....	67
Elysium - Release Announcement of CADdoctor SX5.3.2.....	68
Fraunhofer LBF brings AdaptoSim to the Altair Partner Alliance.....	68
Materialise and Sigma Labs Develop Breakthrough Technology to Advance Metal Additive Manufacturing .....	68
ModuleWorks Dental CAM now integrated in exocad’s ChairsideCAD software .....	69
Tackle Market Disruption with Latest Centric Software® PLM Innovations.....	70
Trimble Bridges the Gap Between MEP Design and Fabrication Departments with New Trimble Connect Application .....	70
Zemax launches STAR Module enhancements, plus new OpticStudio & OpticsBuilder analysis visualization tools.....	71

## CIMdata News

### ***Accelerating Innovation in Embedded Systems by Adopting DevOps – a CIMdata Commentary***

25 January 2022

*Key takeaways:*

- Embedded software development is undergoing a revolution driven by exponential increases in complexity driven by rapid technology advancements.
- In today's smart, connected products, embedded systems and embedded software is where the proverbial rubber meets the road. Think autonomous vehicle development or innovations in health care—embedded software is where the magic takes place.
- Successful embedded system software development demands enabling faster time to market, enhanced productivity, and the agility to support continuous product evolution to enhance customer experience, all of which drive the need to embrace DevOps for embedded software.
- Moving from conventional embedded systems development models to agile models incorporating the best of DevOps is challenging. A modern DevOps solution specifically designed for the embedded system software development lifecycle (SDLC) can address the challenges and help accelerate product development and delivery.
- HCL's holistic end-to-end DevOps approach for embedded software development enabled by frameworks and solutions is helping their customers meet productivity, time to market, and

#### **DevOps**

Is a set of practices that combines software development (Dev) and IT operations (Ops). It aims to shorten the systems development life cycle and provide continuous delivery with high software quality. DevOps is complementary with Agile software development; several DevOps aspects came from the Agile methodology.

*(Source: Wikipedia)*

complexity challenges.

#### Introduction

For decades, embedded software has been used to integrate hardware capabilities into useful functions and features within a multitude of embedded system products. Over the last twenty years or so, embedded software growth has been driven by the increasing incorporation of microprocessor-based controls into products. The adoption of Industry 4.0 is accelerating the trend. As the cost of integrated circuits, electronics, and sensors has fallen and their functionality increased, manufacturers have added many useful capabilities and features to their products. Over time, the technical building blocks have become standardized and organized into technology stacks such as the one shown in Figure 1, making advanced embedded system product capabilities easier to develop. [\[1\]](#)

# CIMdata PLM Industry Summary

---



*Figure 1—A Typical Hardware/Software Technology Stack  
(Courtesy of HCL)*

The continuous expansion of software in automotive products is a good case study in the importance of embedded software and how product complexity has grown over the decades. In the 1970s and 1980s, electronics were incorporated to manage ignition systems and fuel injection in automobile engines. In 1980 microprocessors were added to improve combustion to meet increasingly stringent emission regulations. Over the years the sophistication of engine management grew as technology improved, and processor-based controllers were added to many other automotive systems such as HVAC, entertainment, braking systems, and stability control. While early controllers were primarily created using purpose-built electronics, the flexibility of software to program electronics drove the adoption of embedded software approaches. To support the connection of controller devices, networks, e.g., the Controller Area Network (CAN) bus, were created to enable communication between devices with embedded software. This enabled the linking of functions via software such as braking and engine management to create stability control features. Today, this is the approach being used within many industries; in which electronics and software are embedded into a wide array of products used by consumers, industry, and government.

The latest trends in the automotive industry include autonomous vehicles and electric propulsion, where embedded software capabilities play a major role. Within automotive the scope has grown and now interacts across all major vehicle systems, the operating environment, and soon infrastructure. Software needs to detect, analyze, and predict actions and execute commands in real time. Much of this processing needs to happen on the vehicle so safe and effective operation can be achieved.

Similar trends have emerged often based on Industry 4.0 in other industries including medical devices, avionics, infotainment, and consumer goods, where embedded system software development is a driving force. Increasing numbers of connected devices in regulated industries such as wearables and implantables and advancements in 5G and IOT have expanded the need for safe and high-quality embedded system products.

## Challenges in the Embedded SDLC

Adding electronics and software to products has radically changed product development. Companies can develop product features driven by software that have virtually no additional manufacturing cost, thus improving profitability. This capability also enables manufacturers to create new, recurring revenue business models. The planning and upfront development required to incorporate electronics and software effectively is complex and often requires significant upfront investment. However, the resulting rewards of easier product differentiation, improved performance and safety, lower manufacturing cost, superior customer experience, higher profit margins, and new business models ensure the use of electronics and software will continue to grow.

Configuration management is a core capability of all product development domains. Ensuring the right version of items, whether mechanical, electronic, software, or even ingredients are correctly combined to create a product is critical to safe, effective, product operation. Within the embedded SDLC software not only needs to be managed relative to other software, but it must also be tightly coupled with

# CIMdata PLM Industry Summary

---

associated hardware. Software updates, whether installed manually or over-the-air (OTA), add to the configuration management complexity since the version of software running on a product can have operational impacts on the product.

Electronic components used in circuits can have short lifecycles, requiring manufacturers to regularly update designs and related software. In the best-case, alternate components are directly compatible and software will continue to function unchanged. In the worst case, when an obsolete component doesn't have a direct replacement, a redesign is necessary, often requiring embedded software changes. In today's fast-paced world, product development is concurrent. The end-state hardware environment is not always available early enough to test software so software must be developed using virtual hardware to simulate physical hardware. This approach is becoming more and more common, but requires a well-managed, sophisticated software development environment and developers must be confident that emulators simulate the hardware environment correctly.

Going from requirements to the software loaded on a device is a complex process even for a simple product. The software applications required to transform an idea into a product include requirements management, change management, model creation, integrated development environments, code configuration management, software build management, automated testing, bug tracking, software packaging, and distribution. Software distribution has changed dramatically in recent years. Historically the process was to download the firmware, software, or application onto the target device, but OTA updates are becoming more common. Embedded tool chains incorporate products from many independent software vendors (ISVs) and they are independently updated, so ensuring that the chain stays unbroken is a complex task.

Safety critical and regulated products have always had strong traceability requirements. Imagine software in a medical device such as an insulin pump. If the software fails, the patient could be injured or die. Software traceability is much more than understanding the flow of data and connectivity between source code modules. The relationships between requirements, code, hardware, and product features need to be understandable, traceable, and manageable. When something goes wrong, manufacturers and regulators need to understand what happened and why. But manufacturers also have an opportunity in that traceability also makes changes and reuse processes easier to execute. With proper traceability in place, impact analyses can be easily performed, enabling developers to identify impacted areas. For example, if a product manager wants to increase performance, developers can easily identify the hardware and software elements that impact performance requirements, assess the feasibility of what needs to change in the software, and ascertain the compatibility of the hardware that can support it.

## DevOps in Embedded Software Development

The agile approach to software development has taken over the SDLC during the past twenty years. The most recent advancement in software development is known as DevOps. It is widely used in cloud-based infrastructure, software-as-a-service, and enterprise domain products. By tightly coupling development and operations, software developers can continuously improve product and service offerings. By combining agile methods with automated testing and deployment, companies can regularly, and even continuously, update their solutions and monitor the performance of production instances. This closes the loop and feeds information back to development from operations for improvement.

While DevOps is common for ISVs moving to SaaS and website development, the application of it to embedded software development has been constrained by several gaps that needed to be addressed. Within a website or SaaS solution there is typically a single production version in use. Embedded software is usually installed on individual hardware instances that can have a long lifespan and there can be many variants of hardware to support. Source code needs to be developed, tested, and properly deployed to hardware variants out in the field.

# CIMdata PLM Industry Summary

---

Furthermore, deploying embedded software has undergone a revolution in recent years. Historically, deployment was done during manufacturing. The latest version was flashed (i.e., loaded into the electronics) and, since there was not too much interdependency between systems, testing was primarily focused on ensuring upward compatibility if an update was installed. With today's interdependencies, it's not only the variants of the hardware that need to be tested but the compatibility of versions across the network of hardware or components within the embedded network. Service personnel can re-flash software when products are serviced or distribute OTA via cellular connections.

Security and safety are critical elements that must be complete and correct. As embedded software must interact with the vagaries of the physical world, it needs to understand all the operating conditions and failure modes and address them properly. Hardware degradation and failures are a major concern, but even more critical are cyber-security concerns. Malicious software can intentionally damage products and cause harm ranging from equipment shutdown that disrupts customers to creating life threatening situations. An extreme example is safety testing for autonomous vehicles. The number of use cases that describe the possible operational scenarios is so large that they can't all be tested physically or in real-time. They need to be done virtually using automated testing software.

To optimize a product, all its elements need to work in concert. Often requirements can be satisfied using hardware or software, each approach with its own positive and negative effects. Using a co-design approach to managing the trade-off between decisions and execution and ensure the desired capabilities meet the requirements requires an integrated approach. To do this, the electronics and software product design teams must be properly integrated to enable smooth communication.

Achieving regulatory compliance and certification means "say what you do, do what you say, and prove it." Historically quality systems define this process using documents such as requirements, test plans, and test reports. With the complexity and volume of information related to modern products and production, these systems have become data driven. Products need to show compliance to requirements that can number in the thousands, and many are validated virtually rather than physically using automated testing. By capturing compliance information as data, it becomes easy to generate reports that prove compliance and show traceability. This approach also makes testing a proactive management tool rather than just a post-development reporting process.

## HCL's Approach to Accelerate Embedded SDLC

HCL takes a holistic view of embedded software development. Their closed-loop approach spans continuous planning, development, integration, testing, monitoring, and feedback phases of a typical DevOps lifecycle. This process is a continuous flow that leverages the agile software development methodology to ensure that the embedded software is kept up to date with the learning that happens as a project executes.

HCL's RAPID Embedded DevOps (RED) Framework helps define a method for incremental adoption of DevOps independent of the current maturity level. Within HCL's end-to-end framework, the key elements are strategize, incubate, expand, equilibrate, and soar. This framework defines practices and tools that complement and align with the SDLC of embedded software and system engineering processes. As companies mature, they adopt the processes and technologies to enable the elements shown in Figure 2.

# CIMdata PLM Industry Summary

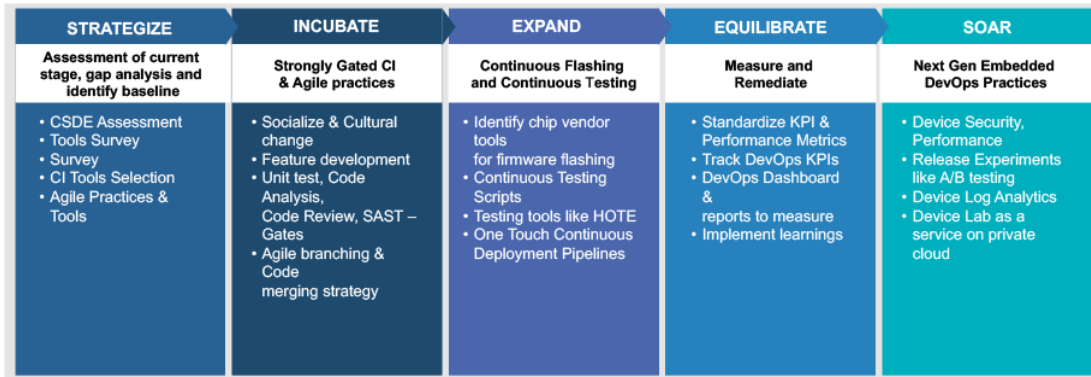


Figure 2—HCL’s End-To-End RED Framework for Adoption of DevOps  
(Courtesy of HCL)

The tools are structured in an end-to-end embedded SDLC platform known as Rapid Hadron which support the requirements defined by the RED framework shown in Figure 2. RAPID is a cloud agnostic self-service DevOps platform with built-in features such as SSO, SSL, anti-forgery, cyber security, data encryption, identity management, authorization, and cost governance. It has a family of orchestration engines to automate the whole journey of DevOps implementation defined in RED. Rapid Hadron abstracts the complexity of hardware, networking, and tools configuration and accelerates development via automation, low code orchestration of continuous integration-continuous deployment (CI-CD), and Infrastructure pipelines. CIMdata believes the comprehensive structure of Rapid Hadron lowers the barrier of entry for DevOps adoption.

The Rapid Hadron platform includes a variety of solution accelerators to support the embedded SDLC including testing, toolchain configuration, dashboards, and integration. Along with embedded software development, the platform aids automation of the FPGA compilation, verification and validation workflows to increase the process and product efficiency. The FPGA workflow stages of design, synthesis, implementation, and simulation using EDA tools can be built to enable FPGA continuous integration at module, sub-system, and system levels. CIMdata strongly believes in the platform approach as it enables customers to choose the tools that make sense for their business. That said, HCL also provides all the tools for end-to-end support reducing the complexity of supporting the RED environment.

Automated testing is critical in modern software development to ensure product quality and minimize quality regressions. The number of use cases has grown exponentially in complex systems so manual or physical testing is not possible. HCL provides two test automation frameworks (TAF) out-of-the-box; SMARTest and HCL One Test Embedded (HOTE) depending on the type of product.

HCL’s XCITE is an accelerator to create and manage DevOps toolchains for embedded software products. It includes proven pre-built pipeline templates for the automotive, aerospace, and medical device industries. Integrations with popular ALM solutions from IBM, Siemens, PTC, and others are included. HCL also includes predefined Pipeline-as-a-Code templates designed for engineering tools across the embedded SDLC such as MATLAB, dSPACE, Vector, NI, Helix, etc.

Dashboards provide easy access to information to support better decision making. eDASH is HCL’s engineering dashboard accelerator for DevOps products. It provides enterprise-grade templates with role-wise views, roll-up reports and drill down capabilities. As with XCITE predefined templates provide OOTB tailored solutions for supported industry KPIs and widgets. HCL claims more than 120 KPIs and widgets are available in the library. Again, the power of the platform is applied to reporting engines. OOTB integrations are available for Grafana, Kibana, PowerBI, Tableau, and Qlik Sense.

# CIMdata PLM Industry Summary

---

High-quality, flexible integration capabilities are required to have a competitive platform. HCL's FUZE accelerator is an enterprise service bus (ESB) based framework built on a microservices architecture. It is designed specifically to cater to integrations with ALM, PLM, and Embedded Engineering SDLC Tools and supports OSLC and non-OSLC integrations.

- As technologies and processes change, these accelerators can be incorporated incrementally and dynamically into the framework, making development, support, operation, and management easier. HCL claims the following significant benefits from its platform-based accelerators:
  - RAPID platform enables 5-times acceleration in DevOps adoption and improves productivity of the Dev and Ops teams by 60 to 80%.
  - XCITE can reduce DevOps configuration by 30% and reduce ALM and engineering Pipeline Workflow integrations by 60%.
  - eDASH can reduce dashboard implementation efforts by 70%.
  - FUZE can reduce ALM integration effort by 60% and the engineering tool integration effort by 25%.

CIMdata is a believer in the accelerator approach to solution deployment as it can shorten time to value, thus delivering a better ROI.

## Success Story

HCL provided a customer success story describing how they helped an automotive industrial customer develop a DevOps pipeline to create continuous integration (CI) and continuous test (CT) workflows so that they could increase their operational efficiency. The end-to-end process used the RED framework and the related accelerators to create the workflow and leveraged HCL's TAF. Beyond the software, the solution also transferred artifacts to the appropriate repositories and incorporated the flashing process to ensure products received the correct software version. Consolidating the steps into a single integrated pipeline provided complete transparency and traceability increasing quality and productivity.

## Conclusion

As product complexity and Industry 4.0 compliance increase more electronics and software get incorporated, companies are evolving their embedded software development processes. DevOps, a proven software development approach, is being adopted to address growing software complexity, quality, and time to market requirements. A modern DevOps paradigm, focused on cloud software development, must be adapted to support embedded software development. HCL developed their DevOps-based approach to embedded software development based on their experience with customers across many industries. Their Rapid Hadron platform, along with XCITE, eDASH, FUZE, and SMARTest, and HOTE TAF tools supports the end-to-end requirements of embedded software development. These accelerators combined with HCL's domain expertise and system integration skills support a configurable approach to creating solutions that meet customer DevOps requirements now and into the future. Companies exploring improvements to their embedded software development processes should evaluate HCL's DevOps approach for Embedded Software Development platform, workflows, and integrated accelerators can help organizations realize significant improvements in their embedded SDLC.

---

[1] Research for this commentary was partially supported by HCL.

# CIMdata PLM Industry Summary

---

## ***Announcing PLM Road Map & PDT North America 2022***

27 January 2022

CIMdata and Eurostep are pleased to announce that PLM Road Map & PDT 2022 North America will be an in-person event at the Marriott Hotel in Tysons Corner, Virginia, USA. The theme for the conference is “Digital Transformation and PLM – a call for PLM Professionals to re-define and re-position the benefits and value of PLM.” The event will take place on May 24th and 25th.

PLM Road Map & PDT 2022 will focus on the interests of the PLM Professional. With this in mind, our agenda will offer a mix of reports and case studies from industry experts, covering technologies, processes, and people. PLM Road Map & PDT 2022 will highlight the role of PLM in enabling holistic and sustainable Digital Transformation. Presentations will investigate where PLM has been successful and why. Additionally, we will consider the positioning of PLM within the enterprise.

Agenda topics will seek to answer the following questions:

- How do we improve PLM implementations to better align with shifting expectations?
- What is the best use of PLM to support the design and implementation of agile yet resilient supply chains and, in general, reduce and manage enterprise risk?
- How can PLM support the actionable enterprise, helping management teams to understand, make decisions, and manage the future?
- What is needed for the PLM community to move to an interoperable system for data reuse and openness, eliminating process gaps and business friction?
- How do we include PLM as part of strategic AI and Machine Learning investments?
- What is the role of PLM in a post-COVID-19 world, and how do we reset for it?

According to CIMdata’s President & CEO, Peter Bilello, “After two years of highly successful virtual-live events, it’s time for the PLM Economy to come together again. I can’t think of a better place to do this than at PLM Road Map & PDT—the world’s leading PLM event focused on today’s PLM Professionals that brings all parts of the PLM industry together. Our first in-person conference since November 2019 promises high value and accessibility to PLM professionals from multiple industries across the globe. Our theme focuses on the elements that are vital to enabling a successful PLM strategy—equipping the PLM Professional with insight on how to get the most out of the people, processes, and technologies that enable a successful PLM environment.”

“While the tech sector is very much driven by disruption, it must deliver value to end-users,” says Håkan Kårdén, co-founder and Marketing Director, Eurostep Group. “PLM Road Map and PDT have recently focused on disruption, but it is now time to look at the value delivered. PLM is constantly increasing in scope and footprint, and in 2022 it is time to look at the importance of PLM in enabling Digital Transformation. After our event in November 2019, we had to go digital ourselves. As we all know, people ultimately make things work, and we also know the value of meeting and discussing in person. I am excited to announce PLM Road Map and PDT as an in-person event in 2022 and look forward to meeting you all, those well-known and new faces, all PLM professionals. Let’s move PLM forward based on the theme of Digital Transformation and PLM – a call for PLM Professionals to re-define and re-position the benefits and value of PLM,” ends Mr. Kårdén.

In addition to the event in May, CIMdata and Eurostep will host PLM Road Map & PDT EMEA in late Fall in Gothenburg, Sweden.

For more information about PLM Road Map & PDT, please visit the CIMdata website <https://www.cimdata.com/en/education/plm-conferences/plmrm-pdt-na-2022>.

# CIMdata PLM Industry Summary

---

## ***PLM Industry Executive Doug Macdonald Joins CIMdata as Director of PLM Success and Executive Consultant***

24 January 2022

CIMdata, Inc., the leading global Product Lifecycle Management (PLM) strategic management consulting and research firm, has hired Doug Macdonald as Director of PLM Success and Executive Consultant. Doug will be responsible for expanding relationships with PLM solution providers and developing new consulting services to meet their needs.

Peter Bilello, President & CEO of CIMdata, commented, “We’re excited to have Doug join CIMdata. He has a deep understanding of PLM both from a solution provider and industrial user perspective. His experience has given him a comprehensive understanding of how solution providers operate and organize their processes and resources to maximize success. As the needs of PLM solution providers continue to evolve, Doug’s experience will help CIMdata to support them in meeting existing, as well as new market challenges.”

Doug joins CIMdata after an extensive career in PLM with leading solution providers, including PTC, SAP, Oracle, Aras, Sherpa (acquired by Siemens), and, most recently, Bamboo Rose. His experience spans strategic and product marketing, growth, and pre-sales roles. He has successfully led multiple efforts to position products and companies in new and existing markets by assessing the value delivered by their solutions, refining product messaging, developing go-to-market approaches, and delivering sales enablement.

Before moving into PLM, Doug worked with Ford Motor Company and was a consultant with Coopers & Lybrand (now PwC). His industry experience includes aerospace, defense, automotive, industrial, shipbuilding, medical devices, and food & beverage.

Doug holds a Bachelor of Science degree in Mechanical Engineering from Heriot-Watt University, Edinburgh, Scotland.

## ***upFront.eZine #1,119: 2 CAD Guys Talk About the Cloud***

25 January 2022

CIMdata’s, Vice President, Stan Przybylinski, discusses the Cloud with upFront.eZine’s Ralph Grabowski. Read the full article, “2 CAD Guys Talk About the Cloud,” at <https://upfrontezine.substack.com/>

## **Company News**

### ***Accenture and Celonis Form Strategic Alliance to Help Clients Unlock New Value in Business Processes***

25 January 2022

Accenture and Celonis have formed a strategic alliance to help organizations gain the insights they need to continuously update and optimize their business processes. Accenture has embedded Celonis’ data-driven execution management capabilities into its tools and platforms, including myConcerto and SynOps, to provide new levels of transparency and insights to inform decision-making.

The strategic collaboration brings together Accenture’s vast functional capabilities, with its lifecycle management and automation experience to extend the market-leading process mining and execution management capabilities of Celonis. Together, Accenture and Celonis are uniquely positioned to

# CIMdata PLM Industry Summary

---

uncover more process inefficiencies for clients, turning insights into instant, data-driven and automated action.

Accenture and Celonis have already collaborated on more than 100 client engagements for clients across many industries. For example, they helped the finance function of a global technology company sharpen decision-making and continuously improve processes across its operations, resulting in millions of dollars in annual savings. They also helped an aerospace company consolidate more than 30 quality assurance processes and tools into a single comprehensive process, improving production quality, operational efficiency, and ultimately passenger safety.

“Business process data and insights are critical for organizations to change and change quickly,” said Phillip Hazen, senior managing director, Intelligent Platform Services at Accenture. “Our decades of process improvement experience, combined with the power of Celonis process mining, can help our clients create more intuitive, fact-based and data-driven organizations. Together, we’re delivering significant efficiency gains for our clients at scale, in a fraction of the time.”

Accenture is using Celonis to optimize the processes it runs for clients, as well as provide insights that help it solve challenges for clients related to data quality or the integration of legacy applications, for example. Additionally, Accenture is using Celonis to streamline its procurement operations, driving significant process efficiencies and delivering working capital benefits.

Gene Reznik, senior vice president, Ecosystem & Industries at Celonis, added, “Accenture continues to demonstrate global leadership in delivering the most complex customer projects across industries and geographies. Its ability to drive transformative value by combining technology and process excellence for the world’s most important organizations is remarkable. I’m especially excited about this strategic collaboration as businesses are at an inflection point in how they operate today. There is no limit to the value we can help realize for our mutual clients.”

Accenture is a Celonis Titanium business partner and was named 2021 Global Alliance Partner of Year.

## ***Bentley Wins Construction Computing’s Company of the Year Award***

25 January 2022

Bentley Systems, Inc., the *infrastructure engineering software* company, announced that it won Company of the Year at the 2021 Construction Computing Awards.

Bentley is honored to be recognized in the construction technology sector. The company attributes its success to Bentley’s SYNCHRO software, which offers a complete portfolio of integrated applications from field to office for digital construction management. Together, the applications enable teams to win and deliver heavy civil projects more efficiently by improving the use of data to optimize decision-making, resources, and profitability.

Bentley was also a finalist in eight other categories in the competition, including:

- BIM Software of the Year
- Architectural Design Software of the Year
- Collaboration Product of the Year
- Project Management Software of the Year
- Asset Management Software of the Year
- Structural Engineering Application of the Year
- GIS/Mapping Product of the Year
- Product of the Year

# CIMdata PLM Industry Summary

---

The winners were chosen based on readers' online votes over the course of six weeks, with a panel of industry-expert judges making the final decision. Competition was fierce, with the awards open to all software vendors within the AEC industry in the UK and Ireland. The winners of the 2021 Construction Computing Awards were announced at the Leonardo Royal Hotel London City in downtown London. Over 200 supporting guests gathered to see the outcome of the readers' online voting and judging panel's deliberations.

