

Contents

<i>CIMdata News</i>	3
CIMdata Announces Green Energy & Sustainability Research	3
Key Business Imperatives: Transforming Food & Beverage Retailers, Brands, and Producers - a CIMdata Commentary	3
Making Profitability and Sustainability a Reality for a Better World: aPriori’s Manufacturing Insights Conference 2022 – a CIMdata Commentary	9
<i>Acquisitions</i>	13
Hexagon strengthens its construction software offering for asset owners with the acquisition of Projectmates	13
L&T Technology Services agrees to acquire Smart World & Communication business of L&T.....	14
<i>Company News</i>	15
AECOM appoints vice president of sustainability for its Construction Management business	15
AECOM receives the Terra Carta Seal in recognition of its leading position in sustainability.....	16
Dassault Systèmes Governance Plan Announced in 2022 Now Effective	17
DXC Technology Adds Anthony Gonzalez and Karl Racine to Board of Directors.....	18
Hewlett Packard Enterprise names Frank D’Amelio, former CFO of Pfizer Inc., to Board of Directors	19
iBASEt announces expanded partnership with the Manufacturing Technology Centre (MTC)	19
IBM - Leadership Updates.....	20
Informatica Announces CFO Transition.....	21
Matterport Appoints Cloud Industry Executive Natalie Lamb as Managing Director for EMEA	23
Robert Karmelich Joins ASME as Senior Managing Director of Corporate Sales and Customer Care.....	23
SEMI NORTH AMERICA ADVISORY BOARD WELCOMES NEW MEMBERS FROM ADVANTEST, TEL US AND WESTERWOOD GLOBAL.....	24
Spacewell Appoints Wouter Hartemink as New CEO	25
Tecsyst Completes Workday Certified Integration.....	25
TOLERANCE MANAGEMENT PARTNERSHIP BETWEEN CENTIT AND TECHNODAT IN EASTERN EUROPE.....	26
Xometry Europe Expands Into The U.K.	27
<i>Event News</i>	27
HONEYWELL ANNOUNCES 2023 INVESTOR DAY EVENT IN NEW YORK CITY	27
Markforged to Participate in the 25th Annual Needham Growth Conference.....	28
Meet ZWSOFT at Hannover Messe 2023: The World’s Leading Industrial Fair	28
Synopsys to Present at Needham Growth Conference	29
<i>Financial News</i>	29
IBM to Announce Fourth-Quarter and Full-Year 2022 Financial Results	29
Infosys to Announce Third Quarter Results on January 12, 2023	30
Infosys: Strong growth of 13.7% in constant currency in a seasonally weak quarter	30
Invitation to media and analyst briefing for Ericsson Q4 and full year 2022 report	32
Wipro Announces Third Quarter Results, Delivers Record Total Bookings.....	33
<i>Implementation Investments</i>	36
Ansys Simulation Empowers Atomberg to Reduce Home Appliance Energy Consumption by 65%	36
Bianchi Uses Ansys to Reduce Physical Bicycle Prototypes by 70%	36
Blackline Announces Largest Deployment to Date in Middle East	37

CIMdata PLM Industry Summary

Cape Union Mart Elevates its Merchandise Assortment and Operations with Oracle Cloud	38
Centric Software Announces Strategic Retail Planning Partnership with Global Fashion Powerhouse	38
Chicago Music Exchange Harmonizes its Business with NetSuite	39
Chipletz selects Siemens' EDA solutions for its Smart Substrate IC packaging technology	40
CTBC Bank Selects TCS BaNCS to Digitally Transform its Banking and Wealth Landscape	40
Dassault Systèmes Presents Urban Renaissance, Featuring a 3D Mapping Project Illustrating the City of Tomorrow by Korean Artist Yiyun Kang	41
Halodi Robotics Leverages Ansys Simulation to Develop Humanoid Robots to Safely Work Among People	42
HCLTech And The ODP Corporation Announce Agreement For IT And Digital Transformation Services	43
HCLTech Selected As Mattel's Primary Digital Transformation Partner	44
HUS Logistics chooses the FidaWare WMS SaaS solution from Roima	44
Norwegian Public Roads Administration Selects Trimble for Asset Lifecycle Management	45
Praan Speeds Development of Sustainable Air Purification Technology with Ansys Simulation	46
Sub-Zero Group, Inc. Expands Use of Ansys' Simulation Solutions to Drive Digital Transformation and Sustainable Product Development	46
Turntide Leverages Ansys to Reduce Development Costs for Electric-Powered Construction Vehicles	47
VDL Enabling Technologies Group Chooses Infor for ERP Modernization	48
Product News.....	49
Altair Announces Release of Simulation 2022.2 Software Update	49
Cadence Tensilica HiFi DSP Enables Highly Energy-Efficient Audio Playback for Dolby Atmos for Cars	50
CMS IntelliCAD 11.1 Available Now Based on IntelliCAD 11.1	51
Ganister v2.11 is released !	51
Intelligent P&ID exchange format DEXPI boosts management of digital design data	52
MachineWorks releases Polygonica 3.2	52
Modelithics® Releases the Modelithics MACOM® GaN Library v23.2.1	53
TOPSOLID INTEGRATES MSA FRANCE LIBRARY	54
Vectorworks, Inc. Announces New Cloud and Mobile Enhancements Built on Apple Technology	54

CIMdata News

CIMdata Announces Green Energy & Sustainability Research

12 January 2023

CIMdata, Inc., the leading global PLM strategic management consulting and research firm, announces the launch of a new research effort on how industrial companies are addressing sustainability and the transition to Green Energy.

Sustainability and the transition to Green Energy are critical issues that are top of mind for companies, investors, and consumers alike. CIMdata would like to understand how industrial firms address this by inviting participation in a new CIMdata survey.

The ideal survey respondent works for a company going through a green energy transition to reduce their carbon footprint.

We want to understand the following:

- How industries rate in comparison with other industries relative to sustainability.
- The prevalence of “net zero” pledges.
- How companies organize to achieve sustainability objectives.
- Common features of sustainability programs.
- Bottlenecks to achieving sustainability objectives.

Responses are confidential and are not attributable to any one person or company. Survey participants will receive a summary of CIMdata’s analysis and insight and will be entered into a drawing to receive an Amazon.com gift card.

The survey is available at <https://www.esurveyspro.com/Survey.aspx?id=a893baff-0be3-4c25-84e0-2261fad1493b>.

Key Business Imperatives: Transforming Food & Beverage Retailers, Brands, and Producers - a CIMdata Commentary

4 January 2023

Key takeaways

- The food & beverage (F&B) industry is facing many challenges affecting the ability to bring new products to market and drive growth and margins, notably inflation, fear of recession, risk of reinstated COVID measures, new regulations, and continuing supply chain disruptions for all materials from raw ingredients to packaging materials.
- Continuing pressure on national brands from competitively priced private brands is driving product innovation, complicated by the emergence of new food categories, and changing consumer preferences. At the same time, opportunities are being created for local brands to gain shelf space at large retailers.
- Processes for developing new F&B products require efficient cross-functional internal and external collaboration, adherence to best-practice workflows and management of critical information.
- Technology enablement and digital transformation represent a significant opportunity for both

CIMdata PLM Industry Summary

start up and large F&B companies; local or national or even international. But many companies still run off of spreadsheets—a way of working which has been proven to be inadequate especially in the face of continuously changing compliance, traceability, and sustainability requirements and initiatives.

- CIMdata has identified nine critical imperatives that F&B organizations need to address. This model is based on CIMdata's combined expertise gained from helping many companies in the F&B industry to identify their challenges and how best to respond to them.
- Centric Software® offers a complete and integrated solution allowing F&B brands, retailers, and manufacturers to speed new product introductions, maximize product margins, assure compliance and safety, and increase business agility to stay close to the consumer.

Introduction

Not surprisingly, the food & beverage industry is one of the largest in the world. In the US alone, it is worth over \$2 trillion, when measured based on grocery and food service revenues.[\[1\]](#) The market leader is Walmart, where groceries constitute roughly 55% of sales. Roughly 25% of all dollars spent on groceries in the United States are spent at Walmart. Kroger (#2) who, at the time of writing, announced an intention to acquire Albertsons (#4) have roughly 8% and 5% of the U.S. grocery market, respectively. Eyeing the grocery market for further growth, Amazon is estimated to have taken about \$4 billion in market share from Kroger and Albertsons in the past two years.[\[2\]](#)

The F&B industry has been riding a roller-coaster since early 2020. First the COVID pandemic impacted supply chains and radically shifted long-standing demand patterns as consumers primarily ate from home during this period. This caused dramatic stock outages from which the industry still has yet to fully recover. But before that problem could be fully addressed the industry faced new challenges in the form of global price inflation with no resolution currently in sight.[\[3\]](#)

As inflation deepens, grocers are pushing back on the national food brands to avoid raising prices and losing customers. For example, in Germany ALDI and Lidl want price guarantees from their brand manufacturers. The brands are unwilling to provide these so, for now, brands such as Danone, Nestlé, and Henkel are not on sale in these stores.[\[4\]](#) Also, in February 2022, Canadian Giant, Loblaws pulled Frito-Lay products from shelves following a pricing dispute.[\[5\]](#)

However national brands are only part of the story. In Germany, customers are increasingly using Lidl's and ALDI's private brands, which are much cheaper but typically offer the same quality. Roughly 90% of the items in ALDI's stores globally are private brands. In the US, Trader Joe's has a private brand share of spend at 59%, followed by Wegmans Food Markets at 49%.[\[6\]](#)

In the US, private brand sales hit \$199 billion in 2021. New research indicates that over 80% of food retailers and manufacturers expect to increase investment in private brands over the next two years, with the current average dollar share of 18.2% rising to 22.6%. Retailers believe they can achieve this by means of new product innovation (e.g. premium, simple ingredients, price/value, and meal solutions), supplier price negotiations, and boosting eCommerce.[\[7\]](#)

Perhaps most urgent, however, is addressing the food contamination that continues to plague the industry. In the US, the Centers for Disease Control and Prevention (CDC) estimates that every year 48 million people get sick, 128,000 are hospitalized, and 3,000 die from foodborne diseases.[\[8\]](#) To address this, in 2011 the Food Safety Modernization Act (FSMA) was signed into law with the goal of transforming the US's food safety system. However, as FSMA has been rolled out, the number of outbreaks has grown steadily from 795 per year to over 1,000 in 2018.[\[9\]](#)

CIMdata PLM Industry Summary

Closely aligned with contamination is the impact of allergens, which also lead to a significant number of deaths every year. This can be due to poor control over manufacturing processes, inadequate labeling, or both. In the UK, the recently enacted “Natasha's Law” requires full ingredient and allergen labeling on all food made on premises and pre-packed for direct sale. The change follows the death of Natasha Ednan-Laperouse from anaphylaxis after she ate sesame in a baguette which she purchased at Pret a Manger.[\[10\]](#)

Innovation is a constant need in the industry as brands jostle for market position. Unfortunately, much of the innovation is just simple brand extensions, new cereal flavors for example, which merely cannibalize existing product sales. But real innovation is happening in some areas, for example, meal solutions and desserts. Often, private brands beat national brands to market with product innovations. The need to heavily promote new offerings and the associated costs make the national brands hesitant to launch new products. But perhaps the most interesting innovation is coming from niche brands and local suppliers. For example, locally made BBQ sauce, salad dressing, spices, honey, jam, etc. Grocery retailers are increasingly looking to smaller suppliers to create new products that can be brought to their shelves quickly and easily.