Simon Horsley, Bentley's vice president and regional executive for the UK and Ireland, said, "We are honored that Bentley won Company of the Year at this year's Construction Computing Awards. As the *infrastructure engineering software* company, we strive to bring best-in-class solutions throughout the entire project lifecycle, including construction. This award could not have been possible without our loyal, committed users voting for us, as well as our colleagues working hard every day to deliver our solutions."

## ***Centric Software® Receives Hong Kong Apparel Business Strategy Award***

20 January 2022

Based on its reputation, innovation, strategy and vision to boost sustainable growth in the apparel society, Centric Software has been presented the 2021 Business Strategies Award by the Hong Kong Apparel Society. Centric Software provides the most innovative enterprise solutions to plan, design, develop, source and sell products such as apparel, footwear, sporting goods, furniture, home décor, cosmetics, food & beverage and luxury to achieve strategic and operational digital transformation goals.

Leading apparel society, Hong Kong Apparel Society (HKAS), is responsible for uniting and fostering growth and development in the apparel industry. HKAS has selected Centric Software as the winner of its 2021 Business Strategies Award after a panel of judges assessed companies based on four key criteria including reputation, innovation, strategy and vision. Centric stood out for its significant role in boosting growth within the apparel market.

Centric's 'customer-driven' innovations have achieved Centric its place as the leading PLM in the industry and in the past two years, Centric has increased its number of Hong Kong ODM/OEM business partners by over 200%. Centric PLM™ is widely recognized and preferred by world leading enterprises including Crystal Group, EPIC Group, Lever Style, MAS Holdings, Brandix, Hirdaramani, Delta and Bogart. Centric PLM is also proud to boast a customer referencability rate of over 97%.

HKAS identified Centric's robust and growing technology ecosystem as a crucial component for providing unbeatable efficiency for manufacturers in collaboration, product innovation, design, management and creation of tech packs and BOMs, and delivery. Centric Manufacturing PLM also empowers manufacturers to support brand and retail partners with corporate sustainability goals and meet higher expectations of standards in sustainability, traceability, labor practices, fair trade and compliance.

"We would like to thank HKAS for awarding Centric Software the Business Strategy Award," says Nick Wei, Regional Sales Director at Centric Software. "This award is a recognition of our entire team's vision and dedication to innovation. Over the past 2 years, the number of ODM/OEM customers has grown over 200% in Hong Kong. We are proud to be a market-led company that works in tandem with our customers to solve their most pressing challenges."

## ***Corvid announces partnership with Coreform***

27 January 2022

Corvid Technologies LLC, the provider of Velodyne, a high-fidelity, multi-physics, multi-numeric, hydro-structural solver, announces a new partnership with Coreform, the developer of Coreform Cubit preprocessor. Coreform Cubit will be the preferred preprocessor for Velodyne.

“We have been using Cubit for finite element mesh generation for over a decade, and it has always worked extremely well within our Velodyne analysis workflow,” said Dr. David Robinson, Corvid’s CEO. “In the last couple of years, Coreform has proven their commitment to continuing to improve Cubit, which is very valuable to us as we improve our own product. Now we are excited to offer the combination of Velodyne and Coreform Cubit to our customers.”

Velodyne was developed to accurately predict high strain rate, large deformation material response in such scenarios as high explosive detonation, multiple object collisions, target damage and demise, debris formation, and a variety of other complex physical phenomena. Corvid has used Velodyne to deliver thousands of highly detailed simulation results to customers annually in a variety of defense-related disciplines.

“We are convinced that the combination of Velodyne and Coreform Cubit will improve our users’ experience, expedite their workflow, and allow them to take advantage of Velodyne’s powerful features, mirroring Corvid’s own proven internal workflow,” said Cameron Bell, the Velodyne Development Lead Engineer of Corvid.

Velodyne offers a comprehensive (and unique) suite of features for solving complex, high-rate dynamic problems, including Smooth Particle Hydrodynamics (SPH), Element-to-Particle Conversion, Robust Higher-Order Auto-Contact, Multi-phase Equations of State (EOS), Thermal/Structural Coupled Solvers, Coupled Lagrangian/Eulerian (CLE) Solvers, and Reaction Kinetics of Energetic Materials. Corvid has used Cubit internally as their preferred preprocessor for Velodyne for over ten years.

“We are impressed with the work Corvid has done with Coreform Cubit and Velodyne and think the combination will be a powerful benefit for ballistics users,” notes Matthew Sederberg, CEO of Coreform. “We are excited to work with Corvid as we continue pushing the boundaries of simulation technology.”

Coreform Cubit is a preprocessor designed to handle complex simulation problems. Coreform Cubit is frequently used as a preprocessor for third-party solvers in industries ranging from automotive to electronics to manufacturing. In 2021, Coreform Cubit was enhanced with isogeometric analysis (IGA) capabilities to expand its preprocessing to function with IGA solvers.

## ***ELISE Low-code Engineering Platform Joins the Altair Partner Alliance***

26 January 2022

Altair, a global leader in computational engineering and intelligence, announced that ELISE GmbH has joined the Altair Partner Alliance (APA). This agreement makes ELISE’s low-code engineering platform available via the APA and accessible via Altair’s patented licensing system.

ELISE enables Altair OptiStruct™ and Altair HyperWorks™ users to automate their models through a rule-based approach, making the process more efficient and robust, ultimately saving them time and money. Users benefit from a visual programming language, which means they don’t need any IT expertise to get the most out of their work. ELISE also lets users store, share, and reuse models and projects, speeding up development time and streamlining workflows.

“As a member of the APA, we are excited for Altair users to now have seamless access to the power of

# CIMdata PLM Industry Summary

---

ELISE's easy-to-use, streamlined technology," said Dr. Moritz Maier, co-founder and co-CEO, ELISE GmbH. "Being a member of the Altair Partner Alliance also gives us visibility within the entire Altair user community, as well as access to the global Altair customer base."

"We are thrilled to welcome ELISE to the Altair Partner Alliance," said Piush Patel, senior vice president, strategic relationships, Altair. "ELISE's philosophy of implementing their design DNA is symbiotic with Altair's simulation-driven design approach. Their solutions save users time, reduce costs, and streamline workflows. Additionally, the seamless integration with Altair tools gives engineers more opportunity to focus on creativity and other value-added tasks."

ELISE also adds Parasolid™ CAD functionalities to Altair® HyperMesh® and OptiStruct, allowing users to set up finite element (FE) models based on geometry constraints and interact seamlessly between computer-aided design (CAD) and finite element analysis (FEA) and brings low-code functionalities so they can easily model complex engineering tasks in the Altair ecosystem.

Founded in 2018 and based in Bremen, Germany, ELISE specializes in low-code engineering platform development. ELISE's software has been used by organizations worldwide, including Volkswagen, BMW, and Hyundai, and has applications in the automotive, aerospace, and medical technology sectors.

## ***HCL Technologies Expands Reach in Canada with New Engineering and R&D Center***

27 January 2022

HCL Technologies (HCL), a leading global technology company, has opened its Innovation Center focused on Engineering and R&D services in Edmonton, Alberta. Bringing together an ecosystem of partners from academia, government institutions, startups and technology providers, HCL's Innovation Center will serve as a hub for HCL Engineering teams to co-innovate with customers and solve complex business problems for clients globally.

The Edmonton Center will house an engineering and co-innovation lab, which will enable high tech and software clients, including Fortune 100 leaders, to not only envision their products, but also to see rapid product prototyping, collaborative research and continuous learning to create faster time to market. Clients can leverage the Center to create new product designs while collaborating on go-to-market solutions. The Edmonton team will be engaged in product engineering, platform engineering, operational technology services and next-generation engineering, research and development.

As part of its expansion, HCL Technologies will hire college graduates from local educational institutions including The University of Alberta, MacEwan University, NAIT, SAIT and others.

"The Edmonton Innovation Center represents a significant expansion of our world-class technology talent and exceptional engineering presence in Canada," said Joelien Jose, Executive Vice President and Country Head, Canada, HCL Technologies. "Engineering-led digital transformation is set to re-imagine the business landscape, and the excellent facilities at our Edmonton Center provide the right environment for shaping the future of the IT industry."

"I am pleased to welcome HCL to our community," said Amarjeet Sohi, Mayor of Edmonton. "This announcement is the beginning of a new partnership between our city and the company, and today's announcement is proof that Edmonton is a great place to do business."

"HCL's expansion into Edmonton is another sign of the record growth of Alberta's technology sector," said Doug Schweitzer, Minister for Jobs, Economy and Innovation, Government of Alberta.

"It is exciting to see HCL identify Alberta as the place to invest due to the amazing talent we have here and the business environment we've created. I look forward to seeing the partnerships and innovations

# CIMdata PLM Industry Summary

---

that come from this new Center.”

“The Edmonton Metropolitan Region is a great place for HCL Technologies to continue its expansion into Canada,” said Malcolm Bruce, CEO, Edmonton Global. “Our region's tech sector continues to attract investors through our high quality of life, world-class talent and affordability. We're excited to watch HCL expand and grow here.”

In addition to the Edmonton Center, HCL Technologies’ continued success in Canada is driven by the support of Global Delivery Centers in Mississauga, Ontario, and Moncton, New Brunswick.

## ***Infor Announces 2021 Customer Excellence Award Winners***

25 January 2022

Infor, the industry cloud company, announced the winners of the 2021 Infor Customer Excellence Awards. These annual awards recognize customers that drive innovation and showcase exceptional business results.

A panel of Infor solution and industry experts selected customers that grew their business, improved their customer experience, and drove change in their industry — all while using Infor products. Award winners and finalists from around the world will be recognized during Inforum Digital, Jan 25-26.

“At Infor, we succeed when our customers succeed. Our priority is to have our customers’ backs, offer an amazing customer experience, and think long term,” said Kevin Samuelson, Infor chief executive officer. “These awards give us a chance to highlight some of the practical solutions we have developed with our customers to expand their success and alleviate pain points across industries. With the myriad challenges this past year has posed, it’s never been more important that we spotlight the amazing work our customers are doing.”

The winners of the 2021 Infor Customer Excellence Awards are:

### **PRIDE Industries (North America) – Aerospace and Defense**

PRIDE Industries’ mission is to create employment for people with disabilities, while delivering the highest-quality products and remaining competitive. One challenge that PRIDE Industries faced was maintaining dozens of customizations created in the previous on-premises solution, hindering its overall agility. Since the move to the Infor LN multitenant cloud solution, PRIDE Industries has seen many improvements. With the implementation of Infor Factory Track, warehouse operational efficiency improved quickly, IT resources were able to execute on multiple strategic initiatives simultaneously, and the company now has access to the most current cutting-edge features and functions. PRIDE Industries is on a journey to implement many of the application accelerators provided by Infor to help manage all aspects of supply chain logistics and manufacturing.

### **Nedschroef (EMEA) – Automotive**

Nedschroef is a leading global fastening technology company focused on advancing industrial manufacturers. Nedschroef needed to increase productivity and address automation in its factories and ongoing ecosystem integration to better serve its global customers. To adapt to the rapidly changing and highly competitive automotive market, Nedschroef has leveraged Infor CloudSuite Automotive to replace an obsolete ERP environment, as part of its CROWN program: Continuously Refining Operations Worldwide at Nedschroef. The Infor platform provides the company with the capabilities to help introduce new products in new or existing markets, react quickly and adequately to customer demands in highly competitive environments, establish one way of working across the globe, and support the new centralized organizational structure. Nedschroef now has one integrated total solution, including shopfloor, and spends less time linking the datasets from various processes because of the

# CIMdata PLM Industry Summary

---

integration, resulting in better insights and fewer errors. The company also has set up shared service centers (finance, for example), and the IT department spends less time on developing the needed supply chain integration and maintenance, due to automated monthly updates.

## **Midwest Wheel Companies (North America) – Distribution**

Midwest Wheel Companies, one of the largest truck parts distributors in the Midwestern U.S., was facing problems with wasted time at the sales counter or over the phone with salespeople manually searching for the right interdependent parts to order for repairs. The company also was missing opportunities to upsell, because salespeople are not always familiar with all combinations of parts that are commonly sold together. Customers were left dissatisfied after having to place subsequent orders, because the right set of parts were not placed on the initial order. To help automate and improve the process, the company deployed Infor Coleman AI. The artificial intelligence application can analyze order data and is equipped with a recommendation engine. Coleman was deployed in only four weeks with no need to hire a team of data scientists, and Midwest Wheel's 75 salespeople didn't need any special skills or training to use it. Putting the sales data to use, the company built a flyer with more relevant products to help increase the value of the sale and the value to the customer. The faster reference to related products means less time searching and less trips to complete the repair. Taking the product recommender to the next step, Midwest Wheel set up Excel to call the Coleman AI endpoint. With the Excel integration, Midwest Wheel expanded its fall marketing program by 20% with products that the recommender suggested as most likely to go with the products in the flyer.

## **Allport Cargo Services USA (North America) – Distribution/Third-Party Logistics (3PL)**

Allport Cargo Services USA (ACS) is part of the Cargo Services group of companies, the largest, privately-held Hong Kong-based third-party logistics provider. ACS is a 33-year-old company, 7 years new in North America, with a team of more than 7,000 staff globally. The company manages more than 2 million 20-foot equivalent units (TEUs) with a footprint of more than 6 million square feet of warehouse and distribution space in Asia Pacific alone. ACS is an independent 3PL that operates a unique systems and service neutral operating model. By using the Infor Nexus platform, ACS can enable its clients to plug and play their transportation providers without disrupting their suppliers, product, or documentation flow. ACS operates and executes 100% of everything it does "live" on the Infor Nexus platform. ACS uses the Infor Nexus Supply Chain Visibility module to provide end-to-end, networkwide supply chain management solutions. The platform creates a single version of the truth, enabling multiple participants to work, to automate processes, and to collaborate globally.

## **Zadig&Voltaire (EMEA) – Fashion**

Zadig&Voltaire (Z&V), a French ready-to-wear clothing brand founded by Thierry Gillier, has always believed in reinventing itself. Recently, the brand decided to reinvent some of its back-end processes to improve operational efficiency, generate productivity gains, and adopt market best practices. The business has teams with a real appetite for digital, so Z&V wanted to find a quick way to free employees from many low-value tasks and let them focus on their core businesses. The company chose Infor CloudSuite Fashion to help support and scale the company's growth in both manufacturing and distribution. Three main principles guided the implementation: make simple functional choices to encourage teams to adopt the solution, opt for a standard product to facilitate its maintenance, and redesign processes to adapt them to the tool. With Infor's solution, Z&V is confident it will achieve its objectives.

## **My Food Bag (APAC) – Food and Beverage**

New Zealand's longest-standing meal kit provider, My Food Bag, needed an end-to-end integrated solution for delivery, recipe management formulation to help maximize seasonal organic local

# CIMdata PLM Industry Summary

---

ingredients, and assistance in effectively meeting increased customer demand. With Infor's CloudSuite Food & Beverage solution, My Food Bag achieved the cloud technology direction to help meet the company's scalability needs. This solution includes M3CE, PLM, Birst Analytics, and Data Capture. The organization was quickly able to meet the huge spike in customer orders sparked by the pandemic, and it now has the visibility to view margins with an effective costing model, especially in formulating new recipes. My Food Bag also has enhanced risk mitigation and a step-change improvement in food safety processes, thanks to the capability to capture and label allergen and nutritional information on products.

## **St. Luke's Health System (North America) – Healthcare**

St. Luke's Health System is an organization of approximately 17,000 employees that, until 2021, had no human capital management system. The health system was providing a subpar user experience because of too many manual processes, lack of good integration of technology and business processes, and no pervasive use of mobile technology. As long-time users of Infor in the payroll, finance and supply chain disciplines, the Boise, Idaho-based organization decided to double down with Infor's cloud solution to help transform all the major disciplines. In addition to more efficiency and standardization, Infor's solution enabled the organization to bring the major disciplines of ERP (HR, finance, supply chain management) together to form as a single, cohesive team, as opposed to working in silos. St. Luke's is seeing more team collaboration, more business process efficiencies as manual tasks have been eliminated, less paper, and better interaction and experience for users. After resetting the entire structure, St. Luke's believes that as it grows into new areas of healthcare services, it now has a more flexible and adaptable structure that won't require upgrading its ERP system.

## **Ring Container Technologies (North America) – Industrial Manufacturing**

Ring Container Technologies LLC is a U.S. privately held, multinational corporation that has focused on finding sustainable solutions for the consumer packaging industry for more than 50 years. Ring decided to move its enterprise asset management (EAM) solution to the cloud to eliminate sunset application databases and operating system versions and to take advantage of advanced features. Moving to the cloud enabled Ring to take advantage of new functionality, focused primarily on mobility improvements, and to implement a more predictive style of tracking assets. Twenty sites and more than 300 users are taking advantage of this transition to Infor EAM in the cloud. Ring also transitioned its substantial implementation of Infor Intelligent Open Network (ION) integration to the Infor OS operating service in the cloud, paving the way for its migration to Infor CloudSuite Industrial Enterprise. The enhanced functionality has facilitated a more streamlined process for Accounts Payable, and the mobility functionality enables EAM users in the plants to complete tasks faster within the EAM environment, giving greater visibility to those responsible for reporting performance metrics.

## **City of Las Vegas (North America) – Public Sector**

The city of Las Vegas chose to implement Infor Public Sector (IPS) to knit together departmental workflows, to make them cohesive for customers, and to provide the capability to do business with the city 100% online. The set of modules for Community Development and Regulation met the needs of each department, while providing cross-departmental integration capabilities. These make the resulting workflows appear seamless from the customer's perspective. All systems were systematically replaced with IPS modules over four years, while keeping the overall vision of building one connected development process in focus. The city's vision to be a digital government is a reality for residents, businesses, and employees. The most notable improvement is that the city's departments are now open for business 24x7x365. The city's automated systems send emails to customers notifying them of needed actions, and customers can complete all requirements online, anytime day or night.

## ***Infor Announces New Infor Marketplace***

25 January 2022

Infor, the industry cloud company, announced the new Infor Marketplace, a curated showcase of solutions that can augment and enhance customers' existing Infor investments. The Infor Marketplace is designed to make it easier for customers to discover, source and license industry and micro-vertical solutions that integrate with Infor's portfolio of enterprise software.

The Infor Marketplace currently serves as a listing marketplace, where customers can register to receive information and assets related to a wide range of Infor and partner solutions and services. Going forward, Infor plans to develop it into a real-time provisioning platform, where users can conduct frictionless e-commerce.

Soma Somasundaram, Infor chief technology officer & president of products, said, "The launch of Infor Marketplace underscores our commitment to providing a smart, preconfigured and modern enterprise ecosystem. We expect to provide access to hundreds of solutions that have been pre-integrated with Infor software or built with Infor platform technologies. From partner-developed apps, which support certain niche industry parameters, to free Infor-developed content such as visualizations, extensions and reusable widgets, the Infor Marketplace is intended to showcase new and innovative solutions for our customers."

The Infor Marketplace also showcases Infor's large and growing partner network. It provides Infor's ISV (independent software vendor) partners with additional visibility to more than 65,000 Infor customers. In the coming months, the Infor Marketplace is expected to provide additional capabilities to Infor ISV partners, which should simplify customer acquisition, billing, payment processing, and automated provisioning.

Rene Nazario, CEO of Visual K, a leading provider of manufacturing, maintenance and point-of-sales software and an Infor Gold Channel Partner, said, "We are very excited about the new opportunities and possibilities that the Infor Marketplace can give us exposure to. In this day and age, people are used to licensing apps from an online store, so this is a major step in that direction. The setup is designed to be painless, and we are looking forward to the ability to receive feedback. This should be a win-win for all parties involved."

Antoinette Habets, VP of Acumen Group, said, "The Marketplace can help facilitate greater awareness of existing business and technical applications that extend Infor solutions for all customers. It is designed to solve specific vertical or business requirements, while increasing their ROI from the platform. Before the Marketplace, customers weren't always aware of the available integrated solutions that can further automate and streamline their operations. These extensions can help improve workflows, reduce costs and deliver greater efficiencies. The Marketplace also can serve as a great self-service resource for customers."

The Infor Marketplace is intended to serve as a one-stop shop for customers looking to source unique and innovative software solutions — including analytics, AI and machine learning apps — and find value-add extensions to Infor products that deliver even greater industry-specific capabilities.

It also is expected to include a searchable index of partner solutions designed to help maximize the value of customers' Infor ecosystem investments. Users also can see ratings and reviews from other customers on what solutions are helping their businesses most.

"The Infor Marketplace should help provide Infor customers and partners with an opportunity to maximize their investments in Infor solutions, which are built on the foundation of the Infor OS enterprise application platform," said Holger Mueller, vice president and principal analyst at Constellation Research.

In Constellation Research's April 23, 2021, Offering Overview report, Infor OS Powers Next-Gen ERP with a Rich Platform, Mueller noted that, "Overall, Infor has one of the most mature EAPs in the market, a testament to a more-than-10-year R&D effort and the early decision to build on the public cloud (AWS, in this case), making Infor the first enterprise resource planning (ERP) product to run on a standard public cloud platform."

Companies and partners interested in having their products and services listed on the Infor Marketplace can send an email to [InforMarketplace@infor.com](mailto:InforMarketplace@infor.com) for additional information.

The Infor Marketplace is powered by AppDirect®, a leading subscription commerce platform designed to remove the complexity of building a recurring business model. "For software companies, product ecosystems are quickly becoming a key competitive differentiator, allowing them to deliver more innovation and value to their customers faster," said Daniel Saks, co-founder and co-CEO of AppDirect. "At AppDirect, we have more than a decade of experience helping companies create and support product ecosystems. We are excited to partner with Infor to power their ecosystem journey every step of the way to full subscription commerce."

## ***Introducing the reimagined Autodesk Gallery***

26 January 2022

Autodesk Gallery in San Francisco is reopening after a major renovation. They have an entirely new set of exhibits that showcase the use of Autodesk software products in design, art, media, technology, and innovation. Read the full story by Fred Saunders on the Autodesk news site here:

<https://adsknews.autodesk.com/news/reimagined-autodesk-gallery>

## ***iPoint participates in CEWI project***

26 January 2022

We are proud to announce that iPoint is participating in the CEWI project of Stiftung KlimaWirtschaft, WWF Germany, and Wuppertal Institute for Climate, Environment and Energy. Together with more than 40 German enterprises from the automotive and building sector, iPoint is striving to develop project ideas for a climate-neutral and resource-efficient economy – thus advancing the transformation towards the Circular Economy.

CEWI project groups: Focus automotive

Due to steadily increasing CO2 emissions and the high demand for resources, there is a great need for action in the automotive sector with regard to a climate-neutral circular economy. iPoint is involved in two CEWI project groups working on solutions for the automotive industry, the "Vehicle recycling factory" and the "Cyber breakfast on the digital product passport". They will meet again on January 26-27 during the second of three planned CEWI workshops.

### 1. Vehicle recycling factory

This project group is to design an industrialized, industry-wide vehicle recycling factory for end-of-life vehicles (and test vehicles) with active material flow management of raw materials and vehicle parts. The aim is to establish a circular economy with standardized material flows from end-of-life vehicles as a contribution to achieving the CO2 targets of the Paris Climate Agreement and to meeting legal requirements and recycling quotas with a focus on Scope 3 emissions in companies.

### 2. Cyber breakfast on the digital product passport

The aim of this project group is to create a platform bringing together all stakeholders ranging from regulatory bodies, industry associations, and companies to discuss the requirements and

# CIMdata PLM Industry Summary

---

challenges of digital product passports. The roundtable is headed and organized by [DIN](#) (German Institute for Standardization). Starting February 2022, the companies involved will meet weekly for a cyber breakfast to discuss the prerequisites for the introduction of a digital product passport – the instrument for improving information exchange and interfaces, designing and implementing circular business models, products and processes, and empowering consumers.

Digital product passport: Automotive industry's practice check

Prior to the CEWI workshops, in summer 2021, iPoint had already connected with other participants from the German automotive industry within the framework of CEWI to discuss the possibilities of the digital product passport and develop joint proposals on its efficacy and dissemination. The digital product passport is seen as the key to creating the necessary transparency for resource and climate protection, which at the same time enables companies to implement sustainable, circular business models. In view of the government coalition talks in Germany in autumn 2021, the collaboration led to a paper that outlines aspects vital to the successful establishment of such a passport, as well as providing recommendations for the new legislative session.

“I am pleased that in the coalition agreement of the new German government presented on November 24, 2021, Circular Economy was clearly anchored as an important measure to develop sustainable business models and accelerate necessary innovations on the way to a resource-efficient and climate-neutral economy. I am convinced that the collective view of everyone involved in the product development process enables a completely different speed of innovation, which is what we need in order to create change in the limited time available” says Joerg Walden, CEO of iPoint-systems. “The coalition agreement also targets the introduction of digital product passports, explicitly mentioning support for companies during implementation and responsible handling of the data collected. Both are important aspects in the automotive industry's practice check on product passports published by CEWI.”