Bringing new products to market is never easy, involving complex processes requiring cross-functional internal and external collaboration. Other problems lie under the surface, all requiring a degree of urgency to fix. These include addressing consumer demands for ingredient transparency, ensuring sustainable harvesting of ingredients, moving to recyclable packaging, ensuring compliance with evolving regulations, and implementing methods to improve traceability.

In most industries, Product Lifecycle Management (PLM) solutions are being used to manage the development of new products and bring them to market quickly and efficiently. Unfortunately, F&B has been late to adopt PLM. Even with the numerous challenges outlined above, the use of comprehensive PLM solutions is generally low and, in some cases, actively resisted. While the largest organizations in F&B are using PLM for key functions such as specification and formula management, supplier management, packaging, and artwork development, many smaller organizations persist with simple solutions based on spreadsheets and email. This makes information hard to share in support of what is essentially a collaborative process, leading to avoidable delays and errors, and limiting process improvement initiatives.

A key symptom of the confusion that arises in this environment is the development of labeling—a true “canary in the coalmine” moment. Uniquely, the product label brings together most of the functions in the product development process—branding, quality, food science, regulatory, marketing, and others. Any miscommunication of information during the development process will often not be seen until this late stage. Further confusion often arises during attempts to resolve errors, resulting in many revisions being required before a label is finally approved.

Fortunately, the F&B industry is well-supported with several competing PLM solutions available. For example, Centric Software offers a comprehensive and integrated solution allowing F&B manufacturers to speed new product introductions, optimize product portfolios, and ensure compliance and safety while maximizing product margins.

The Critical Business Imperatives and How To Address Them

To guide F&B companies at all stages in the product value chain in the use of PLM, CIMdata has identified nine critical imperatives. These are based on CIMdata’s combined expertise gained from helping many companies in the F&B industry to identify their critical challenges and appropriately respond to them. This includes brand companies operating globally, those based in North America and

CIMdata PLM Industry Summary

Europe, ingredient manufacturers, national and local grocery retailers, contract manufacturers, and ingredient processors.



Figure 1—Critical Imperatives for Food & Beverage Companies

Foundation

There are four imperatives at the Foundation level: Product Safety, Compliance, Packaging & Labeling, and Supplier Visibility. These can be thought of as “table-stakes” capabilities that all F&B organizations need to possess. Best-in-class organizations are already using PLM to address these imperatives and ensure they can execute efficiently and effectively. In many cases, PLM is already differentiating some companies from their competitors due to superior and mature capabilities to develop, launch, and maintain products. However, many in the industry have still to implement a comprehensive PLM solution leaving them at a competitive disadvantage with considerable scope for performance improvement. In the absence of a PLM solution, companies rely on spreadsheets, emails, and other personal productivity solutions making accurately sharing, tracking, and updating information extremely difficult, if not impossible. Errors are common.

Next Generation Enablers

There are three imperatives at the Next Generation Enablers level of the model: Product Transparency, Sustainability, and Traceability. These are capabilities that in a few years’ time will distinguish the leading players from the rest. Today, even best-in-class organizations are still working to build a complete response to these imperatives with none having yet achieved full completion. However, all understand that the use of a PLM solution will be essential to achieving their goals, building on capabilities already deployed in addressing the Foundation imperatives.

Differentiators

The final two imperatives are at the Differentiators level of the model: Branding, and Innovation & Agility, where there is always pressure to improve and the bar is always being raised. Best-in-class organizations set the standard for others to match—many are far behind. Again, PLM is a critical enabler for addressing these, putting those that have already implemented PLM solutions at an advantage.

The Imperatives

Individual imperatives are summarized below, and all will be familiar to those in the industry. It is

CIMdata PLM Industry Summary

important to realize that these do not exist in isolation, they in fact overlap and impact one another. However each has a distinct focus, often mapping to a specific area of the organization, which can simplify ownership and actions.

Foundation

Product Safety—Know what’s in your products through specification and recipe management, and where and how they’re being made by maintaining adequate supplier records. Ensure accurate labeling, and be ready to act when a problem occurs. Labeling is one of the most complex and critical to manage, and involves many of the other imperatives, e.g., Compliance, Packaging & Labeling, Supplier Visibility. PLM solutions provide all of the fundamental capabilities to allow F&B organizations to achieve Product Safety.

Compliance—Document and adhere to best practices embodying both brand and regulatory requirements. Gather data to ensure compliance, and leverage it across the organization. PLM solutions are designed to guide users through pre-defined workflows ensuring best practices are followed and required data is gathered and shared in a standardized manner.

Packaging & Labeling—Design packaging to ensure contents are adequately protected and that sustainable and safe materials and processes are used. More than just artwork, labeling is often the most error prone aspect of product development as branding, creative, legal, quality, safety, and regulatory come together to agree what goes on the packaging. PLM helps to ensure that the information required for labeling is accurate, reducing errors and the need for multiple artwork revisions. PLM can also help with packaging design, material selections, and communication with manufacturers.

Supplier Visibility—Employ a “trust and verify” approach to working with suppliers. Work closely with them to ensure they meet or exceed your expectations in all areas. PLM can help by gathering and maintaining critical supplier information, as well as managing certifications, inspections, audits, and non-conformances.

Next Generation Enablers

Product Transparency—Let your customers know about the food they’re buying—what’s in it, where it came from, how it was harvested, etc. PLM can be used to help manage critical ingredient information in collaboration with suppliers. Product Transparency is a critical element in ensuring that allergens are identified and properly declared. It also plays a role in supporting marketing claims such as “vegan,” “healthy,” Kosher, “zero sugar,” and to respond to changing consumer tastes and behaviors (ex: palm oil free, OGM free), etc.

Sustainability—Address consumer concerns about waste by implementing improved business practices to make sustainable ingredients, packaging, and working practices the new normal. PLM can help by maintaining accurate information about materials, ingredients, harvesting, and processing, thereby allowing organizations to calculate and manage the environmental footprint of their products.

Traceability—Regulations don’t always demand full traceability of ingredients, but savvy brand owners want to understand every level of their food supply chain and monitor it for safety, compliance, and sustainability. PLM is an essential enabler for Traceability, ensuring customer loyalty by allowing manufacturers to gather and manage required information from their suppliers.

Differentiators

Branding—More than just the packaging, Branding is the culmination of all capabilities. Having great products is the starting point but establishing and maintaining brand standards for ingredients, claims, and packaging is the new battle ground. By managing every aspect of product development, PLM

CIMdata PLM Industry Summary

solutions can ensure that brand standards are rigorously met at every step in the process.

Innovation & Agility—Best-in-class F&B organizations react quickly to emerging consumer needs and competitor activity to develop and launch new sub-brands and products at scale. By ensuring best practices are followed and enabling internal and external collaboration, PLM solutions can help companies quickly respond.

Centric PLM for Food & Beverage Brand Owners and Manufacturers

To help F&B organizations meet their goals, Centric Software has developed Centric PLM®—a flexible, modular, and user-friendly solution, packed with market-driven innovations that optimize product development and launch—from concept to shelf. It provides a real-time ‘single source of the truth’ for product-related data and manages products, people, and processes across the entire product lifecycle.

Integrated workflow management means that flexible workflows can be built to lead cross-functional teams through various processes, with automatic task hand-offs. Project management features provide users with an advanced planning tool, collaboration functionalities, and dedicated monitoring dashboards to optimize NPD execution.

Centric PLM allows organizations to gain full visibility, track and implement compliance changes, and streamline checks with built-in process management. The solution can also connect to a regulatory database to support compliance assessment during recipe development.

An embedded formulation tool allows users to efficiently build recipes (leveraging customer material database or connected food databases such as USDA SR legacy, USDA FNDDS, USDA Branded Foods, CIQUAL), automate real time calculations (nutrition, allergens, cost, ingredient breakdown and statements, ...) and assess recipe compliance.

Users can connect Adobe® Illustrator and leading 3D CAD solutions like SOLIDWORKS and Rhino directly to Centric PLM for seamless packaging design. Users can connect packaging briefs to product briefs and develop packaging using templates populated with formulation, allergen, nutrition, and regulatory data from PLM.

Centric PLM is set up for end-to-end traceability. All records are connected to the product, from initial concept to product brief creation to sourcing, supplier responses, lab test results, compliance documents, packaging, final product approval and placement in assortment, and merchandise plans.

Centric PLM integrates easily with enterprise solutions such as ERP, PIM, DAM, e-commerce, demand planning, leading 2D and 3D CAD design platforms, and more for streamlined end-to-end data management and collaboration.

F&B Companies already benefitting from Centric PLM include Ferrero, Aviko, Milarex, Montenegro, Great Kitchens, Starpro, Wicked Kitchen, Prodiel, Qinhai, SNS, and more.

Centric Software Background

Centric Software provides innovative enterprise solutions that are used to plan, design, develop, source, and sell products to achieve strategic and operational digital transformation goals.

Partnering with thousands of brands, retailers, and manufacturers across 40+ countries and combining Silicon Valley innovations with market-driven best practices, Centric Software has successfully expanded across multiple industries. Boasting a 99% customer retention rate, Centric is bringing PLM innovations and its proven speed, ease-of-use, and Agile DeploymentSM methodology to the food and beverage industry.

CIMdata PLM Industry Summary

Conclusions

The F&B industry is facing numerous challenges affecting the ability to bring new products to market and drive growth and margins—notably inflation, fear of recession, risk of reinstated COVID measures, and continuing supply chain disruptions for all materials from raw ingredients to packaging materials. Additionally, continuing pressure on national brands from competitively priced private and local brands is driving product innovation, complicated by the emergence of new food categories and alternative consumer preferences.

Processes for developing new products require cross-functional internal and external collaboration, requirements that other industries have found can be met by PLM solutions. However, outside of the largest organizations in the F&B industry there is low usage of PLM, resulting in a number of issues that are not easily addressed by manual ways of working.

CIMdata has identified nine critical imperatives that F&B organizations need to address. This model is based on CIMdata’s combined expertise gained from helping many companies in the F&B industry to identify their critical challenges and respond to them.

Centric Software offers a complete and integrated solution allowing F&B brands, retailers and manufacturers to speed new product introductions, maximize product margins, assure compliance and safety, and increase business agility to stay close to the consumer.

[1] <https://www.ers.usda.gov/topics/food-markets-prices/food-service-industry/market-segments/>

[2] <https://www.reuters.com/markets/deals/kroger-talks-merge-with-rival-grocer-albertsons-bloomberg-news-2022-10-13/>

[3] Research for this commentary was partially supported by Centric Software.

[4] <https://www-discountretailconsulting-com.cdn.ampproject.org/c/s/www.discountretailconsulting.com/amp/germany-stores-look-empty-edeka-rewe-aldi-and-lidl-throw-a-brands-from-shelves>

[5] <https://www.bnnbloomberg.ca/loblaw-frito-lay-resolve-pricing-dispute-that-pulled-chips-from-shelves-1.1750714>

[6] <https://www.supermarketnews.com/private-label/aldi-leads-private-label-volume-growth>

[7] <https://www.supermarketnews.com/private-label/3-ways-retailers-can-drive-private-brand-growth>

[8] <https://www.cdc.gov/foodborneburden/estimates-overview>

[9] <https://www.statista.com/statistics/618491/foodborne-disease-outbreaks-in-the-us/>

[10] <https://www.bbc.com/news/uk-58756597>

Making Profitability and Sustainability a Reality for a Better World: aPriori’s Manufacturing Insights Conference 2022 – a CIMdata Commentary

10 January 2023

Key takeaways

- aPriori’s key message is that, with respect to sustainability, it’s time to move from intent to impact.
- aPriori announced aP Sustainability Insights, scheduled for release in Q1 2023, which garnered a lot of attention from attendees.