## ***LTI Partners with IIT Madras to Innovate in 5G Space***

27 January 2022

Larsen & Toubro Infotech, a global technology consulting and digital solutions company is partnering with IIT Madras, one of India's leading research institutes for collaborative research in the field of 5G. Through this collaboration, LTI and IIT Madras aim to innovate in the emerging 5G space and enable 5G frameworks validation, low frequency RF deployments and use case testing with 5G test bed.

As part of this partnership, LTI and IIT Madras will promote research towards development of low-cost, low-frequency 5G network setup for better connectivity in rural India. The key objective of this effort is to create a 5G base station and single-box solution to enable rural connectivity. LTI will work closely with IIT Madras to design these low-cost base stations and network for rural connectivity. LTI will also provide expertise for research capabilities and offer relevant infrastructure support for this initiative.

Highlighting the need for such projects, Mr. Nachiket Deshpande, Chief Operating Officer and Executive Board Member, LTI, said, “5G promises to facilitate the next level of innovation to build a smarter society, but it is important to ensure that these benefits reach every part of our country. LTI's partnership with IIT Madras reflects our commitment to leverage this technology to connect people from remote parts of India in a better way.”

This project is part of LTI's 1step CSR program and reflects its commitment towards promoting research and innovation (SDG 9 – Industry, innovation, and Infrastructure). Through its support for development of an indigenous 5G network, this partnership is also aligned with the Government of India's 'Make-in-India' initiative.

Speaking about the R&D Capabilities of IIT Madras, Prof. Mahesh Panchagnula, Dean (Alumni and

# CIMdata PLM Industry Summary

---

Corporate Relations), IIT Madras, said, “IITM’s 5G testbed project is an effort to encourage Indian startups and the industry to take an early lead in 5G. The goal of the project is to build a test bed that closely resembles a real-world 5G deployment.”

Further, Dr. Radha Krishna Ganti, Assistant Professor, Department of Electrical Engineering, IIT Madras and Principal Investigator for this CSR project, said, “The 5G technology has immense potential and could prove to be the best option to bridge the digital divide in India. For evolved urban areas, it will help advance and enhance the benefits of digital technologies over a faster connectivity network. Our core strength of academic excellence will provide the right partnership platform needed to contribute towards these digital goals of our nation. We look forward to our collaboration with LTI and aim to create positive impact for society at large.”

The collaboration with IIT Madras further reinforces LTI’s expertise on 5G based solutions. LTI will also work with IIT Madras to build and validate use cases leveraging the 5G test bed for application in multiple domains like Smart manufacturing, Industry 4.0, Smart Cities and Media.

These efforts are aimed at building a cutting edge 5G framework and enabling end customers to leverage the 5G infrastructure in accelerating their digital transformation journey.

## ***Nemetschek Group drives Efficiency in the Construction Industry by Investing in Innovative Start-Ups***

26 January 2022

The construction industry has been suffering from inefficient processes and a very low increase in productivity over the last several decades. The Nemetschek Group, one of the leading software providers for the AEC/O and media & entertainment industries, is set to change that. Investing in highly innovative startups in addition to its own portfolio is proving to be the right strategy. A customer case study by Imerso AS, a Norwegian deep tech company – whose financing round the Nemetschek Group led at the end of last year – showcases efficiency increases of 400 percent in quality control.

E. Klink – a Danish heating, ventilation, and air conditioning (HVAC) contractor and part of the Aarsleff Group – is a pioneer in the field of building and maintaining energy-optimized ventilation systems. The company is working on a broad range of projects, from hospitals and laboratories to banks and museums. E. Klink turned to digital design with 3D BIM technology in 2019 to ensure high quality during the project design phase. Amongst other software solutions, they have been using Solibri Office and Solibri Site for BIM quality checking and collaboration since 2017. However, the quality control of piping systems and air terminals throughout the actual construction phase was still done by spot checks. This covered only a small percentage of the entire project and bore the risk of issues being overlooked.

In September 2021, E. Klink decided to work with Imerso to support the quality control throughout the production phase. In two projects spanning over 110,000m<sup>2</sup>, Imerso’s platform analyzed laser scans taken by E. Klink’s own employees. The platform then verified that ducts and air terminals are located correctly by comparing them to corresponding BIM models and highlighting possible deviations.

After the second month, the results are already impressive. E. Klink’s team, led by construction engineers Patrick Frydenlund and Chris Gordner, can now verify 100 percent of the ducts and air terminals within the same time that it took to verify just 15-20 percent in the past – a productivity increase of over 400 percent. Besides the productivity gain throughout the production process, E. Klink now avoids unforeseen delays during the production phase. This new method also reduces the risk for warranty claims after the project is finished while having millimeter-precise documentation of its work.

“Working with Imerso is a great example of how we help accelerate efficiencies in the construction industry,” says Tanja Kufner, Head of Startup and Venture Investments and part of the board of Imerso.

# CIMdata PLM Industry Summary

---

“The solutions of Imerso and Solibri are a great fit for customers. They help them to accurately monitor a project’s progress and efficiently improve the results,” she says.

Last December, the Nemetschek Group announced they had led a financing round for Imerso. The Norway-based deep tech company is offering a next-generation platform to automate construction quality monitoring through a combination of advanced artificial intelligence (AI), reality capture, and BIM technologies. The solution enables easy, everyday use of industry grade 3D scanners on site. By connecting the BIM model directly to the as-built snapshot on site, Imerso delivers an efficient roadmap for accurate, as-built digital twins, with great benefits across the entire building life cycle.

## ***New Oracle Cloud Infrastructure Services Authorized for the US Government***

24 January 2022

Oracle achieved FedRAMP High Provisional Authority to Operate (P-ATO) from the Joint Authorization Board (JAB) for an expanded set of Oracle Cloud Infrastructure (OCI) services. With authorizations for Oracle Autonomous Database, Oracle Integration Cloud, and others, government customers can improve their operations with a growing array of cost-effective, highly secure services available in Oracle’s US government regions.

“These newly authorized cloud services expand Oracle’s suite of differentiated, highly secure, high-performing technology for government customers,” said Rand Waldron, vice president, Global Government Sector, Oracle. “With these new tools, it will be even easier for government organizations to bring their most important systems to the cloud and take advantage of the unique efficiency, support and capability of Oracle to drive the success of their missions.”

The following OCI services are now covered by the FedRAMP High JAB P-ATO:

- Oracle Autonomous Database on Dedicated Infrastructure enables customers to provision autonomous databases into their own dedicated Oracle Exadata cloud infrastructure. Oracle Autonomous Database runs natively on OCI while providing workload-optimized cloud services for transaction processing and data warehousing.
- Oracle Autonomous Database on Shared Infrastructure allows multiple customers to share the resources of an Oracle Exadata cloud infrastructure. Customers can quickly get started with no minimum commitment, enjoying quick database provisioning, extensive automation of management tasks, and independent scalability of compute and storage.
- Oracle Cloud Guard detects misconfigured resources and insecure activity across tenants and provides security administrators with the visibility resolve cloud security issues.
- Oracle Cloud Infrastructure Data Catalog helps data professionals search, explore, and govern enterprise-wide data assets by automatically harvesting metadata across an organization’s data stores. This includes providing a common metastore across services such as Autonomous Database and OCI Object Storage.
- Oracle Integration Cloud offers a combination of prebuilt connectivity to SaaS and on-premises applications, process automation templates, and an intuitive visual application builder for web and mobile application development.
- Oracle Cloud Infrastructure Logging helps DevOps customers easily review log data, diagnose issues, and use the rules engine to trigger serverless Functions or alerts. VCN Flow Logs, a feature of Oracle Cloud Infrastructure Logging, also gained authorization. The feature shows details about traffic that passes through customers’ virtual cloud network, helping organizations audit traffic and troubleshoot security lists.

# CIMdata PLM Industry Summary

---

- Oracle Cloud Infrastructure Service Connector Hub provides a central place for describing, executing, and monitoring data movements between OCI services and from OCI to third-party services.
- Oracle Cloud Infrastructure OS Management allows customers to manage and monitor updates and patches for the operating system environments on Oracle Cloud instances.
- Management Agent Cloud Service (MACS) manages the Management Agents and their lifecycle. Management Agents allow Oracle Cloud services to interact and collect data from entities that are managed by them.

This follows the authorization of more than three dozen OCI services in the past year, including OCI Compute Service, Oracle Digital Assistant, and Oracle Cloud VMWare Solution, as well as Oracle Cloud Marketplace. OCI delivers high-performance computing power that meets the needs of every type of enterprise application with scale-up architectures for agencies that want to adopt cloud technologies and easily migrate critical applications at their own pace. By simplifying management, scaling, and security with autonomous services such as Oracle Autonomous Database, OCI can reduce administrative costs by as much as 90 percent.

FedRAMP is the federal government program that sets the standard for assessing, authorizing, and monitoring cloud systems' security. By attaining authorization from FedRAMP, Oracle's government customers can be assured that Oracle's cloud offerings have been thoroughly reviewed and approved by leading technology officials.

To attain these authorizations, Oracle utilized an accredited Third-Party Assessment Organization to complete a readiness assessment of the cloud service offerings for the authorization process. The service offerings were then reviewed by representatives from the FedRAMP's Joint Advisory Board—comprised of technical reviewers from the Department of Homeland Security (DHS), Department of Defense (DoD), and General Services Administration (GSA)—for FedRAMP High authorization.

## ***Nexar Announces Partnership with SiliconExpert***

25 January 2022

Nexar, a business unit of Altium LLC, announces that SiliconExpert, one of the most respected purveyors of part data for electronic components, has joined Nexar's ecosystem of electronic innovators. The partnership aims to address component lifecycle issues that the printed circuit board (PCB) design community experiences by bringing the comprehensive part data from SiliconExpert into the Altium PCB design tool workflows.

“It's critical for PCB designers to know whether the components they select are going to be available throughout the entire lifecycle of their products,” said Ted Pawela, Chief Ecosystem Officer at Altium and Head of Nexar. “Altium customers recognize the value in having access to SiliconExpert's data so that they can make better, more informed decisions and reduce risk.”

Inaccurate or incomplete component availability data can cause significant delays to the design and production of electronic products. Providing designers access to the most comprehensive component lifecycle information within their design environment is crucial to ensuring designs can be produced on time and on budget.

“SiliconExpert and Altium are equally driven in ensuring designers have access to component information right at their fingertips without the frustration of having to go through multiple design re-spins,” said Martin Chatterton, General Manager of SiliconExpert. “Altium is our most requested integration, so we're eager to work together to address this need.”

# CIMdata PLM Industry Summary

---

SiliconExpert will be at the AltiumLive 2022 CONNECT summit presenting “Getting the Information to Create Successful Designs Quickly” among the topics in the event’s supply chain track.

Altium’s integration with SiliconExpert’s component data will be available within the Altium ecosystem later this year.

## ***OpenText Announces Strategic Appointments***

24 January 2022

OpenText™ announced certain strategic appointments and changes to its Executive Leadership Team.

“I am very excited about OpenText’s cloud led growth strategy and our ambitions to continue our successful profitable growth in the future,” said OpenText CEO & CTO Mark J. Barrenechea. “We have the strongest leadership team in our history, and as we continue to implement and execute against our strategic plan, I am pleased to announce these strategic appointments.”

- Sandy Ono has been appointed as Chief Marketing Officer. Ms. Ono joins OpenText from Hewlett Packard Enterprise (HPE), where she most recently served as VP, Growth Marketing, helping to drive digital transformation, shape GTM strategy, and implement digital analytics efforts to advance customer acquisition and retention strategies. Prior to HPE, Ms. Ono held a variety of high impact roles in strategy consulting and business development including time with Deloitte and the Walt Disney Company. Sandy holds an MBA from the Wharton School of Business.
- Michael Acedo has been promoted to Chief Legal Officer & Corporate Secretary. Mr. Acedo joined OpenText in 2014 from the leading global law firm Skadden, Arps, Slate, Meagher & Flom, LLP where he practiced corporate and securities law, with a concentration on international capital markets and M&A transactions. Michael has been featured in business law publications as a leading practitioner, including being recognized by Lexpert as a *Rising Star, Leading Lawyer Under 40*. At OpenText, he most recently served as the Vice President, General Counsel – Corp. & Corporate Secretary.
- Doug Parker has been promoted to Executive Vice President, Corporate Development. Mr. Parker has over a decade of experience with OpenText in a variety of roles and also served as President & CEO of Quarterhill Inc., focused on the acquisition, management and growth of companies in dedicated technology areas.
- Gordon Davies, Executive Vice President, Chief Legal Officer and Corporate Development has decided to retire effective September 2022. Until such time, Mr. Davies will act as Special Advisor to the Chief Executive Officer.

"It will be exciting to watch the achievements from our executive team in the coming years, as we remain laser focused on our value creation approach of total growth, profitability, and capital returns," added Mr. Barrenechea. "I am deeply grateful for Gordon Davies’s 13 years of leadership and many achievements at OpenText and wish him the best in his retirement."

The appointments and changes are effective immediately and each report to the Chief Executive Officer.

## ***Razorleaf Corporation Expands European Reach with New Office in the Netherlands***

27 January 2022

Razorleaf Corporation, a leading PLM consulting and systems integrator, announced the opening of Razorleaf BV, a new division representing the Benelux territory. The Dutch office is part of Razorleaf’s expansion plans to have a broader reach in Europe including the Nordics, Germany, Belgium, and

# CIMdata PLM Industry Summary

---

Luxemburg.

The team brings Razorleaf's deep PLM sales and technical service experience to help manufacturers in the Netherlands accelerate their adoption and success with PLM software. The office will support Dassault Systèmes' 3DEXPERIENCE platform, Razorleaf's CLOVER platform, and third-party products including test and design automation. They will also establish offshore development teams to support rapid customization and specialization applications for their region.

"As more manufacturing companies embrace digital transformation initiatives, there is a growing demand for PLM solutions," said Luc Van Hemelrijck, Director, Strategic Alliances, Razorleaf BV.

"The Netherlands' PLM market is in need of the types of products and services Razorleaf provides, including PLM consulting, implementation, migration and integration. We look forward to partnering with organizations to ensure their long-term success on their PLM journey."

"As we continue to broaden our European reach, the Netherlands will have a huge impact on our continued global expansion strategy in 2022," said Razorleaf CEO Eric Doubell. "We opened up offices in the United Kingdom and Germany a couple of years ago, and now the Benelux territory. As the need for PLM continues to gain traction with global organizations, it is important to have a local presence to develop relationships with clients and vendors. Our goal is to accelerate clients' growth and realize the business value of PLM."

## ***Rockwell Automation Names Gina Ayala Claxton President for Americas Region***

24 January 2022

Rockwell Automation, Inc., the world's largest company dedicated to industrial automation and digital transformation, announced that Gina Ayala Claxton joined the company and is named president, Americas Region effective immediately. As regional sales leader, she reports to Rockwell Automation Chief Revenue Officer Scott Genereux, and succeeds Alejandro Capparelli, who has taken a new role within the company as vice president, Global Commercial Lifecycle Services.

Most recently, Ayala Claxton was at IBM, where she had a 20-year career with demonstrated experience in consultative, enterprise solutions sales and services, with the past 10 years in sales and enterprise leadership roles. In her latest role, she was responsible for all customer go-to-market segments across a set of industry verticals, including CPG and transportation, acquiring customers from major global brands. She was also a member of the IBM CEO's transformation team, and she led various change initiatives for the company on behalf of senior leadership.

"Gina will be instrumental in our efforts to simplify our organization for our customers, drive accelerated profitable growth and operate with a global mindset in our largest global region," said Genereux. "In looking to the future, we want to have new ideas and fresh perspectives from leaders in other industries to complement that with our valuable customer knowledge and deep domain expertise in operational technologies. Gina brings considerable experience building, motivating and developing high performance teams in customer-focused and matrixed environments."

Rockwell's Americas organization consists of five regions including Canada, Central U.S., Eastern U.S., Southwest U.S. Regions and Latin America. Ayala Claxton will be the company's first Latina president of the Americas region and is a passionate advocate of diversity, equity and inclusion. She will be based in the San Francisco Bay Area.

## ***Sage Partners with The BOSS Network to empower Black women entrepreneurs with the launch of the Sage Invest in Progress grant***

26 January 2022

**Sage**, the leader in accounting, financial, HR, and payroll technology for small and mid-sized businesses, in partnership with **The BOSS Network**, an online community of professional and entrepreneurial women, announce the launch of the Sage *Invest in Progress* grant to support Black women entrepreneurs in their first five years of business.

The goal is to help remove barriers to capital that many entrepreneurs—especially women entrepreneurs in the Black community—disproportionally face when starting a business. The Sage *Invest in Progress* Grant will award \$10,000 in funding to 25 Black women entrepreneurs to help them successfully grow their business.

Sage *Invest in Progress* will also include a 12-month program of entrepreneurial mentorship and education, helping grant awardees with coaching, connections, and removing capital barriers to address the disparity gap so that they can have the confidence to reach their full potential.

Each Sage *Invest in Progress* grant awardee will receive:

- \$10,000 USD grant.
- Quarterly business training courses through BOSS University sponsored by Sage, including topics on marketing, finance, customer service, and business strategy.
- Access to The BOSS Network online community.
- Complimentary Sage Business Cloud Accounting software.

*“It has been reported that the single greatest barrier to success for new businesses and startups is access to capital—and minorities make up less than 1% of founders that receive that investment. With The BOSS Impact fund, we are working with partners like Sage to address that disparity head on,”* said **Cameka Smith, founder, The BOSS Network**. *“The Sage Invest in Progress program will build on the work of The BOSS Network to not only empower Black women entrepreneurs but also arm them with the resources they need to lead successful businesses and increase their market share.”*

The Sage *Invest in Progress* grant is a three-year commitment to support the newly announced **BOSS Impact Fund**, which is focused on investing in Black women-led businesses and preparing entrepreneurs to build scalable, growth aggressive companies. The goal of the BOSS Impact Fund is to raise investment funding for 500+ Black women entrepreneurs over the next three years.

*“At Sage, we have committed to knocking down barriers that foster an advantage for some groups while creating obstacles for others. Capital investment is one area that we’ve recognized as a barrier, particularly for Black businesswomen,”* said **Aziz Benmalek, interim managing director, Sage North America**. *“Sage is dedicated to being a part of a cultural shift that will help bring about a business community that is more equitable and sustainable for all.”*

To apply or for more information, visit [BOSSImpactFund.com](https://BOSSImpactFund.com). The grant application process is powered by **HelloAlice**, a grant-funding platform designed for entrepreneurs and small businesses. The application window opens **January 26, 9 a.m. ET**, and closes **February 25, 5 p.m. ET**. Grant awardees will be announced in late March.

# CIMdata PLM Industry Summary

## ***TCS iON Announces Winners of the 4th Edition of its IntelliGem Contest; Opens Registrations for the 5th Edition***

27 January 2022

TCS iON™, a strategic unit of Tata Consultancy Services (TCS), announced the winners of the fourth edition of the TCS iON IntelliGem contest.

TCS iON IntelliGem is a contest that helps students gain 21<sup>st</sup> century skills across Universal Values, Global Citizenship, Communication Skills, Creativity and Innovation, and Financial Literacy. It supports the holistic development of children, aligned to NEP 2020.

The fourth edition of TCS iON IntelliGem saw students of Grades 5 to 9 participating in three stages – qualifiers, pre-finals and a national-level Grand Finale. To ensure student safety, the contest was conducted virtually and witnessed participation from schools across over 143 cities from 25 states of India.

**Venguswamy Ramaswamy, Global Head, TCS iON**, said, *“Our efforts to put the spotlight on children, who display extraordinary 21<sup>st</sup>-century skills, continues. We are delighted to see the focus and encouragement given to children by a large number of schools participating in this contest. We believe the parents and teachers of these participants are playing a pivotal role in shaping the children for the future. It is heartening to see so many young minds bring their unconventional ideas to solve real-world problems. We stand committed to bringing even more innovations and excitement to TCS iON IntelliGem 2023.”*

Of the 50 students who made it to the Grand Finale, 11 emerged winners. The winners and finalists were awarded cash prizes, new age gifts, trophies and certificates, books, and digital subscriptions to learning products. **RYAN International Group of Schools, PSBB Group of Schools, Presidency Group of Institutions, Sri Kumaran Children’s Home and Samsidh Group of Schools** were given the National Group School Excellence Award, recognizing the superior all-around performance of their students.

**Category-wise winners are mentioned below:**

<b>Name</b>	<b>Grade</b>	<b>Topic</b>	<b>Category</b>	<b>School Name (with City)</b>	<b>Board</b>
Sakshin Ghosh	Grade 5	Communication Skills	Junior	Delhi Public School, Sector 45 (Gurgaon)	CBSE
Reema Shyam	Grade 7	Communication Skills	Senior	Sishu Griha Junior and Senior School (Bangalore)	ICSE
Keerthan Kumar Varma Madiraju	Grade 6	Creativity & Innovation	Junior	Manchester International School (Coimbatore)	IB
Dhruva Seshadri Anand	Grade 8	Creativity & Innovation (Joint Winner)	Senior	Padma Seshadri Bala Bhavan Sr. Sec. School, T. Nagar (Chennai)	CBSE
Siddharth Kumar Gopal	Grade 8	Creativity & Innovation (Joint Winner)	Senior	St. Thomas Residential School (Thiruvananthapuram)	ICSE

## CIMdata PLM Industry Summary

Mehul Jain	Grade 5	Financial Literacy	Junior	Delhi Public School, Sector 45 (Gurgaon)	CBSE
Pradnya Ambatipudi	Grade 8	Financial Literacy	Senior	Vikas – The Concept School (Hyderabad)	CBSE
Sakshin Ghosh	Grade 5	Global Citizenship	Junior	Delhi Public School, Sector 45 (Gurgaon)	CBSE
Vasundara Periasamy	Grade 9	Global Citizenship	Senior	D.A.V. Public School (Chennai)	CBSE
Anasuya Parashar	Grade 6	Universal Values	Junior	Padma Seshadri Bala Bhavan Sr. Sec. School, T. Nagar (Chennai)	CBSE
Aditi Sathyanarayana	Grade 7	Universal Values	Senior	National Hill View Public School, R. R. Nagar (Bangalore)	CBSE

Sanjay Ghodawat International School, Kolhapur; Vikas - The Concept School, Hyderabad; Pushpalata Vidya Mandi, Tirunelveli; Delhi Public School, Sector 45, Gurgaon; Kennedy High - The Global School, Hyderabad; D.A.V. Public School, Chennai; and Abhyas - The Global School, West Godavari won the School Excellence Award in the individual school category.

Registrations for the fifth edition (2022-23) of the contest are open from today.

### ***TCS is a Launch Partner for Microsoft Cloud for Retail***

25 January 2022

Tata Consultancy Services (TCS) is now a partner for the newly-launched Microsoft Cloud for Retail, expanding its collaboration with the hyperscaler.

TCS will combine its deep industry knowledge, and experience from working with leading retailers worldwide and its multi-horizon cloud transformation framework, to help retail clients accelerate their growth and transformation journeys using Microsoft Cloud for Retail. Microsoft Cloud for Retail is a secure industry-specific cloud that brings together various Microsoft technologies, linked by a common data model to connect experiences across the end-to-end shopper journey with integrated and intelligent capabilities.

TCS is a Microsoft Gold Partner and Microsoft Azure Expert Managed Service Partner, recognized for its expertise in delivering the highest quality of service on Azure. It offers a comprehensive set of end-to-end services and intellectual property such as TCS Optumera™, its award-winning AI-powered retail optimization platform, and a host of other accelerators on the retail cloud. TCS' large global team of Microsoft-certified specialists will help clients harness the power of AI, automation, and cloud to provide greater visibility and control of data, uncover deep insights, design dynamic personalized experiences, and drive growth.

TCS will also use its Pace Ports™, a global network of co-innovation hubs that bring together a

# CIMdata PLM Industry Summary

---

collaborative ecosystem of startups, technology partners, and academia to spur innovation.

*“Retailers that make better use of customer data and insights are able to respond faster to changing consumer needs and adapt to the rapidly evolving market,”* said **Shankar Narayanan, Business Group Head, Retail Cluster, TCS**. *“This expanded collaboration will help our retail clients accelerate their transformation agenda with Microsoft Cloud for Retail and allow them to achieve greater responsiveness, adaptability and purpose-led growth.”*

*“We are pleased to welcome TCS as a Microsoft Cloud for Retail partner. Together we will deliver innovative solutions to help retailers address their most pressing challenges, drive resilience and realize growth,”* said **Shelley Bransten, Corporate Vice President, WW Retail & Consumer Goods Industries, Microsoft**. *“We look forward to collaborating with TCS to bring future-first Microsoft Cloud for Retail solutions and services to retailers around the world.”*

TCS’ growing list of retail client successes, built on Microsoft’s industry-leading technology includes The Walgreens Boots Alliance, and UK-based retailers Marks & Spencer and Sainsbury’s.