CIMdata PLM Industry Summary

- aPriori announced aP Workspace scheduled for release in Q1 2023, with the promise of greater collaboration across the extended enterprise.
- aPriori announced the next major releases of aP Pro, aP Design, and aP Analytics in March 2023.
- Presenters at the conference emphasized the importance of applying early product design feedback, which improves manufacturability, profitability, and sustainability.
- Sustainable design is the key to identifying costly outliers, achieving a reduced carbon footprint.

CIMdata attended aPriori's Manufacturing Insights Conference 2022 in Boston, MA on November 15-16, 2022. This was a return to an in-person event for the first time since 2019, with approximately 200 attendees filling the halls, exhibit space, and meeting rooms at the Boston Marriott Long Wharf. aPriori is a leading digital manufacturing platform that combines product cost management, design for manufacturing, and supplier collaboration. They are releasing two new products, aP Sustainability Insights and aP Workspace, merging cost and carbon equivalents to enable companies to reduce their carbon footprint while maintaining profitability with greater collaboration using their Manufacturing Insights Platform.[\[1\]](#)

During her keynote, aPriori's CEO, Ms. Stephanie Feraday, stated that aPriori's focus is on making profitability and sustainability a reality for a better world. Ms. Feraday reviewed the challenges facing industrial manufacturers such as inflation and margin pressures, mitigating supply chain disruption, closing the labor gap skills shortage, and the need to drive sustainability by reducing carbon emissions.

Regarding the first challenge, she made the point that few organizations create enough capacity to address the growth necessary to pursue innovation opportunities. aPriori enables companies to optimize cost while creating value by providing stakeholders with better insights on should cost, Design for Manufacturing (DFM), Design for Sustainability, and machine selection for process routing. aPriori supports these with two applications: aP Design, which is a role-based application for Design Engineers, and aP Pro, a role-based application for experts in cost, manufacturability, and sustainability. aPriori offers a wide range of manufacturing process models such as forging, additive, extrusions, welding, machining, plastic molding, casting, tube fabrication, and many others.

Ms. Feraday discussed mitigating supply chain risks, reminding us that even a delay of only thirty days has an impact on profitability, and that building resilient and efficient supply chains is critical to mitigating current and future disruptions. She discussed achieving supply chain resilience with digital twins of the most critical parts of the supply chain, creating "what if" scenarios, the need to share data with suppliers, and consideration of ring fencing for critical parts of the supply chain team. She reviewed how Alstom used aPriori to create a digital supply chain, in which Alstom runs a manufacturing simulation and then issues a PO to a supplier for the amount calculated by aPriori. This has achieved 40% savings on recurring costs on over 100K parts.

Regarding the labor and skills gap, Ms. Feraday reviewed survey results that demonstrate students are prepared for CAD, but the vast majority are not prepared for designs that can be manufactured. Her recommendations are to adopt design for manufacturability and Design to Cost (DTC) practices, accelerate product development leveraging design best practices, automate design analysis processes to deliver cost and manufacturability impact at scale, and to share data for better collaboration across organizations. To do this, aPriori offers aP Generate, which enables integration to other applications including major PLM solutions.

Ms. Feraday highlighted survey results that point to the importance of collaboration as being key to personal productivity. aPriori plans to release aP Workspace in Q1 2023. This provides design engineers, managers, cost experts, sourcing, and other experts with real-time collaboration and task

CIMdata PLM Industry Summary

management.

The last challenge Ms. Feraday covered was driving sustainability impact. Quoting Bain & Company, “only 12% of all corporate change efforts fully succeed; the success rate for sustainability initiatives is substantially lower—a paltry 4%.” Ms. Feraday made the point that the intent is there, but what we need now is impact. Manufacturers represent 54% of the world’s energy consumption and are responsible for one-fifth of global emissions. Increases in efficiency driven by technology can help reduce materials consumption and CO₂ emissions.[\[2\]](#)

Ms. Feraday closed with her main message—now is the time to move sustainability from intent to impact as consumers are demanding more sustainable products. There is increased pressure from new legislation and regulations (i.e., EU Taxonomy, SEC) and we no longer need complex and time-consuming full lifecycle assessments. aPriori will now be able to calculate carbon equivalents (CO₂e) at the same time as cost, enabling product development to make better decisions early in design, thereby improving sustainability without harming productivity or profitability. She announced the next major releases of aP Pro, aP Design, and aP Analytics would be March 2023.

Mr. Tristan Abend, a Manager in Value Engineering from Carrier Corporation, presented a case study of how they transformed their cost engineering process across multiple business units. This was one of many case studies presented by aPriori customers highlighting how they gained efficiency using the aPriori Manufacturing Insights Platform.

Mr. Rob Lidster, former Chief Procurement Officer of GE Appliances and aPriori’s Ms. Feraday sat down for a “Fireside Chat on Strategies for Overcoming Challenges with Today’s Supply Chain.” Mr. Lidster described how they were well along their way to adding should cost modeling when COVID hit causing them to become very tactical. This impacted not just tier 1 and tier 2 suppliers, but down to tier 4 and 5. One lesson learned was to multi-source and lessen your risk by diversifying your suppliers across multiple countries. Another was to focus on the total landed cost of ownership instead of trying to lower piece part costs. This highlighted the need to have more strategic sourcing, and in some cases, use zero RFQ sourcing where there is more proactive transparency between the OEM and supplier. In terms of new data that he wished he had, Mr. Lidster focused on value chain analysis and design for sustainability.

Mr. Lidster discussed how supply chain disruptions have been an enormous challenge. Another point was transitioning to more scenario planning to overcome unforeseen disruptions. He made the point that having a competitive advantage is no longer just about cost reduction. During the discussion, Mr. Lidster described the opportunity to both drive efficiency in the supply chain and to own the disruption. He also explained the importance of being resilient to market disruptions and become a fast follower. And lastly to be the disruptor—support new business models or re-imagine existing ones. Such as with skills, there is a bigger emphasis on influencers and people that can work end-to-end with digitalization skills with both technical and business background and emphasize technical training for non-technical people.

Mr. Lidster discussed the importance of using PLM to understand the differences, not just in cost, but form, fit, and function to determine how to move from a more tactical approach to a strategic approach where focus is more on allocation and expansion on margins and less on cost out.

His view is that ESG regulations will only get stronger, driving the need to design for sustainability, especially regarding Scope 3 emissions. He believed this needed to be taken into account as we plan for near shoring and onshoring.

The aPriori team of Mr. Chris Jeznach, Mr. Mark Rushton, Mr. Cormac Eastwood, Mr. Barton Phinney, and Mr. Gibson Peters demoed a scenario that involved a design engineer, cost engineer, sustainability

CIMdata PLM Industry Summary

expert, and a sourcing manager using the aPriori Manufacturing Insights Platform and introducing the aP Workspace application to collaborate and manage tasks more effectively and in less time. In this scenario, they looked at three aspects of manufacturing insights: cost, improved performance (via DFM), and sustainability or reducing the product carbon footprint, plus the issue of unlocking these insights, which are typically siloed. This was an impressive presentation of how a collaborative team could gain insights faster, reduce risk early, and make better decisions faster.

Mr. Chris Platz, a Global Commodity Category Manager at Woodward, presented how digitalization helps them address labor shortages in the aerospace and defense market. He did an excellent job describing the labor shortage as it impacts machining and manufacturing. According to Gartner, today 45% of machinists in the US are 45 years old or older. According to the National Association of Manufacturers, 2.1 million manufacturing jobs could be unfilled by 2030. He covered the three areas that Woodward is focusing on to make themselves more competitive: Digital factories, emerging regions, and Cobots. He compared the old RFQ process where engineering and sourcing working in a linear process took 10 weeks versus a new one-week “digital partnering” process where, if the partner is selected, they will win 100% of the opportunities presented because they have digitalized the supplier’s capabilities, so the right parts are being done by the right source. Cobots produce high-quality and lower-risk parts by augmenting the machine labor pool, driving to a 6-8:1 vs. a 1-2:1 (machine to man) ratio.

Mr. Carsten Hochmuth, Director of Product Management at aPriori, moderated a panel discussion titled “Partnering for Sustainability” with a sustainability innovation program lead at Google, a supplier development engineer at Heliogen, a value engineering manager at Carrier Corporation; a technical manager of value engineering at Scania Group, and a vice president at Vestas Wind Systems. Carsten reviewed COP27, which said 24% of GHG emissions comes from manufacturing. Each of the panelists introduced their companies and what they are doing in terms of sustainability. This was a great discussion on how they think about sustainability with a lot of questions from the audience. Clearly, sustainability was a hot topic with the conference attendees.

Mr. Mark Rushton, Senior Product Marketing Manager at aPriori, presented Design for Sustainability, reviewing how products can be designed with a lower environmental impact. Mr. Rushton reviewed sustainable design, the differences between eco-design and circular design, and defined a sustainable product or company. He reviewed benchmarking products and how design decisions impact 80% of the environmental impact of a product. He provided a detailed look at the entire product lifecycle, explaining direct emissions (scope 1), indirect (scope 2), and both upstream supply chain indirect and downstream supply chain indirect (scope 3) emissions. He discussed how the location of manufacturing, the manufacturing process and holistic design change the potential impact of GHG emissions. Of particular importance was Mr. Rushton’s review of how early design has the biggest impact on potential CO₂e reduction and cost versus later changes where the costs and timeline would increase. He then demonstrated this by giving examples of how manufacturing location is a key driver for processing CO₂e. Mr. Rushton ended with his key point, which is that you must take a holistic approach to reducing CO₂e and that sustainable design is key to a more sustainable product.

This is a small piece of the content presented at aPriori’s Manufacturing Insights Conference 2022. The customers were excited about the new product offerings at the in-person conference.

Conclusion

CIMdata believes aPriori has demonstrated a solid approach to helping manufacturers who are struggling to manufacture “green” products by merging Co₂e emissions data with should cost and design for manufacturing. This enables a company to see both cost and CO₂e data in a PLM solution as

CIMdata PLM Industry Summary

well as aPriori's Manufacturing Insights Platform. This provides companies with the ability to evaluate trade-offs, optimize product design and production for cost, and help enable more resilient supply chains. CIMdata believes this could help manufacturers in many industries, reduce their carbon footprint and measure greenhouse emissions throughout a manufacturer's supply chain (scope 3).

CIMdata looks forward to the new releases of aP Pro, aP Design, and aP Analytics as well as the product launches of aP Sustainability Insights and aP Workspace. CIMdata agrees with Ms. Feraday that now is the time to move sustainability from intent to impact, and that providing the ability to calculate cost at the same time as CO2e will enable companies to make better decisions early on in design, which will lead to more sustainable products without harming productivity or profitability.

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

[2] <https://www.weforum.org/impact/carbon-footprint-manufacturing-industry/>

Acquisitions

Hexagon strengthens its construction software offering for asset owners with the acquisition of Projectmates

12 January 2023

Hexagon AB, a global leader in digital reality solutions combining sensor, software and autonomous technologies, announced the acquisition of Projectmates, a SaaS-based, owner-focused, enterprise construction project management software provider.