TCS’ Microsoft Business Unit works with customers worldwide to accelerate their multi-horizon cloud transformation journeys. Its large and growing pool of consultants have led some of the biggest IT transformation programs and pioneering technology initiatives for over 100 clients in the retail industry. TCS recently won the 2021 Microsoft Partner of the Year Award for Azure Intelligent Cloud in France, the Dynamics 365 Field Service in the US, and was named a Finalist for Microsoft’s US Retail and Consumer Goods Partner of the Year.

## ***TECHNIA Support Future Engineers in NTNU SmallSat Project***

25 January 2022

**TECHNIA, the #1 knowledge leaders in PLM and Engineering, announced today it has entered into a sponsorship agreement with NTNU - the Norwegian University of Science and Technology, with headquarters in Trondheim, and campuses in Gjøvik, and Ålesund.**

NTNU specializes as a Technology and Natural Sciences University, providing a variety of programs for professional study. Established in 1760, NTNU is the largest Norwegian university with more than 8,000 employees and over 40,000 students attending.

The NTNU Small Satellite Lab consists of a concurrent design workspace equipped with an ESD-safe area for development and testing of electronic and mechanical parts. Each year, around ten PhD students, two Post Doctorates and many bachelor and masters students join the group to engage in ongoing SmallSat projects.

The group’s main project, “Mission-oriented autonomous systems with small satellites for maritime sensing, surveillance and communication” (MASSIVE) began in 2018. The project brief is to develop the mission, payloads, and required ground surface infrastructure for two satellites: HYPSON-1 and HYPSON-2.

Presently, the group is focused on the upcoming launch of HYPSON-1, whose aim is to observe ocean color and detect harmful algal blooms. With HYPSON-2 scheduled to launch in 2024, there is a shortening of the intended development time.

TECHNIA is working with, and sponsoring NTNU’s Small Satellite Lab to optimize development of their satellites, providing four to five years’ support, training, and licensing for Dassault Systemes’ 3DEXPERIENCE.

*“Supporting Future Engineers is a TECHNIA tradition that we’re proud to continue with NTNU Project MASSIVE. The launch of HYPSON-1 to observe and detect harmful algal blooms in our oceans is vital*

*work, and a phenomenal achievement.”*

**Magnus Falkman**

**Chief Executive Officer | TECHNIA**

*“We at the NTNU SmallSatLab are excited to use 3DEXPERIENCE for the development of the HYPISO-2 satellite. 3DEXPERIENCE will enable us to work concurrently on the design and explore new methods such as Additive Manufacturing for our mechanical design.”*

**Evelyn Honoré-Livermore**

**Project Manager HYPISO-1 | NTNU**

## ***Theorem, LLC Announces Rebrand to TheoremOne with the Acquisition of Formula Partners, Launch of Lemma***

24 January 2022

Theorem, LLC, innovation and engineering partner to the Global 1000, announced that it has rebranded to TheoremOne® following an acquisition of Formula Partners, and launch of its near-shore, pureplay software engineering service, Lemma. The new name positions TheoremOne as the foundation of a family of brands designed to help enterprises build better, more innovative business platforms at scale.

“Our new name positions TheoremOne as the foundation of a family of brands, all inspired by our hypothesis driven model for innovation. Each brand is designed to address the specific needs of our clients at different moments in the lifecycle of enterprise innovation,” said Brady Brim-DeForest, CEO of TheoremOne.

Its newest acquisition, Formula Partners, helps companies create new models for organizational design, continuous improvement, and visionary leadership. Formula Partner’s approach revolves around a modular innovation process called the New Enterprise™, a proprietary model for modern consulting at the nexus of technology and organizational transformation. Formula Partners will become a new independent line of business and will operate under the “Formula Partners” brand.

“We are approaching management consulting from 14 years of *implementing* technology solutions — giving us a deep understanding of the true benefits (and costs) of making strategic recommendations. We’ve built trust with IT and business leaders through hands-on work, and we’re excited to build even broader strategic relationships through Formula Partners,” said Will Jessup, Head of Services Delivery at TheoremOne.

TheoremOne has also launched a new engineering service called Lemma. Lemma offers pureplay software engineering teams staffed exclusively by nearshore engineering talent. Lemma shares a common engineering DNA with TheoremOne but is designed to deliver engineering capacity as a modular service offering that can be deployed to scale existing teams and initiatives for enterprise and growth stage clients.

“Lemma fills a gap in our offerings that the market has illuminated over the last few years,” said Alex Finnemore, TheoremOne’s Head of Revenue. “It’s a compelling option for clients that have already determined the right way to solve a business problem and need a dedicated technology partner, but want to provide their own product, design, and leadership talent.”

Lemma and Formula Partners will join existing divisions Proof (staff augmentation) and Halmos Ventures (innovation incubation) in rounding out TheoremOne’s end-to-end services stack.

As part of the name change, TheoremOne has released a new company logo and launched a new website at [www.theoremone.co](http://www.theoremone.co).

# CIMdata PLM Industry Summary

---

## ***Wipro appoints Badrinath Srinivasan as Managing Director for Southeast Asia***

27 January 2022

Wipro Limited, a leading global information technology, consulting and business process services company, announced the appointment of Badrinath Srinivasan (Badri) as the Managing Director for Southeast Asia.

Badri will focus on Wipro's vision for business growth, revenue expansion, client and influencer relationships, talent development and brand building. Badri will also strengthen the key markets of Southeast Asia focusing on large deals and strategic transformational engagements.

In his most recent role, Badri was the Asia leader for the Financial Services and Insurance verticals at Infosys. Over his nearly twenty-year tenure with the company, Badri held multiple leadership positions in sales and consulting across the United States of America, Europe, and Asia-Pacific markets, and partnered with customers across industry verticals steering their digital transformation agendas. He led strategic initiatives in Asia including driving mergers and acquisitions, creating joint ventures, and establishing strategic partner ecosystems.

“Southeast Asia has been a strategic focus region for Wipro over the years and, even more so now, with the region's growing demand for comprehensive digital transformation solutions, agility and scale, specialized technology requirements and innovation. I'm excited to welcome Badri to lead our Southeast Asia business, and confident that his leadership and deep understanding of the market will help clients succeed and drive our growth ambition in this region,” said **N.S. Bala, CEO, APMEA, Wipro Limited.**

“It is a privilege to join Wipro, an organization that I truly admire for its culture and values. Southeast Asia is seeing significant technology modernization and I am delighted to have the opportunity to work with an outstanding team and our ecosystem of partners as we continue to deliver value for our customers. I look forward to contributing to Wipro's regional expansion as we amplify investments in building local capabilities,” said **Badri Srinivasan.**

Badri holds an Engineering degree in Electronics & Communications and is an MBA from Indian Institute of Management, Lucknow. He is based in Singapore and will report to N.S. Bala, CEO, APMEA.

Southeast Asia is one of the six focus regions that comprise Wipro's APMEA (Asia Pacific, Middle East, India and Africa) Strategic Market Unit. Wipro has been present in Southeast Asia for over a decade, having partnered with leading public and private sector enterprises across multiple industry verticals in their business transformation and digital journeys. Wipro also has a presence in the region through its acquired entities – Capco, Designit, and Topcoder. In line with our growth ambition for the region, we continue to invest in localization, building talent at scale, while strengthening our partnerships and knowledge of regional demands to offer differentiated services and experience to our clients.

## ***Wipro Awarded the Palo Alto Networks EMEA Systems Integrator Partner of the year***

25 January 2022

Wipro Limited, a leading global information technology, consulting and business process services company, announced that it has received the Palo Alto Networks EMEA Systems Integrator Partner of the year for 2021.

Announced during the Palo Alto Networks Ignite '21 Partner Summit, these annual awards are presented to an elite group of Palo Alto Networks partners that, over the past 12 months, have excelled in the

# CIMdata PLM Industry Summary

---

following areas:

- **Performance:** Bookings that partners initiate, the pipeline they build, innovative new services launched and net new customers added.
- **Enablement:** Number of Palo Alto Networks technical, pre-sales, sales and post-sales training courses and certifications completed.
- **Engagement:** Nominated by the Palo Alto Networks team for exceptional engagement with Palo Alto Networks and our customers.

Wipro provides cybersecurity consulting, design, implementation, and managed services to organizations on Next-Generation Firewalls, Prisma Access, Prisma SD-WAN, Prisma Cloud & Cortex XSOAR solutions. In addition, as a Certified Professional Services Partner, Wipro has expanded Palo Alto Network's EMEA business by 400 per cent in FY21 over FY20. This was possible due to a partnership that helped organizations harness technology to drive change through workplace transformation and network modernization.

**Manish Garg, Head of Europe – Cloud & Infrastructure Services, Wipro Ltd.**, said, “We are honoured to be recognized as Palo Alto Networks’ ‘EMEA Systems Integrator Partner of the year – 2021’. This significant recognition underscores our expertise and ongoing commitment to help customers drive transformation that delivers a superior user experience with improved agility, resiliency and efficiency yet highly secured in modern digital era. Through our partnership with Palo Alto Networks, Wipro offers #WANFreedom, an end-to-end managed SDWAN solution. We have also launched Wipro's Managed SASE solution powered by Palo Alto Networks technology which combines a global high-performance network with the next gen security solution to drive digital transformation in Post Pandemic world.”

**John Hermans, Head of Europe – Cybersecurity & Risk Services, Wipro Ltd.**, said, “I would like to thank the Palo Alto Networks team for their constant support, stewardship and unyielding trust in our relationship. Wipro's differentiated service offerings on Palo Alto Networks technology give us an edge against our competition. We are elated and proud to win this prestigious award.”

“At Palo Alto Networks, our partners share our vision of building tomorrow’s cybersecurity today and play a critical role in securing the tech-enabled future of the enterprise,” said **Don Jones, senior vice president, Ecosystems at Palo Alto Networks**. “Organizations rely on Palo Alto Networks technology and our trusted partners to bring the services and solutions that offer flexibility, innovation and security. As we rise to the challenge of modern security, we are innovating against threats and digitally transforming at an unprecedented rate. Being ready for what comes next means being willing to see the world differently. We’re proud to recognize Wipro Ltd., on their Palo Alto Networks EMEA Systems Integrator Partner of the year for delivering valuable business outcomes and helping our mutual customers protect their digital way of life.”

## Event News

### ***Webinar - CFD-Driven Optimization of an Industrial-Grade Compressor from Your Web Browser with Datadvance***

28 January 2022

In this webinar experts from SimScale and Datadvance present a scalable, cloud-integrated workflow for fully automated optimization studies. Learn how connecting Datadvance’s cloud-native low code platform pSeven Enterprise to SimScale’s multiphysics cloud simulation engine using API allows a drastic speedup of simulation and optimization procedures. As an example, an air compressor model is

# CIMdata PLM Industry Summary

---

optimized for efficiency by changing geometric parameters of blades profiles while keeping the initial operational model, i.e. the same pressure drop. By simulating over 100 iterations, the new workflow makes optimization a quick, cost-efficient procedure. Datadvance and SimScale make advanced design exploration accessible to engineers across teams, departments, and regions.

Who Should Attend?

- Engineers working on rotating machinery applications
- Manufacturers and designers of fans, pumps, valves, compressors, and other rotating equipment
- Anyone interested in parametric design optimization
- Engineers wanting to test the performance of rotating equipment
- Anyone interested in simulation and modeling of industrial machinery

## Financial News

### ***Aspen Technology Announces Financial Results for the Second Quarter of Fiscal 2022***

26 January 2022

Aspen Technology, Inc. (AspenTech), a global leader in asset optimization software, announced financial results for its second-quarter of fiscal year 2022, ended December 31, 2021.

“AspenTech delivered strong second quarter results that reflected continued improvement in both customer demand and business conditions in many of our key end markets, which supports our increased outlook for annual spend growth for fiscal 2022. We are confident that the strategic imperative for our customers to operate assets more efficiently and sustainably will drive increased spend that will generate double-digit growth for AspenTech over time.”

Pietri continued, “We are on track to close the proposed transaction with Emerson in our fourth fiscal quarter. We remain excited by the opportunities for the new AspenTech to enable customers to improve the safety, sustainability, reliability and efficiency of their assets. The combination of talented individuals and leading software products and solutions in the OSI and Geological Simulation Software businesses will strengthen AspenTech and collectively enhance our unique ability to improve the profitability and sustainability of our customers. We are also confident this transaction will generate attractive financial performance and significant value for our shareholders over the long-term.”

#### **Second Quarter and Fiscal Year 2022 Recent Business Highlights**

- Annual spend, which the company defines as the annualized value of all term license and maintenance contracts at the end of the quarter, was \$640 million at the end of the second quarter of fiscal 2022, which increased 6.0% compared to the second quarter of fiscal 2021 and 1.7% sequentially.
- AspenTech repurchased approximately 439,000 shares of its common stock for \$65 million in the second quarter of fiscal 2022.

#### **Summary of Second Quarter Fiscal Year 2022 Financial Results**

AspenTech’s total revenue of \$171.4 million included:

- **License revenue**, which represents the portion of a term license agreement allocated to the initial license, was \$116.1 million in the second quarter of fiscal 2022, compared to \$180.2 million in the second quarter of fiscal 2021.

## CIMdata PLM Industry Summary

---

- **Maintenance revenue**, which represents the portion of the term license agreement related to ongoing support and the right to future product enhancements, was \$48.4 million in the second quarter of fiscal 2022, compared to \$46.8 million in the second quarter of fiscal 2021.
- **Services and other revenue** was \$6.9 million in the second quarter of fiscal 2022, compared to \$6.7 million in the second quarter of fiscal 2021.

For the quarter ended December 31, 2021, AspenTech reported income from operations of \$68.5 million, compared to income from operations of \$149.5 million in the second quarter of fiscal 2021.

Net income was \$61.9 million for the quarter ended December 31, 2021, leading to net income per share of \$0.92, compared to net income per share of \$1.89 in the same period last fiscal year.

Non-GAAP income from operations was \$92.2 million for the second quarter of fiscal 2022, compared to non-GAAP income from operations of \$162.2 million in the same period last fiscal year. Non-GAAP net income was \$80.6 million, or \$1.20 per share, for the second quarter of fiscal 2022, compared to non-GAAP net income of \$139.3 million, or \$2.04 per share, in the same period last fiscal year. These non-GAAP results add back the impact of stock-based compensation expense, amortization of intangibles and acquisition and integration planning related fees. A reconciliation of GAAP to non-GAAP results is presented in the financial tables included in this press release.

AspenTech had cash and cash equivalents of \$211.4 million and total borrowings, net of debt issuance costs, of \$285.2 million at December 31, 2021.

During the second quarter, the company generated \$41.3 million in cash flow from operations and \$51.9 million in free cash flow. Free cash flow is calculated as net cash provided by operating activities adjusted for the net impact of: purchases of property, equipment and leasehold improvements; payments for capitalized computer software development costs, and other nonrecurring items, such as acquisition and integration planning related payments.

### **Business Outlook**

Based on information as of today, January 26, 2022, AspenTech is issuing the following guidance for fiscal year 2022:

- Annual spend growth of 7-8% year-over-year
- Free cash flow of \$280 to \$290 million
- Total bookings of \$814 to \$840 million
- Total revenue of \$737 to \$754 million
- GAAP total expense of \$413 to \$418 million
- Non-GAAP total expense of \$340 to \$345 million
- GAAP operating income of \$324 to \$336 million
- Non-GAAP operating income of \$397 to \$409 million
- GAAP net income of \$295 to \$306 million
- Non-GAAP net income of \$353 to \$364 million
- GAAP net income per share of \$4.37 to \$4.53
- Non-GAAP net income per share of \$5.23 to \$5.39

The above guidance does not give effect to the proposed transaction with Emerson, which, if completed, is expected to close during fiscal 2022. These statements are forward-looking and actual results may differ materially. Refer to the Forward-Looking Statements safe harbor below for information on the

## CIMdata PLM Industry Summary

---

factors that could cause AspenTech's actual results to differ materially from these forward-looking statements.

### **Conference Call and Webcast**

AspenTech will host a conference call and webcast today, January 26, 2022, at 4:30 p.m. (Eastern Time), to discuss the company's financial results for the second-quarter fiscal year 2022 as well as the company's business outlook. The live dial-in number is (866) 471-3828 or (678) 509-7573, conference ID code 9639977. Interested parties may also listen to a live webcast of the call by logging on to the Investor Relations section of AspenTech's website, <http://ir.aspentech.com/events-and-presentations>, and clicking on the "webcast" link. A replay of the call will be archived on AspenTech's website and will also be available via telephone at (855) 859-2056 or (404) 537-3406, conference ID code 9639977, through February 2, 2022.

### ***CENIT AG AD-HOC ANNOUNCEMENT: PRELIMINARY RESULTS FOR FISCAL YEAR 2021 DISTINCTLY BETTER THAN EXPECTED***

28 January 2022

After analyzing the preliminary results of the CENIT Group during the still ongoing year-end closing process, the latest forecast for the 2021 fiscal year has been distinctly exceeded.

Group sales are presumably expected to be approximately within the forecast range of 153 million EUR to 155 million EUR and will thus probably be above the forecast range of 6.0 million EUR to 6.3 million EUR EBIT.

Accordingly, the forecast result of 152.0 million EUR and 4.9 million EUR in EBIT would be exceeded. Sales in the previous year amounted to 147.2 million EUR and 3.6 million EUR in EBIT.

The reason for the anticipated positive deviation from the forecast is mainly due to a change in the high-margin additional sales of proprietary software solutions.

All figures are preliminary and unaudited. The final figures and the audited annual and consolidated financial statements for fiscal year 2021 will be published on March 31, 2022.

CENIT AG

The Management Board

### ***Dassault Systèmes to publish its Fourth Quarter and Full Year 2021 Results, Webcast and Conference Call on February 3rd, 2022***

20 January 2022

Dassault Systèmes, the 3DEXPERIENCE Company, world leader in 3D design software, 3D Digital Mock Up and Product Lifecycle Management (PLM) solutions, will publish its operating performance for the fourth quarter and full year 2021, ended December 31<sup>st</sup>, 2021, on Thursday, February 3<sup>rd</sup>, 2022.

The management of Dassault Systèmes will present the earnings by webcast at 10.00 Paris time – 09.00 London time, and will then host a conference call at 09.00 New York time – 15.00 Paris time – 14.00 London time.

Both the webcast and the conference call will be available live and as replay on Dassault Systèmes' investor website.

# CIMdata PLM Industry Summary

---

## ***Guardhat Doubles Revenue as Companies Prioritize ESG, Worker Safety Investments***

26 January 2022

Guardhat, a pioneer of end-to-end connected worker solutions, announced it doubled revenue in 2021, year-over-year, and ended the year with over \$30M in orders under contract. Industrial organizations sought its unified platform to keep frontline workers safe and connected.

The Guardhat Platform has quickly become the platform of choice among high-risk industrial operations – including the oil and gas, chemical, construction, mining and metals, energy, and manufacturing industries. Organizations are looking to the platform for real-time risk management and reporting capabilities to fulfill expanding ESG reporting requirements.

"Our platform creates the IloP – or Industrial Internet of People – for live insight into what workers face with ability to connect, support and collaborate in real-time," said Saikat Dey, co-founder and CEO of Guardhat. "We expect to keep this momentum up by putting the frontline worker at the center of our strategy. We forecast 2-3x revenue growth with margins greater than 75% in the years ahead."

Beyond revenue and orders, in 2021, Guardhat grew its team, user base, and ecosystem of partnerships, secured a patent for its social-distancing application, earned intrinsically safe certifications for its innovative wearable tech, and raised over \$18M in a Series B round.

### **Growth drivers:**

Customer and revenue growth has been fueled by serious injury and fatality rates in high-risk industries. The Guardhat system offers immediate impact as the only human-centric connected worker platform with centralized and extensible safety management and monitoring software, and ruggedized wearable devices from the company or third parties.

In the past year, Guardhat kicked off new projects across multiple industries and continents with customers including Barton Malow, Caterpillar, Big River Steel, Ferrovia, Jardine Schindler, Snap-on, U.S. Steel, two of the largest freight rail networks in North America, one of the world's largest lumber companies, and others.

"The market response Guardhat is seeing aligns with what we've seen at a macro level," said Peter Bussey, principal research analyst, Sustainability, EHS, and Connected Frontline Workforce at LNS Research. "The pandemic brought a resurgence of the EHS business function and the crucial role it plays in risk mitigation. But we are also seeing EHS transformation projects offering a greater ROI at an operational level. Those leading the pack see 6.8 to 18.5 percent better relative performance versus laggards on key operations and financial metrics like net profit margin, capacity utilization, and more.

### **People and product growth:**

To meet demand and expand capabilities, Guardhat hired more than 30 new employees in 2021, with more to come in 2022. New leadership hires to further accelerate platform development and customer adoption include:

- **Doug Matthews** joined as chief growth officer to lead sales, marketing, and solutions teams bringing 30+ years of experience in operations and commercial growth with U.S. Steel, including helping to improve lagging indicator safety results 10x over BLS (Bureau of Labor Statistics) industry standards.
- **Nirmal Chudgar** is the chief product officer at Guardhat. He brings experience in worker safety wearables as a startup founder himself, and experience in product, marketing, systems integration and engineering with Federal Signal and Motorola Solutions.
- **Praveer Kumar** signed on as Guardhat's president of engineering, product, and operations. He

# CIMdata PLM Industry Summary

---

has more than 20 years of experience in technology and solutions development from roles with Acxiom, Yahoo, and Finxeria – where he was a co-founder, board member, and chief product and technology officer.

- **Sarah Kalhorn** serves as chief marketing officer, with experience in industrial technology marketing and communications supporting both F500 and startups, including 3M, Bridgestone, Desktop Metal, nVent, Oshkosh Defense, Pentair, Procore, project44, Rockwell Automation and more.
- And **Tim Shield**, who as vice president of platform strategy and sales, joined from McKinsey & Co. where he was an engagement manager serving a wide array of energy and industrial clients, after serving 6-plus years with the U.S. Navy as a Nuclear Submarine Officer.

The growing Guardhat team will expand adoption, system functionality, ecosystem integrations, while streamlining and improving user-experience and analytics features.

## **An expanding ecosystem:**

In 2021, Guardhat expanded its relationship with Siemens, beyond using the SIMATIC RTLS (Real Time Location Services) in Guardhat devices, with a co-deployment in Singapore. Additionally, Guardhat partnered with domain expert integrator CBT (CB Technologies), global safety solutions provider United Safety, and joined the Deloitte Smart Factory @ Wichita initiative to further expand sales, deployment, and support for customers.

This year also saw integrations with a wide array of leading devices to expand capabilities and adoptability for the Guardhat solutions, including:

- New connected safety devices, including devices from Extronics, Equivital and a leading LoRaWAN device designed for intrinsically safe environments,
- Rombit collision avoidance solutions,
- Two leading dosimeters for mobile radiation dosage detection,
- RKI Instruments mobile gas detectors, as well as three other leading mobile gas detectors,
- RealWear assisted reality wearable devices,
- Vuzix hands-free assisted reality smart glasses,
- And the BioTrac biometric bands from SlateSafety

These integrations add to the existing Guardhat Platform ecosystem, which includes 20+ integrations, including with 3M Peltor headsets and Kestrel sensors, software integrations with SAP EHS Management, IBM Maximo, Microsoft Azure, AWS, and more.

## **Awards, recognitions, and certifications:**

This past year, the company was recognized by OH&S (Occupational Health and Safety) magazine IoT (Internet of Things) Product of the Year awards, Tracxn Top Emerging Startups 2021, the National Safety Council's Green Cross for Safety awards, Plant Engineering's Product of the Year awards.

Guardhat achieved System and Organization Controls (SOC) 2 Type I for security and confidentiality compliance, and received Class 1 Division 1, IECEx and ATEX Zone 1 certifications for its Communicator smart hardhat for use in hazardous locations in partnership with i.safe MOBILE GmbH.

# CIMdata PLM Industry Summary

## IBM RELEASES FOURTH QUARTER RESULTS

24 January 2022

IBM announced fourth-quarter 2021 earnings results.

"We increased revenue in the fourth quarter with hybrid cloud adoption driving growth in software and consulting," said Arvind Krishna, IBM chairman and chief executive officer. "Our fourth-quarter results give us confidence in our ability to deliver our objectives of sustained mid-single digit revenue growth and strong free cash flow in 2022."

On November 3, 2021, IBM completed the separation of Kyndryl. Unless otherwise specified, fourth-quarter and full-year results are presented on a continuing operations basis.