Since 1997, Projectmates has been delivering a best-in-class solution designed specifically with an owner's needs in mind: delivering positive ROI from every construction dollar spent. Projectmates' configurable and centralised platform enables owners to keep all working documents and projects within a construction program up to date and in one place – from the planning stages through closeout and handover to the facilities management team.

Linking owners with job sites in real-time and tracking critical information about design changes, job site progress and expectations provides owners with the necessary visibility to make sure projects are executed, monitored, controlled and closed on time and within budget. With powerful reporting and a single view of an entire project portfolio – from capital planning and budget allocation to bidding, contracts, change orders, invoicing and payment – owners can streamline communications and collaboration with architects, engineers and contractors to improve response times, workflows and ROI.

“The solutions that general contractors leverage to help mitigate budget overruns and schedule delays during an asset's construction are often too limited to manage an entire construction program over multiple projects – from concept to closeout – and don't provide the relevant information required by the asset owner,” says Hexagon President and CEO Paolo Guglielmini. “Purpose-built for owners, Projectmates' next-generation SaaS technology transforms how projects are visualised and managed. Through intelligent tracking of project schedules, costs and values, owners of any construction project – from industrial and commercial assets to infrastructure – can avoid delays and save money.”

“Projectmates' solution nicely complements our existing comprehensive construction portfolio (HxGN Smart Build) used by general contractors and leading EPCs, which includes enterprise planning and project controls software and reality capture solutions that monitor job site safety and evidence job site progress,” continued Guglielmini. “With Hexagon's established global channels and engaged customer

CIMdata PLM Industry Summary

base, Projectmates will be able to expand its industry-leading solution to asset owners around the world.”

Headquartered in Dallas, Texas, USA, and serving a wide range of clients and industries with over 100,000 active projects across North America, Projectmates (Systemates, Inc., doing business as Projectmates), will operate within Hexagon’s Geosystems division. The acquisition has no significant impact on Hexagon’s earnings, with a closing subject to customary regulatory approvals - expected over the coming weeks.

L&T Technology Services agrees to acquire Smart World & Communication business of L&T

12 January 2023

L&T Technology Services Limited, a global leading pure-play engineering services company, announced that it has agreed to acquire the Smart World & Communication (SWC) Business of L&T, enabling LTTS to combine synergies and take offerings in Next-Gen Communications, Sustainable Spaces and Cybersecurity to the global market.

Smart World & Communication was founded in 2016 to cater to the demands in smart cities, address opportunities and provide smart solutions in the areas of end-to-end communications, city surveillance and intelligent traffic management system for the Government as well as enterprises. It has an employee base of over 700 engineers from diversified technology domains and has crossed an annual revenue of INR 1,000 Crores.

The coming together of the LTTS and SWC teams will address the entire gamut of digital offerings including design, architect, build & operate, effectively catering to the portfolios encompassing Next-Gen Communications, Sustainable Spaces and Cybersecurity.

SWC’s strong expertise in the area of **Next-Gen Communications** has been instrumental in the network design, planning, implementation and management including Network Operations Center (NOC), OSS, Datacenter, Cloud/Private 5G of over 25,000 locations across India. It has assisted multiple state governments in India with network operating centers and network management systems while establishing end-to-end network connectivity projects such as TANFINET and Telangana Fiber Grid. SWC has created gEDGE data centers with a lot of innovation resulting in up to 40 percent reduction in power consumption and up to 30 percent savings in capex.

LTTS has been an early mover in the global communications domain, identifying 5G as a Big Bet in 2020. Today, LTTS’ 5G offerings and services have resulted in the company taking complete ownership of 10+ Labs-as-a-Service for customers, 5G network assurance with over 100 use cases for clients, and more than 100 product families developed for OEMs globally.

5G is expected to have a global impact of \$1.3 trillion by 2030 and LTTS with SWC believes that together, it is in a stronger position to continue to win and execute large scale transformational programs in India and globally in this segment.

In Sustainable Spaces, SWC brings capabilities around public safety, smart cities, critical infrastructure and smart metering along with *L&T Fusion Platform* and Integrated Command and Control Center (IC3). Implementation of mega public safety projects were completed in Mumbai, Hyderabad and Nagpur where tens of thousands of devices including cameras and network equipment have been rolled out for city level projects. Another notable measure of success is the Prayagraj Smart City program, an AI based crowd management project which has successfully managed over 250 million people. SWC has also implemented smart metering in states like Uttar Pradesh, Haryana and Delhi to the tune of 6

million meters.

LTTS brings smart building and experience management capabilities through its *i-BEMS* platform that has been deployed in the ‘world’s smartest office campus’ in Israel with over 14,000 sensors. Together, LTTS and SWC will address a larger market of \$390 billion globally for sustainable spaces.

In Cybersecurity, SWC brings Full Lifecycle Threat Management capabilities, with offerings in risk assessment, threat monitoring, security architecture, design, and DevSecOps. LTTS has been offering Cybersecurity services to its OT and product customers globally.

The joint team of LTTS and SWC would provide Security Operating Centers (SOC), full lifecycle threat management, OT cybersecurity and product security credentials and address the demands of the projected \$376 billion cybersecurity market.

Commenting on the occasion, **Mr. S. N. Subrahmanyan, Chief Executive Officer & Managing Director, Larsen & Toubro Limited** remarked: *“Smart World & Communication has created a niche for itself in the communications and smart spaces domain across developing markets. By combining with a global engineering services player like LTTS, its offerings across next-gen networks, smart spaces, and cybersecurity will help unlock new synergies across the technology spectrum. LTTS is well-positioned to take these capabilities to the global market, cementing its robust leadership in the engineering and technology domain.”*

Amit Chadha, CEO & Managing Director, L&T Technology Services said *“The acquisition of SWC is a progression of LTTS’ 6 Big Bets strategy with a direct bearing on 5G, Digital Products & AI, and Sustainability. SWC’s capabilities will enhance LTTS’ differentiation in the exciting field of next-gen communications with cutting edge solutions around 5G networks, sustainable spaces, along with a full stack of cybersecurity solutions to our global clientele. The combined team of LTTS and SWC will take these offerings incubated in India to the World while bringing best practices to Indian and global customers. On behalf of all employees at LTTS, I express my gratitude to the L&T management for putting their confidence in us and extend a warm welcome to all our colleagues at SWC. Look forward to doing exciting transformational programs together”*.