### Fourth-Quarter Highlights

- Revenue
  - Revenue of \$16.7 billion, up 6.5 percent, up 8.6 percent at constant currency (including about 3.5 points from incremental external sales to Kyndryl)
  - Software revenue up 8 percent, up 10 percent at constant currency (including about 5 points from incremental external sales to Kyndryl)
  - Consulting revenue up 13 percent, up 16 percent at constant currency
  - Infrastructure revenue flat, up 2 percent at constant currency (including about 5 points from incremental external sales to Kyndryl)
  - Hybrid cloud revenue:
    - Fourth Quarter: \$6.2 billion, up 16 percent, up 18 percent at constant currency
    - Full Year: \$20.2 billion, up 20 percent, up 19 percent at constant currency
- Pre-tax Income:
  - GAAP: \$2.9 billion, up 183 percent, including 167 points from the impact of fourth-quarter 2020 charge for structural actions
  - Operating (Non-GAAP): \$3.5 billion, up 102 percent, including 92 points from the impact of fourth-quarter 2020 charge for structural actions

### FOURTH QUARTER 2021 INCOME STATEMENT SUMMARY

	Revenue	Gross Profit	Pre-tax Income**	Pre-tax Income Margin**	Net Income**	Diluted EPS*
<b>GAAP from Continuing Operations</b>	<b>\$16.7B</b>	<b>\$9.5B</b>	<b>\$2.9B</b>	<b>17.2%</b>	<b>\$2.5B</b>	<b>\$2.72</b>
Year/Y	6.5%*	2.8	183%	10.7 Pt	107%	106%

# CIMdata PLM Industry Summary

Year					%					s				
<b>Operating</b>														
<b>(Non-GAAP)</b>														
						<b>\$9.7</b>								
						<b>B</b>				<b>\$3.5B</b>			<b>21.2%</b>	
													<b>\$3.0B</b>	<b>\$3.35</b>
Year/Year						2.8				10.0 Pt				
Year						%				s			80%	78%

\* 8.6% at constant currency

\*\* Year-to-year results include impact of \$1.5 billion pre-tax charge for structural actions in fourth quarter of 2020

"In 2021, we continued to invest for the future by increasing R&D spending, expanding our ecosystem and acquiring 15 companies to strengthen our hybrid cloud and AI capabilities," said James Kavanaugh, IBM senior vice president and chief financial officer. "With the separation of Kyndryl we now have taken the next step in the evolution of our strategy, creating value through focus and strengthening our financial profile."

## Segment Results for Fourth Quarter

- *Software (includes Hybrid Platform & Solutions, Transaction Processing)*— revenues of \$7.3 billion, up 8.2 percent, up 10.1 percent at constant currency (including about 5 points from incremental external sales to Kyndryl):
  - Hybrid Platform & Solutions up 7 percent, up 9 percent at constant currency (including about 1 point from incremental external sales to Kyndryl):
    - Red Hat up 19 percent, up 21 percent at constant currency
    - Automation up 13 percent, up 15 percent at constant currency
    - Data & AI up 1 percent, up 3 percent at constant currency
    - Security down 2 percent, down 1 percent at constant currency
  - Transaction Processing up 11 percent, up 14 percent at constant currency (including about 16 points from incremental external sales to Kyndryl)
  - Software segment hybrid cloud revenue up 22 percent, up 24 percent at constant currency
- *Consulting (includes Business Transformation, Technology Consulting and Application Operations)*— revenues of \$4.7 billion, up 13.1 percent, up 15.7 percent at constant currency:
  - Business Transformation up 18 percent, up 20 percent at constant currency
  - Technology Consulting up 14 percent, up 19 percent at constant currency
  - Application Operations up 6 percent, up 8 percent at constant currency
  - Consulting segment hybrid cloud revenue up 31 percent, up 34 percent at constant currency
- *Infrastructure (includes Hybrid Infrastructure, Infrastructure Support)*— revenues of \$4.4 billion, down 0.2 percent, up 1.7 percent at constant currency (including about 5 points from incremental external sales to Kyndryl):
  - Hybrid Infrastructure flat, up 2 percent at constant currency (including about 4 points from incremental external sales to Kyndryl)
    - IBM Z down 6 percent, down 4 percent at constant currency
    - Distributed Infrastructure up 5 percent, up 7 percent at constant currency
  - Infrastructure Support down 1 percent, up 1 percent at constant currency (including about 6 points from incremental external sales to Kyndryl)
  - Infrastructure segment hybrid cloud revenue down 12 percent, down 11 percent at constant

currency

- *Financing (includes client and commercial financing)*— revenues of \$0.2 billion, down 29.4 percent, down 28.8 percent at constant currency

## **Cash Flow and Balance Sheet**

On a consolidated basis, full-year cash from operating activities was \$12.8 billion and free cash flow was \$6.5 billion. These consolidated results include ten months of Kyndryl results, and reflect cash paid in 2021 for separation charges and fourth-quarter 2020 structural actions.

IBM's post-separation baseline free cash flow for the year was \$7.9 billion excluding Kyndryl charges and pre-separation activity. This view is aligned to the company's go-forward business. Payments for IBM-related structural actions and deferred cash taxes paid in 2021 contributed to the year-to-year decline in the post-separation baseline free cash flow.

IBM ended the year with \$7.6 billion of cash on hand (which includes marketable securities), down \$6.7 billion from year-end 2020, reflecting acquisitions of \$3.3 billion and debt reduction payments consistent with the company's previously-stated intention to deleverage. Debt, including Financing debt of \$13.9 billion, totaled \$51.7 billion, down \$9.6 billion since the end of 2020, and down more than \$21 billion since closing the Red Hat acquisition. The company returned \$5.9 billion to shareholders in dividends.

## **Full-Year 2022 Expectations**

The company will discuss 2022 expectations during today's quarterly earnings conference call.

## **Continuing Operations**

With the separation completed on November 3, 2021, Kyndryl's operational activity has been reclassified to IBM's discontinued operations results in accordance with U.S. Generally Accepted Accounting Principles (GAAP). As discussed in previous communications, discontinued operations does not include historical intercompany transactions between IBM and Kyndryl (e.g., purchases of IBM hardware and software) which were previously eliminated in consolidation. It also does not include the spending for shared services (e.g., finance, marketing, human resources, global sales coverage) that has already been transferred to Kyndryl. IBM results on a continuing operations basis after separation reflect the new commercial relationship with Kyndryl and do not include shared services costs, which have been transferred to Kyndryl.

## **Presentation of Information in this Press Release**

In an effort to provide investors with additional information regarding the company's results as determined by generally accepted accounting principles (GAAP), the company has also disclosed in this press release the following non-GAAP information, which management believes provides useful information to investors:

IBM results —

- adjusting for currency (i.e., at constant currency);
- presenting operating (non-GAAP) earnings per share amounts and related income statement items;
- consolidated free cash flow;
- post-separation baseline free cash flow.

The rationale for management's use of these non-GAAP measures is included in Exhibit 99.2 in the Form 8–K that includes this press release and is being submitted today to the SEC.

## **Conference Call and Webcast**

IBM's regular quarterly earnings conference call is scheduled to begin at 5:00 p.m. EST, today. The

# CIMdata PLM Industry Summary

---

Webcast may be accessed via a link at <https://www.ibm.com/investor/events/earnings-4q21>.  
Presentation charts will be available shortly before the Webcast.

## ***IFS Delivers Another Market Beating Year With Software Growth At 22%***

25 January 2022

IFS, the global cloud enterprise software company, announced its financial results for the full year ending December 31, 2021.

The company saw a 22% growth in software revenue in 2021, with cloud revenue going strong at a 105% increase year on year despite Covid-19 headwinds. Our ability to enable our customers to deliver outstanding Moments of Service™ quarter after quarter has been essential for IFS in achieving sustained growth over the last two years, with a 2020/2021 CAGR (compound annual growth rate) of 22% in software revenue and 36% in recurring revenue.

Across industries, companies evolved their business models by leveraging digital technologies and driving innovation into their services, outcomes and/or products in a bid to differentiate and gain competitive advantage in uncertain times. The need for companies to build adaptability in their organizational set up, as well as agility in their responses to shifting customer and consumer demands became crystal clear.

IFS stayed true to its commitment to accelerate its customers' time to value, and its unwavering industry focus has continued to deliver solutions that not only meet customers' needs as they navigate their new business normal, but also enable them to proactively plan and transform for the medium and longer term.

Some key milestones for IFS in 2021 included:

- **In February:** The company's rebranding celebrated 30+ years of success brought together under the promise of always delivering great Moments of Service™. The launch itself was acclaimed and secured multiple awards\*\*.
- **In March:** The launch of IFS Cloud™, a tech rich single cloud product with embedded digital innovation that delivers a clear path to Evergreen and a lower TCO. The product also earned the company several awards\*\*\*.
- **In April:** The launch of IFS's sustainability strategy and pledge to become carbon neutral by 2025 as well as the appointment of Lewis Pugh as IFS's sustainability ambassador.
- **In June:** The acquisition of ITSM and ITOM provider Axios Systems to extend the company's service offering.
- **In July:** The acquisition of Customerville, already used by IFS in its Voice of the Customer program, and poised to help IFS customers deliver great Moments of Service™.
- **In October:** The company announced the winners of its first Change for Good Sustainability Awards which saw over 35 global companies partake, as well as the launch of IFS Cloud's latest release including the new sustainability module.
- **In November:** The launch of IFS assyst 11.4 which brings digitised IT self-service to the entire organisation through a much-simplified enterprise pricing model.

IFS CEO Darren Roos commented: "Four consecutive years of double-digit growth is something the entire organization is hugely proud of, particularly in view of the challenging circumstances we've experienced since 2020. He added: "in 2021, our goal to help companies deliver their greatest Moments of Service™ also became a reality through our M&A strategy. We successfully integrated two companies into IFS and, since our acquisition of Axios systems in June, have increased subscription

# CIMdata PLM Industry Summary

---

bookings for IFS assyst by 236 percent compared to the same period in 2020.” Roos continued: “the numbers paint the picture of a strong and healthy business and I am particularly delighted that we are not compromising on any other metrics to achieve this level of sustained growth.”

IFS Chief Financial Officer, Constance Minc, commented: “The 2021 results are very important because they cement IFS’s impressive performance trajectory with another year of double-digit software revenue growth while continuing to expand our margins. Our commitment to lead the industry in customer satisfaction, growth and profitability is unchanged.”

Throughout the year, IFS has continued to nurture its customer-first culture by strengthening its service organization and its partner ecosystem as well as maintaining an active involvement in the work delivered by the IFS Foundation in Sri Lanka, a nation that is home to over 1,500 IFS employees.

Financial\* and Operational Highlights for FY 2021:

- FY2021 software revenue was SEK bn 4.928, an increase of 22 percent versus 2020
- FY2021 recurring revenue was SEK bn 4.061, an increase of 30 percent versus 2020
- FY2021 cloud revenue increased 105% percent versus 2020
- FY2021 net revenue was SEK bn 6.767, an increase of 14 percent versus 2020

\*Note: all figures based in Swedish Krona and reported in constant currency.

In line with WorkWave establishing itself as a standalone business at the end of Q2 2021, the performance reported above excludes WorkWave’s contribution to the IFS Group. Performance including WorkWave saw software revenue grow at 32% YTD and the IFS Group reach \$984M USD revenue in 2021.

\*\* IFS branding launch - 5 Hermes Creative Awards – 4 platinum and 1 gold.

\*\*\* IFS Cloud - Tech Ascension, Cloud Innovation Award & The SAMMY Technology Award.

## ***PTC ANNOUNCES FIRST FISCAL QUARTER 2022 RESULTS***

26 January 2022

PTC reported financial results for its first fiscal quarter ended December 31, 2021.

"Our fiscal 2022 is off to a solid start with our key operating and financial metrics showing strong performance. In Q1, we delivered constant currency ARR growth of 16% to end the quarter at \$1.51 billion, plus operating cash flow of \$138 million and adjusted free cash flow of \$145 million," said James Heppelmann, President and CEO, PTC.

"In Q1 we saw growth across our product portfolio and in all geographies over the same period last year as our customers continue to invest in our offerings to drive their digital transformation initiatives", continued Heppelmann. "Demand for SaaS offerings is high as shown by high growth rates of our cloud-native Onshape and Arena products, and our CAD and PLM businesses continue to outpace market growth."

"We are accelerating our multi-year SaaS transformation, and our strong performance this quarter has enabled us to raise the low end of our constant currency ARR guidance and positions us well to deliver on our cash flow targets for 2022," concluded Heppelmann.

### **First Quarter 2022 Highlights<sup>1</sup>**

Key operating and financial highlights are set forth below. For additional details, please refer to the Q1'22 earnings presentation and financial data tables that have been posted to the Investor Relations section of our website at [investor.ptc.com](http://investor.ptc.com).

## CIMdata PLM Industry Summary

---

- **ARR** was \$1,496 million at the end of Q1'22, up 12% compared to Q1'21. On a constant currency basis, ARR was \$1,507 million, up 16% compared to Q1'21, and above guidance of \$1,500 million. Organic constant currency growth was 11%.
- **Cash flow** from operations was \$138 million, free cash flow was \$134 million, and adjusted free cash flow was \$145 million in Q1'22, compared to Q1'21 cash flow from operations of \$114 million, free cash flow of \$111 million, and adjusted free cash flow of \$121 million.
- **Revenue** was \$458 million in Q1'22 compared to \$429 million in Q1'21, representing growth of 7%, or 8% in constant currency. Revenue is impacted by ASC 606.
- **Operating margin** was 14% in Q1'22, compared to 21% in Q1'21, primarily driven by \$34 million of restructuring expense. Non-GAAP operating margin in Q1'22 was 35%, compared to 36% in Q1'21. Operating margin is impacted because revenue is impacted by ASC606.
- **Earnings per share** was \$0.39 in Q1'22, compared to \$0.20 in Q1'21. Non-GAAP earnings per share in Q1'22 was \$0.95, compared to \$0.97 in Q1'21. EPS is impacted because revenue is impacted by ASC606.
- **Total cash and cash equivalents** as of the end of Q1'22 was \$296 million. In addition, we held an equity investment in Matterport, Inc., valued at \$87 million as of December 31, 2021. Gross debt was \$1.45 billion as of the end of Q1'22.
- **Stock repurchases** were \$120 million in Q1'22. An additional \$5 million of repurchases made in Q1'22 was settled early in Q2'22.

### Q2'22 and Fiscal 2022 Guidance

"PTC delivered strong first quarter results modestly exceeding our expectations," said Kristian Talvitie, EVP and CFO, PTC. "While we are reducing the range for the total restructuring charge from \$45 to \$50 million to \$40 to \$45 million, and the expected restructuring related cash payments from \$50 to \$55 million to \$45 to \$50 million, from a cash flow perspective, we continue to expect approximately \$430 million of cash from operations, approximately \$400 million of Free Cash Flow, and approximately \$450 million of Adjusted Free Cash Flow for the full fiscal year of 2022."

In millions	FY'22 Previous Guidance	FY'22 Guidance	FY'22 YoY Growth	Q2'22 Guidance
ARR at constant currency <sup>(1)</sup>	\$1,615 - \$1,660	\$1,625 - \$1,660	11% - 13%	\$1,540 - \$1,550
Cash from Operations <sup>(2)</sup>	~\$430	~\$430	~17%	~\$143
Free Cash Flow <sup>(2)</sup>	~\$400	~\$400	~16%	~\$135
Adjusted Free Cash Flow <sup>(2)</sup>	~\$450	~\$450	~15%	~\$155
Revenue	\$1,850 - \$1,975	\$1,870 - \$1,975	3% - 9%	

(1) On a constant currency basis, using our FY'22 Plan foreign exchange rates for all periods. Based on foreign exchange rate fluctuations as of the end of Q1'22, we currently expect a \$13 million headwind, relative to our constant currency ARR guidance for FY'22, and a \$12 million

# CIMdata PLM Industry Summary

---

headwind, relative to our constant currency ARR guidance for Q1'22.

- (2) Free cash flow and adjusted free cash flow guidance are net of expected capex of approximately \$30 million in FY'22 and \$8 million in Q2'22. FY'22 cash from operations and free cash flow guidance include expected restructuring and acquisition-related payments of approximately \$45 million - \$50 million, which are excluded from FY'22 adjusted free cash flow guidance. Q2'22 cash from operations and free cash flow guidance include expected restructuring and acquisition-related payments of approximately \$20 million, which are excluded from Q2'22 adjusted free cash flow guidance.

Our FY'22 financial guidance includes the assumptions below.

## Q2'22 Guidance and Assumptions:

- Fiscal Q2 constant currency ARR of approximately \$1,540 million to \$1,550 million. Based on foreign exchange rate fluctuations as of the end of Q1'22, we currently expect a \$12 million headwind in Q2'22 compared to constant currency ARR guidance for fiscal Q2'22.
- Fiscal Q2 adjusted free cash flow of approximately \$155 million, which excludes expected restructuring and acquisition-related payments of approximately \$20 million occurring in Q2.

## FY'22 Guidance and Assumptions:

- Low end of constant currency FY'22 ARR guidance raised, reflecting our ARR performance in Q1'22 and forecast for the full year.
- Low end of FY'22 revenue guidance raised, reflecting our ARR and professional services performance in Q1'22, as well as our forecast for the full year.
- We provide full year ARR guidance on a constant currency basis, using our FY'22 Plan foreign exchange rates for all periods. Based on foreign exchange rate fluctuations as of the end of Q1'22, we currently expect a \$13 million headwind, relative to our constant currency ARR guidance for FY'22.
- Collections are expected to be higher in 1H FY22 due to invoicing seasonality
- We expect churn to improve by approximately 100 basis points over FY'21.
- At the mid-point of ARR guidance, we expect FY'22 GAAP operating expenses to increase approximately 4-5% and non-GAAP operating expense to increase approximately 2-3% over FY'21.
- Costs are expected to ramp throughout the year due to hiring and increased SaaS investments.
- Total estimated pre-tax adjustments of \$275 million - \$280 million outlined below, as well as any additional tax effects and discrete tax items (which are not known or reflected).
- Fluctuations in the value of our Matterport investment are excluded from both GAAP and non-GAAP guidance as they cannot be predicted.
- Related to the restructuring, we expect:
  - In FY'22, our GAAP tax rate is expected to be approximately 20% and our non-GAAP tax rate is expected to be approximately 19%.
  - Capital expenditures are expected to be approximately \$30 million.
  - For the remainder of FY'22, we will focus on de-levering. In FY'23 and on a go-forward basis, assuming our Debt/EBITDA is below 3x, we will target to return approximately 50% of our FCF

# CIMdata PLM Industry Summary

---

to shareholders via share repurchases.

## **PTC's Fiscal First Quarter Results Conference Call**

The Company will host a conference call to discuss results at 5:00 pm ET on Wednesday, January 26, 2022.

To participate in the live conference call, dial (888) 330-2508 or (240) 789-2735 and provide the passcode 7328695, or log in to the webcast, available on PTC's Investor Relations website. A replay will also be available.

## ***Rockwell Automation Reports First Quarter 2022 Results***

27 January 2022

Rockwell Automation, Inc. reported first quarter fiscal 2022 results.

"Rockwell had an excellent start to fiscal 2022, with first quarter sales up 18.7% and orders up over 40% to a quarterly record of \$2.5 billion. All three business segments delivered double-digit sales growth and continued exceptional execution in this challenging supply chain environment," said Blake Moret, Chairman and CEO.

### **Fiscal 2022 Q1 Financial Results**

Fiscal 2022 first quarter sales were \$1,857 million, up 18.7% from \$1,565 million in the first quarter of fiscal 2021. Organic sales increased 16.8%, currency translation decreased sales by 0.7%, and acquisitions increased sales by 2.6%.

Fiscal 2022 first quarter net income attributable to Rockwell Automation was \$242 million or \$2.05 per share, compared to \$593 million or \$5.06 per share in the first quarter of fiscal 2021. The decreases in net income attributable to Rockwell Automation and Diluted EPS were primarily due to lower fair value gains in fiscal 2022 versus fiscal 2021 in connection with our investment in PTC (the "PTC adjustments"). Fiscal 2022 first quarter Adjusted EPS was \$2.14, down 10.1% compared to \$2.38 in the first quarter of fiscal 2021. First quarter of fiscal 2021 included a non-recurring legal settlement gain of \$0.45. Adjusted EPS was up 11% year over year excluding the prior year non-recurring legal settlement gain.

Pre-tax margin was 15.2% in the first quarter of fiscal 2022 compared to 44.8% in the same period last year. The decrease in pre-tax margin was primarily due to the PTC adjustments.

Total segment operating earnings were \$355 million in the first quarter of fiscal 2022, up 14.8% from \$309 million in the same period of fiscal 2021. Total segment operating margin was 19.1% compared to 19.8% a year ago. The decrease in margin was primarily driven by higher planned spend and negative price/cost, partially offset by higher sales.

Cash flow generated by operating activities in the first quarter of fiscal 2022 was \$(12) million, compared to \$347 million in the first quarter of fiscal 2021. Free cash flow in the first quarter of fiscal 2022 was \$(49) million, compared to \$319 million in the same period last year. Decreases in cash flow from operating activities and free cash flow were due to the payout of the fiscal 2021 bonus in fiscal 2022, higher working capital and timing of income tax payments.

### **Fiscal Year 2022 Outlook**

The table below provides guidance for sales growth and earnings per share for fiscal 2022. Our guidance reflects strong demand as well as record backlog. Supply chain challenges remain dynamic, and our projections assume gradual improvement over the course of the year.

**Guidance**

**Prior Guidance**

---

# CIMdata PLM Industry Summary

---

Reported sales growth	16% - 19%	16% - 19%
Organic sales growth	14% - 17%	14% - 17%
Inorganic sales growth	~2%	~2%
Currency translation	~0%	~0%
Diluted EPS <sup>1</sup>	\$10.01 - \$10.61	\$9.91 - \$10.51
Adjusted EPS	\$10.50 - \$11.10	\$10.50 - \$11.10

<sup>1</sup>Updated to include changes in purchase accounting amortization and the Q1 impact of the change in fair value of our investments, primarily PTC.

"We expect very strong growth this year, with total sales up 17.5% at the midpoint of our guidance range despite significant supply chain constraints. I'm proud of how our teams are not only mitigating these challenges, but also taking our profitable growth to a whole new level," Moret continued.

Following is a discussion of first quarter results for our business segments.

## **Intelligent Devices**

Intelligent Devices first quarter fiscal 2022 sales were \$900 million, an increase of 24.7% compared to \$722 million in the same period last year. Organic sales increased 25.6% and currency translation decreased sales by 0.9%. Segment operating earnings were \$213 million compared to \$140 million in the same period last year. Segment operating margin increased to 23.7% from 19.4% a year ago, primarily due to higher sales, partially offset by negative price/cost.

## **Software & Control**

Software & Control first quarter fiscal 2022 sales were \$514 million, an increase of 16.5% compared to \$441 million in the same period last year. Organic sales increased 8.4%, currency translation decreased sales by 0.7%, and acquisitions increased sales by 8.8%. Segment operating earnings were \$118 million compared to \$133 million in the same period last year. Segment operating margin decreased to 22.9% from 30.2% a year ago, driven by higher planned spend, the impact of acquisition integration costs, and negative price/cost, partially offset by higher sales.

## **Lifecycle Services**

Lifecycle Services first quarter fiscal 2022 sales were \$443 million, an increase of 10.1% compared to \$403 million in the same period last year. Organic sales increased 10.3%, currency translation decreased sales by 0.6%, and an acquisition increased sales by 0.4%. Segment operating earnings were \$24.5 million compared to \$36.0 million in the same period last year. Segment operating margin decreased to 5.5% from 8.9% a year ago, primarily related to higher planned spend, unfavorable project mix, and higher input costs, partially offset by higher sales.

## **Supplemental Information**

Corporate and Other - Fiscal 2022 first quarter corporate and other expense was \$29.4 million compared to \$28.0 million in the first quarter of fiscal 2021.

Purchase Accounting Depreciation and Amortization - Fiscal 2022 first quarter purchase accounting depreciation and amortization expense was \$26.1 million, up \$14.4 million from the first quarter of fiscal 2021.

Tax - On a GAAP basis, the effective tax rate in the first quarter of fiscal 2022 was 15.4% compared to 15.8% in the first quarter of fiscal 2021. The Adjusted Effective Tax Rate for the first quarter of fiscal

# CIMdata PLM Industry Summary

---

2022 was 15.3% compared to 15.4% in the prior year.

Share Repurchases - During the first quarter of fiscal 2022, the Company repurchased approximately 0.2 million shares of its common stock at a cost of \$49.4 million. At December 31, 2021, \$503 million remained available under our existing share repurchase authorization.

ROIC - Return on invested capital was 20.6%.

Non-GAAP Measures - Organic sales, total segment operating earnings, total segment operating margin, Adjusted Income, Adjusted EPS, Adjusted Effective Tax Rate, free cash flow, free cash flow conversion, and return on invested capital are non-GAAP measures that are reconciled to GAAP measures in the attachments to this release.

Organic ARR - Annual recurring revenue (ARR) is a key metric that enables measurement of progress in growing our recurring revenue business. It represents the annual contract value of all active recurring revenue contracts at any point in time. Recurring revenue is defined as a revenue stream that is contractual, typically for a period of 12 months or more, and has a high probability of renewal. The Probability of renewal is based on historical renewal experience of the individual revenue streams, or management best estimates if historical renewal experience is not available. Organic ARR growth is calculated as the dollar change in ARR, adjusted to exclude the effects of currency translation and acquisitions, divided by ARR as of the prior period. The effects of currency translation are excluded by calculating Organic ARR on a constant currency basis. When we acquire businesses, we exclude the effect of ARR in current period for which there was no comparable ARR in the prior period. Organic ARR growth is also used as a financial measure of performance for our annual incentive compensation. Because ARR is based on annual contract value, it does not represent revenue recognized during a particular reporting period or revenue to be recognized in future reporting periods and is not intended to be a substitute for revenue, contract liabilities, or backlog.

## **Conference Call**

A conference call to discuss the quarterly results will be held at 8:30 a.m. Eastern Time on January 27, 2022. The call will be an audio webcast and accessible on the Rockwell Automation website.

Presentation materials will also be available on the website prior to the call.

Interested parties can access the conference call by dialing the following numbers: (888) 330-2022 in the U.S. and Canada; (646) 960-0690 for other countries. Use the following passcode: 5499533. Please dial in 10 minutes prior to the start of the call.

Both the presentation materials and a replay of the call will be available on the Investor Relations section of the Rockwell Automation website through February 27, 2022.

## ***Sandvik announces a new member of the Board of SMT – the new company planned to be listed in 2022***

28 January 2022

As previously communicated, the Sandvik Board intends to formally propose the distribution and listing of its business area Sandvik Materials Technology (SMT) at a shareholders' meeting, with the target to complete the listing in the second or third quarter of 2022, subject to shareholder approval. The listing is planned to be made at the Nasdaq Stockholm Exchange.

On November 9, 2021, it was announced that Andreas Nordbrandt had been appointed Chairman of the Board of SMT, and that Claes Boustedt and Karl Åberg had been appointed board members.

As part of this process, the Sandvik Board of Directors has now in addition appointed Kerstin Konradsson as a new member of the SMT Board.

# CIMdata PLM Industry Summary

---

Kerstin Konradsson, born 1967, holds a M.Sc in Metallurgy from the KTH Royal Institute of Technology in Stockholm. She has significant experience from the metals industry, with her previous roles including President of Boliden Smelters at Boliden, President of Cast Rolls Europe & Asia at Åkers, and Vice President of Metallurgy at SSAB Oxelösund. She has also been a board member at Swedish metal powders company Höganäs, and is currently a board member at the Belgian industrial minerals group Sibelco.

Additional members of the SMT Board will be appointed at a later stage to fulfil any requirements and ensure a suitable board composition.

## Implementation Investments

### ***American Woodmark Carving Out Improved Supply Chain Efficiency with Tecsys' Elite™ WMS***

27 January 2022

Tecsys Inc., an industry-leading supply chain management software company, is delighted to announce that Winchester Virginia-based kitchen and bath cabinet manufacturer and distributor American Woodmark Corporation has begun a national supply chain transformation initiative to drive operational efficiency across its major warehousing and distribution facilities by leveraging Tecsys' warehouse management software, Elite™ WMS. Having initiated the supply chain execution system overhaul in April 2021, the company seeks to expand the Tecsys environment in order to optimize logistics resources and provide a platform for continued growth.

“Our industry faces margin pressure by way of materials, logistics and labor, so it is incumbent on us to seek out ways to control operational costs,” explains Mike Feighery, VP Supply Chain at American Woodmark Corporation. “Addressing supply chain inefficiencies with Tecsys software gives us a means to optimize our operations in response to the shifting conditions. It gives us better flexibility, visibility, and the platform to be able to scale in size or complexity depending on the market.”

The Tecsys solution will be progressively deployed across all American Woodmark distribution facilities, optimizing intra-network logistics and streamlining warehouse and delivery management. This supply chain transformation project improves business intelligence for benchmarking industry KPIs, breaks down warehousing and distribution silos, and provides end-to-end asset and inventory visibility. The comprehensive rollout will afford American Woodmark the functionality to be effective stewards of supply chain resources in the context of market and global volatility.

“An effective national distribution strategy combines buildings, technology, people, infrastructure, and everything in between,” explains Bill King, chief revenue officer at Tecsys. “As we work with American Woodmark, we are delighted that our robust and scalable Elite™ WMS solution is part of this formula for success. The scope of this project will provide significant operational and financial benefit as it rolls out, and we look forward to supporting American Woodmark's supply chain optimization journey.”

### ***Ansys Boosts Wistron Corporation's 5G Cellphone Antenna Development***

27 January 2022

Wistron Corporation, a smart handheld device manufacturer, is using Ansys simulation software to automate 5G cellular antenna power density analysis and optimize signal coverage. Ansys HFSS enables Wistron Corporation to simulate and measure antenna performance faster than more expensive, low-yield, instrument-driven alternatives. With Ansys, Wistron Corporation realizes a significant savings in both time and costs.

# CIMdata PLM Industry Summary

---

While the market for 5G phone technology is growing, the measurement and analysis of 5G antenna design remains difficult due to the complexity of the 5G cellular beam configuration required. Using traditional test instruments to ensure signal coverage of the device meets the specific FCC requirements needed for release can take months. Wistron Corporation turned to Ansys to reduce simulation in real time—cutting time to market and costs.

Wistron Corporation is using Ansys simulation solutions to optimize antenna performance with HFSS-encrypted modules provided by module manufacturers. With Ansys, Wistron can more reliably tune the location and orientation of the modules to achieve the correct power density and optimize the signal coverage needed for FCC-compliant performance.

“Ansys HFSS provides high-fidelity results needed for antenna performance verification, while massively speeding up the 5G cellphone design cycle,” said Howard Liu, vice president of vertical business group at Wistron. “Replacing our traditional measurement tools with simulation helps us to produce 5G phones with greater efficiency and reinforces customers’ competitive advantages in the market. We look forward to expanding our use of Ansys products to more projects in the future.”

Ansys HFSS is a 3D electromagnetic (EM) simulation software for designing and simulating high-frequency electronic products. HFSS offers a novel solution for predictively accurate and reliable analysis of antenna arrays used in a number of 5G applications, from automotive radar sensors to satellite communications.

“The complexities of 5G technologies are growing as more and more advancements are realized in this emerging market,” said Shane Emswiler, senior vice president of products at Ansys. “As a result, OEMs and ODMs like Wistron Corporation are challenged to work through numerous product testing validations and certifications. The Ansys HFSS simulation suite provides a comprehensive set of solvers needed to address diverse electromagnetic problems in 5G antenna technology that can significantly decrease time to market and meet the real-time demands of consumers.”

## ***Bally Takes a Step Forward in Customer Service with Oracle Retail***

26 January 2022

Founded in 1851, Bally is one of the world’s longest-running luxury brands offering shoes, bags, accessories, and ready-to-wear fashion. While the brand evolves to reach multiple generations, it continues to focus on unmatched quality and customer service. To deliver on this promise, Bally is replacing its current Retail Point of Service (POS) systems with Oracle Retail Xstore across 18 countries. With the mobile Oracle systems, Bally associates will have easy access to the data they need to understand customer preferences better and move freely to help customers find the merchandise they are seeking—be it in-store or online—and check-out with ease.

“The boutiques are a real destination, where customers can enjoy a personalized shopping experience, interact with the sales staff, and feel the quality of the products first-hand,” said Nicolas Giroto, CEO of Bally. “With the Oracle retail POS solutions, store associates will always be able to guide the customers throughout the shopping experience, offer first-class omnichannel services by combining physical and digital experiences, and process payments quickly.”

Accenture, a long-time Oracle PartnerNetwork (OPN) member with unparalleled capabilities in delivering complex, global transformations at-scale with Oracle technologies, will lead the strategic, multinational deployment and oversee the change management process.

Technology plays a key role in helping Bally align with customers' ever-changing preferences and deliver the service and experiences its customers expect. After reviewing multiple options in the market, Bally chose to replace its more than 500 POS systems with Oracle Retail Xstore Point-of-

# CIMdata PLM Industry Summary

---

Service and Oracle Retail Xstore Office. Critical in this decision was the technology's reputation in the market and unique reference library, which offers built-in processes and retail-specific best practices that will support a successful roll-out and ongoing support by Bally's small IT team.

"When we embarked on the selection process, we were looking for a technology provider who could deliver against our vision and our reality of today. We believe Oracle can do both in the timeframe we need to support the business," Girotto continued.

"As the consumer landscape continues to evolve, retailers need to manage the pace of change while keeping the customer at the core of their operations. At Oracle, we are focused on delivering a platform that delivers agility, scale, and operational excellence retailers need to do exactly that," said Mike Webster, senior vice president, and general manager, Oracle Retail. "Our strategy is to build a platform that allows retailers like Bally to leverage our pre-built integration capabilities and common data model so they can focus on growing their business with Oracle."

## ***Db™ Kicks off their PLM Adventure with Centric Software®***

25 January 2022

Progressive travel gear brand Db has selected Centric Software's Product Lifecycle Management (PLM) solution.

Centric Software provides the most innovative enterprise solutions to plan, design, develop, source and sell products such as apparel, footwear, sporting goods, furniture, home décor, cosmetics, food & beverage and luxury to achieve strategic and operational digital transformation goals.

Db was founded by extreme skier Jon Olsson and engineering student Truls Brataas, whose goal was to make stylish travel and sports bags. Since its inception in 2009, the business has gained a cult following of customers who invest not only in the range of beautifully designed, sustainable gear but the adventure-infused lifestyle that the brand stands for. Fast forward to 2020 and despite the travel industry being one of the hardest hit by the Covid-19 pandemic, Db saw growth of over 20%. With the same growth trajectory extending into 2021, the young and flexible company knew it was time to introduce a digital transformation solution that could scale at the same pace.

Like many businesses, all product data was previously stored in Excel, which led to issues with data accuracy and meant teams wasted valuable time searching for the latest product information.

"We produce up to 350 SKUs per season. Prior to PLM, each SKU had its own Excel file," reflects Alexandre Aubry, Head of Design & Development at Db. "As we grew, complexity started to increase in terms of resources, structure, product portfolio, transparency and supplier base. It became obvious that we could not continue without a PLM."

Db considered a range of solutions designed to support business growth. In particular, they were looking for a flexible PLM that could launch quickly and offer a 'single version of the truth' for all product data. Centric Software outshone the competition due to its understanding of industry best practices and impressive functionality.

"Centric supports all of the business processes we have. It follows best practices within our industry so there is no need for customization. We plan to onboard more factories to our PLM and integrate our ERP and our PLM systems. Centric has an excellent record of successful integration projects," adds Aubry. "Our goal is also to connect our e-commerce for upcoming 2022 seasons to shorten delivery time and continue to enhance product quality."

In addition to streamlining the development process, Db was looking for a technology partner that enabled them to progress their sustainability agenda and deliver a fully transparent shopping experience

to their consumer.

“With Centric PLM™, we can now document a variety of sustainability attributes so that designers and developers can make more informed decisions. In the future, we would like to integrate our PLM with tools such as The Higg Index to enable users to accurately calculate product impact such as water usage, CO2 emissions and more at the click of a button.”

“Centric Software is thrilled to partner with Db at such an exciting stage of their business growth,” comments Chris Groves, President and CEO of Centric Software. “We look forward to working with them on driving both a streamlined and sustainable product development process.”

## ***EcoAct and Greenspector support France Télévisions in the decarbonization of its new media NOWU***

25 January 2022

EcoAct, an Atos company, and Greenspector, a member of Scaler, the Atos Accelerator, that supports startups in their international development and fosters customer innovation, have been chosen by France Télévisions to assess and optimize the carbon impact of the website of its new media NOWU.

This digital editorial offering aimed at 15–25-year-olds was designed with energy efficiency in mind, with a low-carbon strategy and the integration of eco-design principles.

By combining their expertise, the two partners supported the eco-design and production of this public digital media, thanks to EcoAct's 15-year strong experience and consultancy expertise in decarbonization strategy, and to the expertise and measurement solution from Greenspector, specialist in reducing the environmental impact of digital applications.

### **Carbon impact considered from the beginning of the project**

To ensure the optimization and reduction of its carbon impact, EcoAct and Greenspector established a benchmark of best practices in low-carbon media and then calculated the carbon footprint of the project. At the launch of the project, the media's carbon footprint was estimated at 74 tons of CO2 equivalent (this is, for example, 37 round trips from Paris to New York) and will be monitored over time as the service develops. Greenspector also studied the level of eco-responsibility of the media site, thanks to Greenspector's digital sobriety certificate. NOWU was the first media to achieve a good result: an eco-score of 61/100, which corresponds to the bronze level.

### **Long-term support**

Thanks to these initial in-depth analyses, EcoAct and Greenspector were able to identify reduction levers for both the creation of the platform and its use, in addition to awareness-raising and training activities, combined in a concrete action plan with an ambition which was consistent with the objectives of the Paris Agreement.

*"Eco-design was integrated from the very conception of the NOWU website. Right from the start, the digital team implemented best practices, including energy and resource consumption simulations which were developed according to use cases as close as possible to user behavior to detect potential overconsumption on the website. Our partnership with EcoAct has allowed us to better project the carbon impact of the project to make NOWU a benchmark in green media by design."* **Thierry Leboucq, President of Greenspector.**

*"EcoAct is delighted to have been able to contribute to the implementation of a decarbonization strategy for a media that aims to raise awareness of sustainable development issues among young people. And Greenspector, thanks to its expertise in digital, has been a real support in the development and deployment of this strategy."* **Yann Josse, Senior Business Manager, Public Sector at EcoAct.**

# CIMdata PLM Industry Summary

---

*"France Télévisions is proud to respond to the need for strong commitment from the younger generation with its innovative NOWU medium, which proposes concrete solutions to act in favor of the Planet. Together with EcoAct and Greenspector, we have taken up the challenge of offering young Europeans the authentic experience of a more sober and eco-designed digital platform, which combines raising awareness of the issues they care about with reducing resource consumption and their own carbon impact."* **Gautier CURTIL, Director of Offerings - NOWU, France Télévisions.**

## ***ESI Group and the DesCartes program aiming at transforming Singapore into a hybrid, ethical and sustainable smart nation***

25 January 2022

**ESI Group, Rungis, France, a global player in virtual prototyping for industries, is collaborating in the launch of the DesCartes project in Singapore by providing its scientists, its expertise in hybridization methods and its virtual prototyping software solutions to the various stakeholders.**

DesCartes a 5-year and a 35 million euros budget collaborative program, has been selected by the National Research Foundation (NRF) of Singapore and is based on the CREATE campus, "Campus for research excellence and technological enterprise", the international research hub of Singapore. Behind this very French name lies one of the largest collaborative programs of the CNRS: the "Program on Intelligent Modelling for Decision-making in Critical Urban Systems", dedicated to Hybrid Artificial Intelligence.

### **A smart city project to a better extent: A smart nation project**

For many years, many smart cities projects have been launched. The principle of these smart cities is to collect data generated by sensors, to deploy specific applications, such as sensors indicating air pollution, alerts on accidents, traffic conditions in real time... However, the concept of smart nation carried by Singapore differs from the others because it pushes the concept to its paroxysm: from the digitization of an entity, a building, a single system to the digitization of a whole city interacting in real time.

### **From electrical grid optimization to delivery drones**

DesCartes is developing hybrid AI methods, combining AI with knowledge-based models (physics, engineering), to enable trusted, real-time decision-making that is "people-centric" and "in harmony with society." *All in response to complex situations related to critical urban systems in the context of Singapore's "Smart Nation."* This research will be applied, for example, to urban mobility or energy management, or to anticipate the needs of future transportation networks, smart industries, or smart buildings. *"For example, we aim to develop solutions to optimize the supply and demand of the electricity network, or solutions to improve the flow of cab drones or delivery drones, or to develop intelligent predictive maintenance applied to industrial tools,"* explains Dominique Baillargeat, director of CNRS@CREATE. Systems in the city that will be able to analyze data on the use of services by the population and then make optimization decisions.

### **ESI's role in this project**

ESI, recognized worldwide for its predictive physics modeling and virtual prototyping expertise, will play several roles in this program. First, its Scientific Director, also a member of CNRS and ENSAM, Prof. Francisco Chinesta, will be the program director. In addition, the Group will make its performance simulation solutions (VPS, VA One, Simulation X, etc.) and its expertise in hybridization and model reduction methods available to the partners and the program. ESI will thus be able to predict material behavior in real time, anticipate incidents (associated with damage, cracks, corrosion, etc.), model the wind for better use of drones, and make city management more intelligent and human-friendly. Finally, ESI will bring all its engineering expertise to optimize the platform in which the data will be used to

# CIMdata PLM Industry Summary

---

make the right decision at the right time.

*"The goal of the Singapore program is to think and design an interconnected smart city with features that will revolutionize the concept of smart cities. In this project, it is essential to place the citizen - the human, but also more generally the living - at the heart of the hybridization devices. All the partners in this project aim to make Singapore an ethical, responsible and secure new city."*

**Dr. Francisco Chinesta**  
Scientific Director of ESI Group

## **The Descartes program partners**

The Descartes project involves on the French side:

- CNRS
- 13 universities and prestigious schools : Université Paris-Saclay, Université Toulouse Paul Sabatier, Université Lyon III Jean Moulin, Université de Bordeaux, École Nationale de l'Aviation Civile, Université Paris Sciences & Lettres, Université de Strasbourg, Arts et Métiers, INP Grenoble, INP ENSEEIHT, Ecole Normale Supérieure de Paris-Saclay, Université Grenoble-Alpes, Université Côte-d'Azur.

and, on the Singaporean side:

- 3 universities: Nanyang Technology University, National University of Singapore, Singapore University of Technology and Design.
- A\*STAR: Agency for Science, Technology and Research. A\*STAR is the national R&D agency of Singapore.

It is developed in collaboration with five industrial partners: ARIA, CETIM MATCOR, EDF, ESI Group and Thales.

## ***Infor AI Solutions Help Kal Tire's Mining Tire Group Pump Up Customer Service & Safety***

26 January 2022

Infor, the industry cloud company, announced that Infor's artificial intelligence (AI) solutions are helping Kal Tire's Mining Tire Group greatly improve customer service and safety in its global mining business.

Kal Tire is Canada's largest independent tire dealer and one of North America's largest commercial tire dealers. In addition, Kal Tire's Mining Tire Group is an international leader in mining tire service and supply — servicing more than 150 mine sites across five continents.

Kal Tire's Mining Tire Group has been a pioneer in applying AI technology to enable mining site operators and technicians to better plan tire maintenance and identify more ways to improve uptime and safety for mining equipment.

The Infor cloud technology platform — including Infor Operating Service (OS) and Infor Coleman AI and Machine Learning — addresses two major areas of tire management, in particular: tire fitment planning and visual inspection. Kal Tire's tire fitment planning, powered by Infor Coleman AI and Machine Learning, predicts tire replacement time to better forecast demand at each customer site, which can help optimize fleet availability. Meanwhile, when autonomous thermal image inspections identify tires that do not meet safety criteria, the Infor OS platform automatically generates work orders, which helps improve site productivity.

Kal Tire anticipates that Infor OS and Infor Coleman AI/Machine Learning solutions will help Kal Tire:

# CIMdata PLM Industry Summary

---

- Reduce downtime by 20 percent, with more accurate tire forecasting, so that each site has the right quantity and mix of tires, and
- More quickly detect and diagnose tire issues with autonomous visual inspections, integrated with priority-based work order generation.

“Infor, as a partner, is enabling us to move from paper, to mobile, to sensors,” said Christian Erdélyi, tire operations management system (toms) & implementation manager global at Kal Tire’s Mining Tire Group. “As a result, we can go from being reactive to proactive to predictive. That’s a journey. It’ll have bumps, but the path is cleared and we’re heading down it.”

Kal Tire’s Mining Tire Group believes that autonomous platforms, enabled by AI, will have the capability to do work significantly more effectively than existing processes. According to Erdélyi, Infor will help provide the “glue,” or cloud technology, that site operators and technicians need to apply and scale AI to key workflows. This can help less experienced personnel, for example, make better decisions and feel more confident in the decisions they make, Erdélyi said.

## ***Lockheed Martin Aeronautics adopts Siemens’ Xcelerator portfolio to support digital engineering transformation***

25 January 2022

Lockheed Martin’s Aeronautics business has selected Siemens’ Xcelerator portfolio of software and services to support its digital engineering transformation. Through a multi-year contract, the company plans to leverage Xcelerator to achieve its goals for mission-driven digital transformation—accelerating program lifecycles, driving cost savings and fostering greater innovation.

“Lockheed Martin Aeronautics is a leader in the aerospace industry, and their decision to expand adoption of Siemens’ Xcelerator portfolio enables driving digital initiatives and winning programs,” said Tony Hemmelgarn, President and Chief Executive Officer, Siemens Digital Industries Software. “Building off of our experience on the F-35 program, and through close collaboration, Siemens is excited to help Lockheed Martin accelerate production and meet DoD contract requirements for both current programs and new initiatives.”

## ***Medidata Expands and Strengthens Decentralized Clinical Trial Capabilities through Groundbreaking Partnership with Circuit Clinical***

26 January 2022

Medidata, a Dassault Systèmes company, announced a groundbreaking and exclusive partnership with Circuit Clinical, an Integrated Research Organization (IRO). Circuit Clinical has created a network representing over 90 doctors, across 30+ site locations, and a nationally accredited cancer center with a database of more than 2.5 million participants who may qualify for clinical trials. With Medidata’s strategic investment in Circuit Clinical’s \$27M Series C funding, Circuit Clinical will expand its Decentralized Clinical Trial (DCT) network to 500 physician investigators and 15M patients and help to bring clinical research as a care option to more people in need.

All Circuit Clinical sites will be standardized on Medidata’s RAVE and myMedidata Technology Solutions, making the combined company offerings a perfect “turn-key” option for customers interested in running broad programs for decentralized studies. Medidata is the first company to offer an end-to-end, unified, secure platform for DCTs.

“This partnership represents a category-defining approach to providing sponsors and patients with a unified platform for all DCT needs and will improve patient access, inclusion, and experience in clinical

## CIMdata PLM Industry Summary

---

trials while accelerating timelines for sponsors and CROs,” said Kelly McKee, vice president of patient registries and recruitment at Medidata. “Working with Circuit Clinical further extends Medidata’s capabilities in the DCT space by collaborating with a market-leading integrated research organization focused on optimizing retention, decreasing patient burden, and identifying and creating top-performing sites.”

Circuit Clinical’s offering spans 10 therapeutic areas, including cardiovascular disease, diabetes, women’s health, kidney disease, digestive diseases, rheumatoid arthritis, cancer, COVID-19, and others. Individuals in Circuit Clinical’s participating healthcare systems will be invited to join myMedidata Clinical Trial Patient Registries, providing improved awareness of and access to clinical trial opportunities and continuous support and engagement in and out of a trial. Additionally, patients will have the opportunity to provide ratings and reviews of their clinical trial experiences through Circuit Clinical’s award-winning TrialJourney system.

A better overall study experience makes it easier for patients to stay enrolled in trials and to expedite timelines, reducing overall costs for sites and sponsors. With study participants top-of-mind, Medidata’s Patient Cloud solutions were developed using the company’s award-winning Patient Centricity by Design process. This infuses the patient perspective into the software development life cycle to create technical solutions that improve the overall patient experience in clinical research interactions. These are key reasons why 10 of the top 12 pharmaceutical companies and eight of the top 10 CROs use Medidata’s DCT solutions.

“We look forward to breaking new ground with Medidata in the emerging DCT marketplace and making a real difference in the lives of patients,” said Irfan Khan, MD, CEO of Circuit Clinical. “The combined capabilities of Circuit Clinical and Medidata’s software solutions will further the ability to deliver hybrid or fully decentralized trials through Circuit Clinical’s Network Health Systems and patient engagement capabilities. We look forward to welcoming Medidata to our Board of Directors as an observer.”

Medidata is a wholly owned subsidiary of Dassault Systèmes, which with its 3DEXPERIENCE platform is positioned to lead the digital transformation of life sciences in the age of personalized medicine with the first end-to-end scientific and business platform, from research to commercialization.

### ***Nestlé Nescafé Deploys EcoStruxure™ Asset Advisor to Ensure Always-on Operational Resiliency and Efficiency at the World’s Largest Soluble Coffee Facility***

25 January 2022

Schneider Electric, the leader in digital transformation of energy management and automation, deployed its award-winning **EcoStruxure™ Asset Advisor software** at Nescafé’s Toluca Complex in Mexico City.

Producing approximately one million jars of coffee a day, the Nestlé Nescafé plant in Toluca, Mexico is the largest production facility for Nescafé and is key to Nestlé’s overall global operations. In 2013, the company expanded the plant’s production capacity by 40 per cent by investing approximately \$125 million, making it the largest soluble coffee facility in the world. With the plant responsible for more than one million jars of coffee produced daily, preventing downtime is critical for Nestlé’s operations.

#### **Improving uptime reliability, greater visibility, and operational flexibility**

Prior to Asset Advisor, maintenance was reactive. Eight unplanned shortages in one year, including a short-circuit inside an unmonitored section of the main substation that resulted in a 14-hour shutdown, costing the company approximately \$588,000, saw production faltering. As service continuity is central to the production plant, EcoStruxure allowed Nestlé to move to predictive maintenance, letting teams

resolve issues proactively to avoid costly disruptions that could cost up to \$52,000 per hour.

Implementing Asset Advisor gave Nestlé real-time visibility into its electrical equipment, allowing engineers to remotely monitor assets. By relying on data analytics to dictate service intervals, the electrical teams at Nestlé can now spend less time reacting to issues and the plant's equipment spends more time performing optimally.

**Frédéric Godemel, Executive Vice President for Power Systems and Services at Schneider Electric** said: *“We’ve been seeing strong Services growth in our business, and we understand the importance of mission-critical systems and how it is non-negotiable for major production operation like the Toluca complex. With our EcoStructure software, we are committed to providing customers like Nescafé greater visibility, increased resilience, and flexibility to improve their operational efficiency without the added costs and strain on the environment, and ultimately seen as the go-to-services expert in critical industries.”*

**Luis Gilberto López Páez, electricity specialist in Nestlé Toluca Cafés** said: *“With a plant as large as Nestlé Nescafé, ensuring reliability of all the electrical systems is a particularly involved task. Across our operational network, we have been deploying flexible and scalable digital solutions to enhance our responsiveness, and the move to partner Schneider Electric was a natural one – having already collaborated in our production facilities in France and Switzerland. Since deployment, EcoStruxure Asset Advisor has allowed us to identify hot spots and attack them before they become a problem – saving us costly downtime, greatly enhancing our ability to respond quickly to changes in demand and ultimately better service our customers and reduce our operational carbon footprint.”*

### ***NTT DATA Singapore and National Healthcare Group to develop a Digital HealthApps Platform that advances population health***

25 January 2022

NTT DATA Singapore (NTT DATA) has been appointed by the **National Healthcare Group (NHG)** to develop a **Digital HealthApps Platform** that supports NHG's drive for population health in Central Singapore.

NHG's River of Life population health framework entails a life-course approach and person-centred initiatives that support the health and well-being of individuals, taking into account distinct demographics and health status over their lifespan and healthcare costs. Tighter collaboration with providers and better integration of care that addresses prevention, early detection, illness care and coordination across settings are therefore paramount.

*“There is much potential for patient empowerment and personalised care with the marrying of informatics and healthcare. The HealthApps Platform is an important step for NHG's digital transformation journey as it enables patients and carers to make informed decisions to better manage their health. This complements physical engagement with care providers, and would lead to improved and sustained health outcomes for our population,”* says **Professor Philip Choo, Group Chief Executive Officer, NHG**.

In this initiative, NTT DATA and its alliance of partners (Medisys, Taggle, and Yoozoo) will collaborate with NHG in harnessing cloud, mobile, gamification and AI technologies to better engage the population and empower individuals to manage their own health and well-being more effectively.

**Krishnappan Ramanathan, Managing Director of NTT DATA Singapore** said, *“Digitalisation is enabling the transformational change in the healthcare industry by reshaping the relationship between patients, healthcare professionals, and the health systems, as well as revolutionising the way care is delivered.”*

# CIMdata PLM Industry Summary

---

*At NTT DATA, we aspire to be a trusted technology partner to healthcare organisations in their digital transformation journey, by harnessing Digital Health, AI, Analytics, and Intelligent Automation to improve the quality of care and productivity of the healthcare workforce.*

*We are privileged to be the partner for NHG in the HealthApps Platform initiative aimed at fostering holistic population health and wellness through digital technology. We look forward to more collaboration on this front in the near future.”*

## ***Pearl Semi selects Siemens‘ Symphony AMS platform for its novel low-noise digital PLL design***

26 January 2022

Siemens Digital Industries Software has announced that Pearl Semiconductor, a fabless semiconductor company specializing in high-performance timing products, used Siemens‘ Symphony™ Mixed-Signal Platform for developing and verifying its newest ultra-low noise digital phased locked loop (PLL) design, which targets a range of demanding applications such as high-speed connectivity, high bandwidth video broadcasting and 5G infrastructure markets.

Leveraging the fast simulation performance of Siemens‘ Symphony Mixed-Signal Platform, Pearl Semiconductor rapidly achieved silicon-accurate simulation for its latest PLL offering, while boosting functional verification cycles by 4x. This dramatic acceleration helped Pearl achieve aggressive time-to-market objectives.

“With the exponential rise of data due to digitization, the need for a worldwide upgrade of bandwidth and data network infrastructure is happening at a rapid pace,” said Mohamed Dessouky, vice president of engineering for Pearl Semiconductor. “High-performance timing solutions like our latest PLL offering play a key role in increasing bandwidth for network ICs. Our novel PLL architecture continuously suppresses spurs, while minimizing the noise contribution of active circuitry within the PLL bandwidth. Designing these complex circuits requires a robust mixed-signal verification solution, and this is why we selected Siemens’s Symphony Mixed-Signal Platform for extensive mixed-signal verification of our PLL designs. The flexibility of Symphony to work with our mixed-signal use cases and the tool’s ease-of-use resulted in wider adoption across our verification teams and resulted in 4X productivity improvement.”

Powered by Siemens’ Analog FastSPICE (AFS) technology, the Symphony Mixed-Signal Platform combines the leading foundry-certified circuit simulator with industry-standard hardware description language (HDL) simulators to provide fast and accurate verification of complex nanometer-scale mixed-signal integrated circuits (ICs). The platform’s modular architecture leverages Siemens‘ AFS circuit simulator software to provide exceptionally fast mixed-signal simulation performance with nanometer-scale SPICE accuracy and compatibility with all leading digital solvers, including Siemens‘ Questa™ functional verification tool family.

"The need for ultra low-noise high bandwidth timing solutions is becoming critical in many applications, and mixed-signal innovations such as Pearl's DSP+analog-based solutions are critical to meet those requirements," said Ravi Subramanian, senior vice president and general manager for the IC Verification Solutions Division at Siemens Digital Industries Software. "We are pleased that our Analog FastSPICE and Symphony Mixed Signal Platforms played a key role in Pearl’s development of their latest ultra-low noise digital PLL design.“

## ***ProFrac Selects Canvas Envision to Optimize Design Review and Product Communication Across Ecosystem***

27 January 2022

Visual communication solutions provider Canvas GFX, Inc, announced that leading oil and gas service specialist ProFrac has deployed Canvas Envision, the interactive 3D product communication platform, to optimize critical workflows as it enters a new phase of growth in 2022.

ProFrac will use Canvas Envision to address bottlenecks that impact design review processes, as well as the creation of technical and marketing content and documentation. Envision allows anyone to work directly with 3D models – without specialized knowledge or training – to create and collaborate on interactive 3D product content.

Like many cutting-edge manufacturers, ProFrac develops technical and commercial product content in parallel with the product design phase, with 3D CAD models as the source of truth for all product visualization. The deployment of Envision will enable ProFrac to optimize collaborative design review and dramatically reduce the time taken to create and approve essential visual documentation, driving faster product development and reducing time to market.

“Our goal is to bring the best products to market as fast as we possibly can,” said Tim Reist, Vice President of Engineering at ProFrac. “Envision gives us the ability to communicate the information and processes that power that goal with a new level of precision and efficiency from product design through to product promotion and sales. And instead of our engineers being a bottleneck for access to 3D models, they’re now free to focus on their core tasks.”

The Canvas Envision platform combines a highly intuitive desktop graphics app with cloud-based sharing and interactive content viewing.

“I am delighted to welcome ProFrac as an Envision customer,” said Patricia Hume, CEO at Canvas GFX. “As a young, dynamic, and innovative company hungry for more efficient and effective ways to operate, they are the perfect fit for Envision. We are thrilled to be helping them improve performance through faster, better product communication across their business.”

## ***PROS Proven Revenue Management Fuels Digital Transformation and Growth Strategy at Royal Brunei Airlines***

26 January 2022

PROS<sup>®</sup>, a leading provider of SaaS solutions optimizing shopping and selling experiences, announced Royal Brunei Airlines (RB), the national carrier of Brunei Darussalam, has selected PROS Revenue Management Essentials+ (RME+) as a foundational component of its revenue management, digital transformation and growth strategy. PROS RME+ has proven, AI-powered O&D revenue management capabilities to help position RB to accurately forecast demand and that are designed to optimize revenue across both regional and long-haul traffic, as the airline proactively pursues burgeoning market opportunities and displacing competitors within its core markets.

Royal Brunei Airlines is a full-service network airline connecting Brunei Darussalam to the world from its hub in Bandar Seri Begawan. With one of the youngest fleets in the world and operating in a hyper-competitive region, RB is developing Brunei Darussalam to be the connecting hub for international travel between Asia, Europe, the Middle East, Australia/New Zealand and regional destinations.

“Royal Brunei Airlines turned to PROS, a market leader in revenue management, to accelerate our revenue management and digital transformation efforts,” said RB Chief Commercial Officer Martin Aeberli. “Leveraging PROS industry-leading and innovative RM capabilities will allow RB to anticipate

better changes in demand, remain highly competitive and achieve our long-term growth plans. PROS will play a key role in successfully executing our commercial strategy.”

RM Essentials+, an edition of PROS Revenue Management, is part of the PROS Platform for Travel and features the latest in technology and revenue management best practices and workflows. It features AI-based forecasting designed to anticipate demand changes and dynamic optimization to adjust traffic mix-- all aligned to maximize network revenue. As a SaaS-based solution, RM Essentials+ is scalable and allows airlines to transition smoothly from one PROS edition to the next to meet evolving needs.

“Trusted partnerships with our customers are one of the cornerstones of our decades of experience and success in revenue management,” said PROS President, Travel Benson Yuen. “We are honored to work with the Royal Brunei Airlines team to accelerate their next stages of revenue management and digital transformation, while ensuring our advanced solutions fulfill RB’s commercial objectives and business strategy.”

## ***PTC and Schaeffler Announce Strategic Alliance to Accelerate Digital Transformation Roadmap***

25 January 2022

PTC and global automotive and industrial supplier Schaeffler announced a new alliance that will see Schaeffler standardize on PTC solutions to deploy an integrated, end-to-end IT landscape. Schaeffler will also inform PTC's efforts to further develop and evolve market-specific standard solutions to better meet the needs of automotive and industrial companies.

Schaeffler to standardize on PTC solutions for advanced digital capabilities for product development and consolidated IT landscape; Alliance accelerates digital transformation initiatives of Schaeffler Roadmap 2025

The new alliance will build on the successful twenty-year relationship based on Schaeffler's use of PTC's CAD and PLM solutions. These tools are essential for the introduction and further development of Schaeffler's initiatives for digital twins and for visualization of 3D models, for example those used for augmented reality projects.

Schaeffler plans to leverage PTC's experience and robust end-to-end solutions to move from a customized engineering IT environment to using standard applications across the enterprise. This will enable prompt responses to rapidly changing requirements in a dynamic, competitive environment.

The alliance will focus on the optimization of the existing environment, as well as its expansion with projects such as Schaeffler's Enterprise Traceability or Model-Based Enterprise and the deeper integration of software development tools. The goal is company-wide integration of the software and system development solutions (Application Lifecycle Management and Model-Based Systems Engineering). This also enables improvement in the mapping of critical systems engineering requirements, such as the fulfillment of varying country-specific safety regulations.

"The alliance with PTC is yet another milestone in our digitization strategy within Roadmap 2025," says Uwe Wagner, Chief Technology Officer at Schaeffler AG. "End-to-end data models, 3D data, and digital twins are already elementary components of the research and development process for Schaeffler today. The increasing complexity requires consistent IT solutions in all development areas for more innovation, agility, and efficiency. To achieve these, it is crucial for Schaeffler to work with strong partners like PTC."

"Through our work with Schaeffler, we aim to advance and further develop market-specific digital transformation solutions," said Jim Heppelmann, President and CEO, PTC. "Both companies will benefit from more robust collaboration."

## ***Siemens collaborates with UMC on design kits for automotive and power applications***

20 January 2022

Siemens Digital Industries Software announced it has collaborated with United Microelectronics Corporation (UMC) to develop process design kits (PDKs) for the foundry's 110-nanometer (nm) and 180-nm BCD technology platforms. The new PDKs for UMC, which is a leading semiconductor foundry focused on logic and specialty technologies, are optimized for Siemens EDA's Tanner™ custom design flow software, enabling innovative designs for a wide variety of integrated circuits (ICs) used in automotive and power applications.

Siemens' custom IC design kits built using its Tanner software are now available for UMC's BCD processes. The foundry's 110-nm and 180-nm BCD platforms aim to provide best-in-class chip design kits and integrated product solutions for applications requiring power management ICs (PMICs), battery management ICs (BMICs) and wireless and fast charging ICs.

BCD technology delivers power IC designs of up to 100V operating voltage, enabling exceptional energy efficiency and high integration that combines analog circuits and digital content as well as power devices and embedded NVMs.

"Dozens of customers' designs have been verified and entered production in the last few quarters amid robust market demand," said Cedric Lee, senior division director and chairman of the High Voltage Product Line Management committee at UMC. "With applications becoming more sophisticated, power management solutions are also getting increasingly complex. Innovations such as Edge AI and mobility devices are driving the need for higher performance on shrinking area and low leakage. In collaboration with Siemens, UMC strives to equip our customers with the tools they need to bring their designs to life."

Siemens' Tanner software features an advanced, high-performance, easy-to-use schematic and layout editor and integration with best-in-class circuit simulators and Calibre® software, an industry-leading solution for design rule checking, parasitic extraction and physical verification. Tanner has a 30-year track record and has been used to successfully tape out thousands of designs.

"Through our collaboration with UMC, our mutual customers can adopt the certified process design kit for BCD technologies and start designing immediately with increased productivity," said Fred Sendig, general manager of the Integrated Circuit Design Solutions group at Siemens Digital Industries Software. "These certified PDKs allow UMC customers to leverage the complete Siemens EDA custom IC design flow, enabling them to design innovative applications with confidence."

## ***Simple Energy Selects PROLIM to Drive Digital Transformation***

28 January 2022

**Simple Energy**, India's first premium affordable EV maker, partners with global technology leader, Siemens Digital Industries Software, to adopt **Teamcenter X**. It will help Simple Energy create the foundation for Digital Enterprise, delivering consistent & rich product definition to further fuel Simple Energy's constant quest in top quality product research, development, and manufacturing excellence.

Simple Energy has been working with Siemens and PROLIM, Siemens' Technology Partner, over the last year, to bring world-class technologies to strengthen India's bid to become the EV capital of the world. "We are building India's first premium affordable two-wheeler EV that has the longest range with user-centric design. We need to accelerate our design to manufacturing to roll out vehicles to our customers. We are excited to partner with Siemens and PROLIM to innovate and build digital twin" says Suhas Rajkumar, founder, and CEO, Simple Energy.

# CIMdata PLM Industry Summary

---

Teamcenter X, cloud-based Product Lifecycle Management (PLM)-as-a-service innovation platform, is the PLM of choice for leading traditional and EV OEMs of the world. It offers the convenience of choosing from pre-configured engineering and business solutions that delivers instant value towards growth, further offering flexibility to add on value-added capabilities based on their custom technology needs.

“**PROLIM** is a proud Siemens global technology partner. We are excited by the opportunity to deliver the benefit of the cloud-native Teamcenter X, to power Simple Energy’s super exciting, green, and clean technology and support this fast-paced, steep growth EV market in India,” says Srinath Koppa, Managing Director, PROLIM India.

## ***Valley View Casino & Hotel Partners with Infor for Digital Transformation***

26 January 2022

Infor, the industry cloud company, announced that Valley View Casino & Hotel has decided to expand its 17-year technology partnership with the company and move its core business applications to the cloud. Valley View, Southern California’s premier gaming destination, chose Infor CloudSuite™ applications specialized for the hospitality industry to integrate and modernize its core business processes. With Infor’s cloud-based financial, supply chain management and budgeting applications, Valley View will be able to connect siloed applications, reduce manual processes and make more-informed business decisions.

Through this upgrade, Valley View will benefit from a simple and predictable path to upgrade from on-premises applications to the cloud. The organization will immediately benefit from a more modern interface, quick user experiences and deeper industry functionality that will provide business leaders with more thorough analytics, new insights and real-time data to make decisions quickly to improve bottom-line results. Valley View will be able to keep applications current and connected, leverage powerful functionality, and optimize critical business processes.

“We have trusted our technology partnership with Infor for nearly two decades. It made sense to partner with them again as we modernize our operations and digitally transform to meet the needs of tomorrow’s consumer and traveler,” said Leilani Marquiss, Valley View Casino & Hotel vice president of finance and chief financial officer. “As the industry continues to change and new demands begin to emerge, we will now have the security, flexibility and scalability to better support our internal teams and ultimately our guests.”

Valley View will implement Infor CloudSuite solutions created specifically for the hospitality industry to better support financials, supply management, purchasing, inventory, budgeting and analytics. Specifically, an integrated financial and supply management software solution suite will couple modern financial functionality with tools to track supplies and streamline order processes. Infor will provide networked analytics and a best-in-class user experience augmented by artificial intelligence so users can work on an integrated and dynamic platform that makes daily tasks easier and more intuitive. In addition, Infor Dynamic Enterprise Performance Management (Infor d/EPM) will deliver integrated planning, budgeting, forecasting, financial consolidation, and scenarios. Infor’s innovative cloud technologies, built on Amazon Web Services® (AWS), will provide Valley View with increased operational efficiency and greater visibility when it comes to key business data.

“The competition in the gaming industry can be fierce, and it is more important than ever to find a technology partner that can keep your organization efficient, intelligent and agile as times change, culture shifts, and new technology emerges,” said Jason Floyd, Infor Hospitality general manager. “With Infor, organizations are able to leverage solutions specifically designed for hospitality. Because of our deep industry experience and years upon years of research, investment, and innovation, we are able to

# CIMdata PLM Industry Summary

---

provide our customers with industry-first cloud technology, unmatched depth of functionality, and low-risk implementations, so organizations of all sizes can experience what successful bottom-line results should look like.”

## ***Vanderbilt University Medical Center Extends Partnership with Infor***

26 January 2022

Infor, the industry cloud company, announced that Vanderbilt University Medical Center (VUMC), one of the largest academic medical centers in the Southeast, has extended its nearly 15-year partnership with Infor. VUMC plans to migrate its current on-premises Infor solution for clinical staffing and scheduling to the latest cloud-hosted offering by Infor.

“Moving to the cloud represents yet another welcome technological advancement for our organization—particularly so amidst a pandemic when scheduling for clinical staff is so critical to how we take care of our patients,” said Chandler Miniati, director of Nursing Support Services for VUMC, in Nashville, Tennessee.

Infor applications are purpose built for healthcare and provide organizations with comprehensive solutions to help streamline time & attendance data collection, reduce staffing complexity, control labor costs, increase visibility into key performance indicators, and provide enhanced mobility to aid patient care. Valuable data collection and analysis identify process improvements, helping teams to make informed decisions in real time. In addition, users can create and edit sophisticated schedules by assigning nurses to meet required demand, handle rotation schedules with ease, and increase nurse satisfaction with self-scheduling, while data collection and record keeping occur automatically in the background.

“Overall employee experience directly correlates with patient satisfaction and outcomes, and appropriate staffing meets not only the needs of the individual patient, but matched with the available staffing pool, it can play a critical role in nurse satisfaction,” said Steve Fanning, senior vice president, Infor. “Our applications for workforce management help organizations manage their teams and labor, save money, create operational efficiencies, and equitably distribute workload based on patient acuity.”

## ***Verizon Business and Atos to power industry-leading predictive analytics 5G edge solution***

26 January 2022

Verizon Business and Atos announce an industry-leading partnership to power intelligent IoT solutions with private 5G multi-access edge computing for businesses, government and communities worldwide. The 5G edge solution will transform the way companies can leverage predictive analytics, allowing them to improve operational efficiency, mitigate risk and increase revenue.

Combining the expertise of Verizon and Atos, organizations will be able to create immersive digital experiences that fully exercise 5G environments on the edge of their networks, representing the next breakthrough in business value. The Verizon-Atos solution provides an end-to-end architecture that includes hardware, 5G, application and automation, field services and service desk support. The joint solution cost effectively overcomes scalability and latency challenges.

Verizon will implement Atos Computer Vision platform in their private 5G multi-access edge computing as part of the joint solution for enterprises, providing ready-to-deploy business use cases in various industries. The Atos platform plays a role in bringing key capabilities in AI-powered video analytics to mission critical environments. Verizon’s use of Atos’ BullSequana Edge servers will strengthen its 5G edge offers and will unlock new use cases, advancements of network security,

# CIMdata PLM Industry Summary

---

connectivity and data management.

The joint solution will focus on large scale, cloud and AI-powered data analytics to help businesses operate more efficiently. In one of the use cases, the platform will analyze 180 billion data points every hour. Using this system, the engineers and operators will be able to pinpoint exactly when and where operation downtime is predicted, up to 30 days in advance. Further, key metrics and trends will lead to operational efficiency and remove points of failure over time. These insights can come from a localized part of the system and can be applied across a global landscape.

*“This new, joint solution will provide enterprise customers with an unprecedented level of insight into their operations, and we’re excited about the prospect of building on our existing partnership with Atos. We know the future will be built on our leading 5G network, and today’s announcement is another example of how our products and solutions are having a genuine impact on business efficiency and revenue today,”* said **Tami Erwin, CEO, Verizon Business.**

*“We are proud to combine our uniquely positioned digital transformations in telecommunications and edge computing with Verizon Business’ reliable, high performance 5G networks to revolutionize the way people live, work and play. This industry-leading partnership exemplifies how we will innovate the 5G marketplace to the benefit of new and exciting user experiences for both business and consumers alike,”* said **Jean-Philippe Poirault, Head of Telecom, Media and Technology, Atos.**

The scalable solution is available to customers across a variety of industries - including transport, industrials, logistics and manufacturing - and highlights the impact that secure, multi-access edge computing can have on an organizations’ bottom-line.

Through this partnership, Atos and Verizon have positioned themselves as trusted 5G partners for enterprise clients across all sectors. The solution leverages both organizations' capabilities, including expertise in cybersecurity, edge compute and AI/ML, and unlocks the full potential of 5G for businesses.

## ***Wilton Bradley Partners with Centric Software® to Bolster Business Growth***

24 January 2022

Supplier of quality consumer leisure goods Wilton Bradley has selected Centric Software’s Product Lifecycle Management (PLM). Centric Software provides the most innovative enterprise solutions to plan, design, develop, source and sell products such as apparel, footwear, sporting goods, furniture, home décor, cosmetics, food & beverage and luxury to achieve strategic and operational digital transformation goals.

UK-based Wilton Bradley specializes in the design, development, distribution and marketing of consumer products in the toy, sports and outdoor leisure markets. They offer an extensive range of 4,000+ products with distribution in 30 countries and plan to launch 30 new toy SKUs this year. With the Covid-19 pandemic driving sky high demand for their products, the business began investigating technologies that could streamline processes and drive efficiency to support their rapid growth.

“Because of the huge spike in interest for our products during the pandemic, we needed to drive efficiency and create one source of truth,” reflects Anne Ebdon, ERP Project Manager at Wilton Bradley. “This coincided with our legacy PLM becoming EOL (End of Life) so we decided to review our processes and investigate solutions that could align us with industry best practice.”

Although the pandemic had boosted demand for their products, marketplace disruptions and the limitations of an outdated legacy PLM meant the business was struggling to fulfil orders on time and track products at every stage of the lifecycle.

“We continued to face global challenges such as Brexit in addition to the supply chain disruptions of the

pandemic, so stock was delayed getting to our warehouses. We therefore needed to get products developed and ready for market quicker to allow for shipping setbacks,” explains Ebdon.

During the PLM selection process, Wilton Bradley was specifically looking for a technology partner with experience in the toy and leisure industries, as well as a solution that was cloud-based, flexible and intuitive. After considering a range of vendors, Centric rose to the top as a perfect fit for the business.

“Centric Software offered the most versatile SaaS solution, with a user interface that’s clean, simple and easy to navigate – offering our teams ultimate flexibility to support our growth trajectory. We are really excited by the prospect of using Centric’s industry knowledge and best practice to position us at the forefront of innovation in our industry,” says Ebdon.

“It’s with pleasure we welcome Wilton Bradley to the Centric Software family,” comments Chris Groves, President and CEO of Centric Software. “We are proud to facilitate a streamlined and sustainable product development strategy to support their business growth.”

## ***Yoshimura R&D of America Chooses Canvas Envision to Power Product Communication with Interactive 3D Content***

25 January 2022

Visual communication solutions provider Canvas GFX, Inc, announced that Yoshimura R&D, the iconic performance motorcycle after-market and racing brand, has selected Canvas Envision to power internal and external product communication.

The complexity of Yoshimura products, including high-performance after-market exhaust systems, has grown rapidly in the past five years, requiring the design and fabrication of a greatly increased number of custom components. This has created challenges in the communication of internal manufacturing process requirements, as well as end-user installation instructions.

In addition, Yoshimura needs to drive effective knowledge transfer from experienced employees to new team members as the workforce grows and evolves.

Envision has been deployed by Yoshimura to drive faster, more effective communication of complex product data by using real 3D CAD data to create interactive 3D content. The platform combines a lightweight and highly intuitive desktop graphics app which enables anyone to visualize complex 3D models without prior CAD experience, with cloud-based sharing and interactive viewing.

“Our philosophy is that if you stay still and say ‘this is good enough’ then you’ve started the countdown to the end of your existence,” said Eric Steen, Head of Research and Development at Yoshimura R&D. “We are leaders in our field when it comes to harnessing 3D technology and advanced manufacturing processes, and Canvas Envision is part of that drive. It will enable the complexity of our designs to be easily communicated to both the manufacturing facility and the end user in a way that leaves less room for error and makes absolutely clear our design intent.”

“Yoshimura is a world-renowned brand in performance motorcycling, with a long and proud history, and we are thrilled that they have chosen Canvas Envision,” said Patricia Hume, CEO at Canvas GFX. “The team at Yoshimura clearly has an acute understanding of how modern manufacturing processes are critical to success in business as well as on the race track and we are delighted to be providing the power behind their new product communication strategy.”

## Product News

### ***Altair Pollex for Altium, First in Series, Launched for Printed Circuit Board Design***

26 January 2022

Altair, a global leader in computational engineering and intelligence, has launched a special edition of Altair Pollex, an electronic system design (ESD) software tool, for Altium users to empower printed circuit board (PCB) designers to predict and maximize overall PCB performance and verify manufacturability.

Altair Pollex for Altium is a free version of Pollex designed to support various electrical computer-aided design (ECAD) software products, the first of which is Altium Designer, as announced at AltiumLive. Altair Pollex for Altium will make board-level simulation and design verification features seamlessly accessible to Altium Designer users.

“The power of Altair Pollex is evident in the broad best-in-class offering for PCB simulation (signal integrity, power integrity, thermal) and comprehensive design verification for manufacturability (DFM), electrical (DFE), and assembly (DFA),” said Stephanie Buckner, chief operating officer, Altair. “We are excited to make this sophisticated technology more broadly available, helping speed up design cycles and improve innovation.”

“We are excited that Altair has joined Altium’s Nexar partner ecosystem, and very pleased that this edition of Altair Pollex is being made available to the Altium Designer user community at no additional cost to our users,” said Ted Pawela, chief ecosystem officer and head of Nexar business unit, Altium.

Altair technical specialist for ESD, Harry Kennedy, will showcase Altair Pollex for Altium at AltiumLive on January 28 in his presentation, “Addressing PCB Design Quality with a Simulation Driven Design Methodology.” Additionally, Sarmad Khemmoro, Altair senior vice president of electronics design and simulation, will present “Ensuring Electronic System Reliability & How the EDA Industry is Addressing It,” at the event on January 27.

### ***Altium Announces Release of Altium Designer 22***

27 January 2022

At AltiumLive 2022 CONNECT, Altium announced the release of Altium Designer 22, which includes added features to help designers source component availability, enhanced capabilities that reduce manual design tasks, along with advanced real-time lifecycle management tools used in conjunction with Altium 365.

Altium Designer customers who have active subscriptions can take advantage of all the features and upgrades included in the new Altium Designer 22 release, including:

- Parts Insight Experience, which proactively provides supply chain intelligence directly within the design experience
- Advanced board design capabilities that allow designers to easily create complex designs and quickly prepare them for fabrication
- Enhanced SPICE simulation tools enabled with Monte Carlo analysis to measure circuit quality with ease
- Real-time lifecycle management with Altium 365 that enables you to work from anywhere and with anyone

Altium's new **Part Insights Experience** delivers real-time supply chain intelligence directly in the

# CIMdata PLM Industry Summary

---

design environment so that information about component specs, lifecycle, and availability is always there, always right, and always on. Robust supply information, fueled by powerful BOM tools and integrations from Octopart and IHS Markit databases, aggregates data from over 300 distributors and over 1 billion parts, providing engineers access to the best available components and avoiding designs with unavailable or obsolete parts. This new experience ensures engineers are working with a healthy BOM throughout their design process by delivering production risk-alerts so that engineers can quickly identify risks across projects that use supply-constrained or end-of-life components. As an added benefit, Part Insights Experience also suggests alternative parts so that engineers can be confident that they are working with available parts throughout their design experience.

“Altium is dedicated to delivering a high-performance, unified, and elegant design experience to all engineers,” says Lawrence Romine, Vice President of Global Marketing. “Altium Designer 22 and Altium 365 work together to streamline the design process and ensure our engineers have the supply chain intelligence to complete their work in a single design environment.”

Engineers can easily create complex designs and quickly prepare them for fabrication using Altium Designer 22’s advanced design capabilities, including:

- **PCB technology awareness** modeling to optimize designs for the most complex boards
- Enhanced **intelligent routing** to reduce manual routing time
- Improved **solder paste specifications** to help avoid fabrication bottlenecks
- **Circuit sensitivity analysis** to understand circuit output characteristics

The new release also coincides with the launch of Altimade, a new Altium 365 application all Altium Designer customers have access to, that significantly streamlines the printed circuit board design-to-manufacturing workflow. The electronics industry’s first “design with manufacturing” application, Altimade enables customers to request an instant quote and place an order to produce their PCB assembly without ever leaving their design environment. Altium 365 allows engineers to collaborate with anyone from anywhere. PCB Designers and engineers can share designs, review design comments and changes, and identify risks with partners and stakeholders without purchasing extra licenses.

These product releases continue Altium’s commitment to break the barriers between design, supply chain, and manufacturing by bringing these elements into a modern, unified, cloud-enabled design environment.

## ***Aurigo Software Launches Engage Platform To Transform Public Feedback Using Artificial Intelligence***

25 January 2022

Aurigo Software, North America’s leading capital planning and construction management solution provider, announced the launch of Aurigo Engage, an AI-based, secure, cloud-based application designed to collect and incorporate community feedback for public agencies during the capital planning process.

Gathering public feedback is mandatory on all infrastructure programs that use federal funds. Public agencies need their constituents to weigh-in on a project’s specific location, design, and impact to the community. Annually, tens of thousands of projects across the country go through this process. The earlier feedback can be incorporated on a project, the better. The recently-passed Infrastructure and Investment Jobs Act, a historic investment in Americas’ transportation, technology, and water infrastructure, will accelerate the need for agencies to publish, gather feedback, and get approval for

# CIMdata PLM Industry Summary

---

their capital plans quickly.

Balaji Sreenivasan, CEO and founder of Aurigo Software said, “The public feedback process today is expensive, complex, and time-consuming. Our country will spend trillions on infrastructure in the next few years, and public sector leaders are looking for meaningful and equitable ways to connect with their constituents on these programs. Aurigo Engage allows our customers to harness the power of AI to speed up the delivery of infrastructure for their communities.”

Engage is an all-in-one public involvement platform that lets departments of transportation, metropolitan planning organizations, and other infrastructure owners publish their upcoming capital project information online. Members of the public connect to the platform through social media and provide feedback instantaneously. Using sentiment analysis and emotion AI, Engage categorizes, ranks, and displays feedback data so that agencies can quickly determine how best to respond. The system features an interactive, map-based public commenting portal, promotion tools, and real-time dashboards and reporting.

Historically, the public involvement process has relied on a variety of disconnected sources of feedback, including static websites, email, and in-person town hall meetings. These methods often hinder equal access for all members of the public due to lack of awareness, timing, and mobility constraints.

Ultimately, this can cause rework for the agency and delay a project’s approval. Engage complies with the Americans with Disabilities Act (ADA) and Web Content Accessibility Guidelines (WCAG) 2.0, promising constituents an inclusive and easy to use platform to provide input on projects in their area.

“Digitalizing the process allows public agencies to connect with their constituents using modern technologies like social media,” said Ashish Agrawal, Aurigo’s Vice-President of Product Strategy and Marketing. “Artificial intelligence will save agencies hundreds of hours in processing time and provide richer feedback so that action can be taken quickly. This will ensure our nation’s investments in infrastructure meet the public’s needs.”

Engage will offer agencies an instant scorecard to analyze thousands of comments and identify themes, severity, and sentiment, reducing analysis time by up to 90 percent. This allows agencies to spend less time on analysis and more time incorporating the feedback into their capital plans.

The platform will integrate with Aurigo’s flagship capital management solution, Masterworks, used by public agencies across the U.S. and Canada to plan, build, and operate their infrastructure and facilities. Customers include departments of transportation in Nevada, Utah, and Massachusetts, and the cities of Houston, Las Vegas, and Seattle.

## ***Autodesk BIM 360 - Insight Updates – January 2022***

19 January 2022

The Autodesk BIM 360 Insight Module released 4 updates relating to Reports and Dashboards. Manu Venugopal discusses these updates on the Autodesk blog. Read the full post here:

<https://blogs.autodesk.com/bim360-release-notes/2022/01/19/insight-updates-january-2022/>

## ***Autodesk BIM 360 Cost Management Updates – January 2022***

21 January 2022

Ian Turner of Autodesk announced the most recent updates to the BIM 360 Cost Management Module. The updates are to the Home Page, Settings, Budget Tools, Change Order Tools, and Forecasting. To read what changed in this software update please read the Autodesk blog here:

<https://blogs.autodesk.com/bim360-release-notes/2022/01/21/bim-360-cost-management-updates-january-2022/>

## ***Elysium - Release Announcement of CADdoctor SX5.3.2***

28 January 2022

Elysium has released CADdoctor SX5.3.2.

Enhancement

Added Support for the Latest CAD Versions

Options	Versions added in SX5.3.2	Supported Versions
CATIA V5 Import	R31(V5-6R2021)	R7 – R31(V5-6R2021)
NX Import	NX 1980 Series	UG10 – NX 1980 Series
Creo Parametric Import	8.0	2000i – Creo Parametric 8.0

## ***Fraunhofer LBF brings AdaptroSim to the Altair Partner Alliance***

12 January 2022

Altair is thrilled to welcome Fraunhofer LBF and its vibration analysis solution AdaptroSim for Altair to the Altair Partner Alliance (APA). Fraunhofer LBF was founded in Darmstadt, Germany in 1938. Since 1963 Fraunhofer LBF, a member of Fraunhofer-Gesellschaft, operates 75 research institutes throughout Germany and the rest of the world. Specializing in applied scientific research, it's currently the largest organization of its kind in Europe.

“AdaptroSim for Altair provides Altair customers state-of-the-art methods and functionalities for advanced coupled structures and systems engineering for vibration technology in the development environment they are used to and that makes them productive,” said Dr. Sven Herold, head of Fraunhofer LBF’s Smart Structures Division. “This will allow for faster development cycles and products that are more lightweight, more powerful, more reliable, and provide more comfort for end users.”

AdaptroSim for Altair increases the efficiency of the design process and allows users to analyze, model, and simulate vibration in a variety of environments, giving users tools to reduce and control vibration in their systems and products. AdaptroSim for Altair is available through an Altair Compose® and Altair Activate® library to simulate and improve model designs in a range of industries, including aerospace, automotive, maritime, energy, and more.

By automating system simulation processes and optimizing the combination of control, structures, and signal processing, AdaptroSim for Altair reduces development time and helps solutions perform better.

## ***Materialise and Sigma Labs Develop Breakthrough Technology to Advance Metal Additive Manufacturing***

26 January 2022

Sigma Labs, Inc., a provider of quality assurance software, and Materialise, a leading provider of additive manufacturing (AM) software and services, have developed a breakthrough technology to enhance the scalability of metal AM applications. The new platform combines the Materialise Control Platform and Sigma Labs’ PrintRite3D® sensor technology to allow users to identify and correct metal build issues in real-time. With added control over their unique processes, manufacturers can optimize metal AM processes for consistency and repeatability, key factors in scaling AM operations for serial

production.

Metal AM has become a more prominent piece in the manufacturing toolkit for companies in industries such as aerospace, medical device, automotive and energy to introduce more localized, customizable production. However, a lack of process robustness and repeatability is holding back broader adoption for serial production, and the need for post-build inspection and quality assurance can result in higher costs when compared to traditional manufacturing methods. The new platform can be retrofitted to existing 3D printers to improve manufacturing processes or offered as an add-on to new machines for metal AM.

The Materialise Control Platform (MCP) is an embedded hardware solution that provides end-users more control over the AM process. By integrating the MCP with Sigma Labs' PrintRite3D® sensor technology, the companies have created the possibility to identify quality issues and intervene to correct them in real time. This improves the productivity in metal AM and reduces scrap rates, paving the way for manufacturers to advance their operations and implement metal AM in serial production.

“The platform we've developed eliminates one of the most common roadblocks for manufacturers interested in using metal additive manufacturing for serial production,” said Materialise CTO Bart van der Schueren. “The platform is open and flexible allowing manufacturers to take control of their specific processes to fit their unique applications. This makes it possible for customers to leverage their expertise and truly take advantage of the customization and localization benefits that AM provides.”

In addition to the platform, Materialise and Sigma Labs will collaborate with end-users and machine producers to refine processes for their unique applications. The companies are seeking partners across industries who are interested in expanding their use of metal AM in serial production.

Mark Ruport, President and CEO of Sigma Labs, stated, “I am very pleased with our long relationship with Materialise and the close collaboration between our engineering teams. We believe the combination of the Materialise Control Platform with Sigma's real-time melt pool monitoring, and analytics software has created a significant breakthrough in the additive manufacturing industry. I look forward to future opportunities to collaborate and find ways to continue to improve the quality and consistency of 3D metal printing as more companies go into production in the coming years.”

## ***ModuleWorks Dental CAM now integrated in exocad's ChairsideCAD software***

25 January 2022

exocad's *ChairsideCAD* is a complete open-architecture software platform for single-visit-dentistry. It connects to third-party intraoral scanners, milling machines and 3D printers to provide a fully integrated and easy-to-use dental CAD/CAM workflow. exocad offers an integration with ModuleWorks Dental CAM to drive the CAM part of the workflow. The ModuleWorks software takes the CAD data as input and automatically generates high-performance, collision-free toolpaths for electronic transfer to on-site milling machines or 3D printers.

The entire *ChairsideCAD* workflow is automated and designed to be intuitive, enabling dentists to easily step into digital dentistry and offer complete digital services for single-visit treatment.

“ModuleWorks Dental CAM supports our open architecture philosophy of offering clinicians an option to work with their preferred hardware devices. The software also offers sophisticated automation enabling a seamless and intuitive Scan-CAD-CAM-CNC workflow for chairside applications.”

Novica Savic, CCO at exocad

“It's great to see how this integration results in smoother workflows for dentists and helps them deliver a better patient experience. We look forward to extending and developing the technology further.”

Soroosh Eghbali, Head of CAM Automation & Digital Dentistry at ModuleWorks.

## ***Tackle Market Disruption with Latest Centric Software® PLM Innovations***

26 January 2022

Centric Software, the Product Lifecycle Management (PLM) market leader, announces new innovations to address market challenges in its latest release, Centric PLM v7.4.

Centric Software provides the most innovative enterprise solutions to plan, design, develop, source and sell products such as apparel, footwear, sporting goods, furniture, home décor, cosmetics, food & beverage and luxury to achieve strategic and operational digital transformation goals.

While supply chain disruptions and the on again/off again nature of the pandemic interrupt go-to-market plans, companies are also grappling with increasing and changing material costs. Decision-making is no longer just driven by cost, but also by material availability and sustainability targets. In response, the latest Centric PLM release contains market-driven features developed in close relationship with Centric's customer advisory board and innovation partners. Centric PLM v7.4 can be leveraged to reduce costs, drive competitiveness, stay close to consumers, improve collaboration and boost quick execution.

“With supply chain challenges and uncertainty being the current norm, more fashion, luxury, outdoor and consumer goods companies are seeking digital transformation solutions to combat these disruptions and improve agility,” says Ron Watson, VP of Product at Centric Software. “Centric PLM v7.4 eliminates many of the manual processes associated with communication, design, development, production and shipping, enabling new efficiencies.”

Centric PLM v7.4 squarely addresses the needs of brands, manufacturers and retailers in the apparel, furniture, home décor and multi-category industries with features including a packing list tool to automate the production of labeling for customs, speeding up shipping and transportation. The Product Presentations module enables teams to build presentations using PLM's single actionable source of truth, both saving time and ensuring that information is accurate and on-brand. Centric continues to expand its end-to-end 3D digital design and development approach by giving non-3D users the ability to view and provide feedback on 3D product visuals, enhancing collaboration and streamlining product communication. New side-by-side Bill of Materials (BOM) comparisons enable product teams to make faster and smarter choices about their designs and easily track changes over time.

“Centric PLM became that classic single source of the truth, so that we could have a really high quality, highly trusted source of information about all the products that we're bringing to market,” says Tim Smith, Director of Product Technology at Aritzia.

“We are proud to introduce the latest industry-driven innovations in Centric PLM,” says Chris Groves, President and CEO of Centric Software. “We work closely with industry leading retailers, brands and manufacturers to develop tools that alleviate market pressures and enable them to focus on being more consumer-centric.”

## ***Trimble Bridges the Gap Between MEP Design and Fabrication Departments with New Trimble Connect Application***

24 January 2022

Trimble introduced Trimble Connect2Fab, a web-based application within the Trimble® Connect® collaboration platform that enables a seamless connection between design and fabrication workflows for Mechanical, Electrical, and Plumbing (MEP) contractors. Using an intuitive interface, Connect2Fab provides unparalleled visibility into, and control over, work packages and spool drawings that are sent to

# CIMdata PLM Industry Summary

---

the fabrication shop and then to the field. This empowers teams to work with maximum transparency, streamlining traditionally cumbersome workflows and enabling stakeholders to execute data-driven decisions throughout a project's lifecycle.

The announcement was made at the MEP Innovation Conference powered by Trimble and hosted by the Mechanical Contractors Association of America (MCAA), National Electrical Contractors Association (NECA), and Sheet Metal and Air Conditioning Contractors' National Association (SMACNA).

Using Connect2Fab, shop and field personnel do not need modeling experience or CAD platform access to create or modify spools. Now users can create spool drawings and set end-points directly in Connect2Fab based on what works for the fabrication and installation teams, reducing bottlenecks between design and fabrication teams.

By providing a digital workflow that removes disconnects between processes and people, Connect2Fab allows for real-time status tracking and gives Building Information Modeling (BIM) access to fabrication and field stakeholders. This in turn reduces a range of issues that challenge contractors, such as re-work, waste, constructability and clash detection.

"We know that the MEP pre-fabrication process suffers from inefficiencies, redundant work, and waste when design and fabrication departments aren't connected by digital workflows," said Lawrence Smith, vice president and general manager of Trimble MEP. "By providing pre-fabrication stakeholders access to spool data, no matter their CAD access, Connect2Fab allows for model-centric planning and tracking according to real-time information."

## Availability

Connect2Fab is now available as a stand-alone subscription that includes Trimble Connect Business Premium for MEP contractors in North America. Connect2Fab is also included in the Trimble VDC Pro+ subscription..

The VDC Pro+ subscription is also available as part of **Trimble Construction One™**, a connected, cloud-based construction management platform that drives speed, efficiency and accuracy at each phase of the construction project lifecycle. Using Trimble Construction One, contractors can leverage a purpose-built connected construction management platform that reveals the right information at the right time so organizations can make the right decisions.

## ***Zemax launches STAR Module enhancements, plus new OpticStudio & OpticsBuilder analysis visualization tools***

25 January 2022

Zemax, an Ansys company, is pleased to announce the latest release of our three major products: OpticStudio®, our flagship optical design solution; OpticsBuilder™, which streamlines optomechanical packaging; and our latest product, the OpticStudio® STAR Module, which simplifies and optimizes workflows between finite element analysis (FEA) packages and OpticStudio. This version 22.1 release is the first of several we anticipate for the calendar year 2022.

While all products received valuable technical updates for this release, we are especially proud of our continued improvements to the STAR Module, which was introduced in May 2021. In December, the international optics and photonics society SPIE announced the STAR Module as a finalist for their 2022 SPIE Prism Award in Software. "As a technology leader at Zemax, I have always strived to advance innovation in our products," said Sanjay Gangadhara, Chief Technology Officer of Zemax. "SPIE's recognition for our innovation is truly an honor."

Winners will be announced at the Prism Awards Ceremony on January 26th at **Photonics West**. To see

the full list of 2022 Prism finalists in all ten categories, read the **SPIE press release**.

## **OpticStudio STAR Module 22.1: Expanded FEA fitting capabilities and new methods of visualization**

*Releases on January 25, 2022*

The **OpticStudio STAR Module 22.1** features the following key changes:

- **Multi-wavelength thermal FEA fitting capabilities**  
We significantly enhanced the STAR Module algorithm for thermal FEA fitting to provide simultaneous support for multiple wavelengths, enabling users to analyze the performance of optical designs across all relevant temperatures and wavelengths for the system. This update supports a wide range of optical applications where spectral response is critical to system design, such as in cell phone lenses, cameras for autonomous vehicles, and guided laser cutting tools. We also added a wavelength option to certain STAR analyses letting users view optical system performance at any wavelength they select.
- **Thermal Index Plot**  
This new tool lets users visualize the refractive index with respect to the temperature defined in their FEA thermal datasets and see the refractive index range calculated by STAR. By plotting index versus temperature, the tool helps users visualize temperature effects for each surface in an optical design, as well as monitor the index range column to see which lens experiences the greatest optical change.
- **FEA Data Viewer**  
With this new tool, users can now visualize their FEA datasets in OpticStudio before loading them into the system and assigning them to an optical surface. This capability enables users to readily verify the correct files are used prior to performing a numeric fit of the data. The tool also displays key parameters about the data in text form, such as dimensions and center location, helping users verify the correct FEA dataset in advance so they can avoid errors and time spent loading irrelevant data.

## **OpticStudio 22.1: Wide-angle system design and ray aiming improvements, native non-sequential diffraction analyses, and more**

*Releases on January 25, 2022*

All editions of **OpticStudio 22.1** include a new ray aiming algorithm designed for innovative applications that require a wide field of view, such as machine vision, surveillance cameras on drones, cameras for autonomous vehicles, and cell phone lenses. This improvement addresses issues in situations where existing algorithms have struggled, such as "cannot trace" errors and other analytics discontinuities. Professional and Premium editions also include non-sequential off-axis mirror improvements to enable the front surface of an object to support a wider variety of shapes; updated surface-relief grating DLLs using the RCWA method for increased accuracy and performance; and (in subscription versions) three new non-sequential diffraction analyses for volume holograms that analyze holograms constructed with Hologram Lens, Hologram Surface, and Toroidal Hologram objects.

Additional OpticStudio improvements for this release include:

- ZOS-API support for Mathematica, including templates and examples for various applications
- Ability to define the aperture stop so that chief rays can be easily created in OpticsBuilder
- Updated Project Directory support for storing and updating design files in a single location
- 16 new materials added to the CDGM material catalog, plus updated thermal coefficients

## **OpticsBuilder 22.1: Creo 7 support, Advanced Ray tools, and sample file improvements/additions**

# CIMdata PLM Industry Summary

---

*Releases on February 1, 2022*

**OpticsBuilder** is now available on PTC Creo Parametric 7.0.5.0 or later. By supporting this major release by PTC, we continue to provide OpticsBuilder for users as they utilize new CAD functionality. In addition, we've updated OpticsBuilder for Creo to support the nonsequential off-axis mirror component that we introduced as a new native component type in OpticStudio 21.3. Creo users can now use this component across the Zemax range of products without loss of design integrity, and with full access to analysis tools.

OpticsBuilder for Creo 22.1 also introduces the Chief Ray tool. This tool generates chief rays based on sources the user selects during setup, and then allows for easy analysis within the user's CAD tools for making informed decisions, defining further changes to the mechanical assembly, and ensuring ray path requirements are met.

All versions of OpticsBuilder 22.1 also include six new sample files—Cellphone camera lens, Cube Satellite, Laser-Induced Thermal Lensing Effect, Ultra-Short Throw Projector, Schmidt-Cassegrain, and Rifle scope—as well as improvements to three existing sample files (Helium 37mm, Single Gauss 25mm, and Laser w Aplanatic Lens). Multiple bug fixes are also included with the release.

## **OpticStudio SolidWorks CAD Link and OpticsBuilder for SolidWorks end of support**

Due to a decision made unilaterally by Dassault Systèmes, OpticsBuilder for SolidWorks and the CAD Link: SolidWorks functionality in OpticStudio are no longer supported as of December 31, 2021. OpticsBuilder for SolidWorks customers can continue using their software for the remainder of their contracted term. With the release of OpticStudio 22.1, users will no longer have a dynamic link to parts and assembly files created in SolidWorks. This means that users will no longer be able to expose the dimensions of those parts in OpticStudio for purposes of modifying, optimizing, or tolerancing.