The acquisition is subject to customary closing and approvals.

Company News

AECOM appoints vice president of sustainability for its Construction Management business

9 January 2023

AECOM, the world’s trusted infrastructure consulting firm, announced the appointment of Max Driscoll, AIA, LEED-AP, GRI as Vice President of Sustainability for its Construction Management business. In this newly created role, Mr. Driscoll will work throughout the Construction Management business to further AECOM’s *Sustainable Legacies* ESG strategy, realizing solutions across procurement, design, and delivery that support the achievement of the Company’s 2040 science-based net zero targets.

“Sustainability is no longer an option in our industry. Nationwide, we’re witnessing unprecedented investment in the built environment and it’s imperative that that investment deliver truly sustainable outcomes,” said Jay Badame, president of AECOM’s Construction Management business. “As we continue to improve environmental impacts across our work, we’re proud to welcome Max and look

CIMdata PLM Industry Summary

forward to his leadership in delivering strategies that support thriving, sustainable spaces today and into the future.”

With more than two decades in architecture, strategic planning, sustainable design, and environmental compliance, Mr. Driscoll brings a broad scope of expertise to the role. He has led and worked on several large-scale sustainability projects, including the World Trade Center site in New York; a two million-square-foot net zero energy corporate campus; a first-of-its-kind sustainable infrastructure guidelines for the Port Authority of New York and New Jersey; and the highest rated LEED Platinum interiors project certified by U.S. Green Building Council (USGBC) at the time. While at Purdue University, Mr. Driscoll also led the development of the University’s sustainability master plan.

As the Construction Management business is a core component of AECOM’s total and supply chain emissions, Mr. Driscoll’s work will be central to efforts to decarbonize the Company. His services will include advancing sustainable construction and carbon reduction strategies for clients, project teams, and supply chain as well as managing the delivery of sustainability services and leading the business in its efforts to achieve net zero carbon goals. He will play a defining role in AECOM’s Supplier Engagement Strategy, an initiative to identify and reduce supply chain emissions, and ScopeX, an approach to halve the carbon impact of major projects compared to industry norms.

AECOM’s *Sustainable Legacies* strategy encompasses the Company’s commitment ESG principles in its business and work, centered around four key pillars: embedding sustainable development and resilience; improving social outcomes; achieving net zero; and enhancing governance. Working with clients and partners, the initiative advances efforts including driving innovation in sustainability, integrating net zero and resiliency targets into projects, and measuring key environmental impacts.

AECOM receives the Terra Carta Seal in recognition of its leading position in sustainability

11 January 2023

AECOM, the world’s trusted infrastructure consulting firm, announced that it has been awarded the Sustainable Market Initiative’s (SMI) Terra Carta Seal for its commitment to sustainability and exemplifying leadership in advancing environmental stewardship industrywide.

“We’re proud to receive the Terra Carta Seal and be recognized at the leading edge of private sector firms working toward a more sustainable future,” said Troy Rudd, AECOM’s chief executive officer. “The Terra Carta presents comprehensive, guiding principles for progress on the greatest challenges of our time, understanding that markets will play a defining role in addressing the climate and biodiversity crisis. Through our Sustainable Legacies strategy, we are committed to making a positive impact through infrastructure solutions, continually improving our operations and capabilities to achieve rigorous sustainability goals and help our clients and industry do the same.”

The Terra Carta Seal, launched at COP26 by HM King Charles III when he was Prince of Wales, recognizes global companies which are driving innovation and demonstrating their commitment to, and momentum towards, the creation of genuinely sustainable markets. Designed by Sir Jony Ive, the Terra Carta Seal embodies the vision and ambition of His Majesty King Charles III and the Terra Carta, as a recovery plan for Nature, People and Planet.

Since launching its *Sustainable Legacies* ESG strategy, AECOM has bolstered its position as a leader in private sector sustainability. In fiscal year 2021, the Company achieved operational net zero as it progresses toward a rigorous science-based 2040 net zero target validated by the Science Based Targets initiative (SBTi). This target, among the most ambitious globally, is complemented by the Company’s

CIMdata PLM Industry Summary

ESG Advisory Services to support clients on their own net zero journeys and ScopeX, the Company's approach to reduce the carbon impact of major planning, design, and construction projects by at least 50 percent compared to industry norms.

In partnership with the SMI, the Company also recently established a Measurement and Transparency Task Force to standardize methodologies and tools on gauging the predicted environmental impact of sustainable infrastructure projects, specifically in respect of carbon and nature.

"The SMI brings CEOs together to work on the shared goals of accelerating our transition to a sustainable future," said Brian Moynihan, Co-Chair, Sustainable Markets Initiative. "I congratulate those organizations recognized with the 2022 Terra Carta Seal and thank them for their commitment to sustainable markets."

The Terra Carta Seal acknowledges that each industry faces unique challenges in its transition to a sustainable future and they are all at different stages of their journey. And all industries and companies must be supported as they take steps in a more positive direction. At the same time, an accelerated pace is required if we are to stay within 1.5-degrees of global warming, protect and restore biodiversity and benefit the lives and livelihoods of current and future generations.

Dassault Systèmes Governance Plan Announced in 2022 Now Effective

9 January 2023

Dassault Systèmes announces that the governance organization carefully crafted over years and aligned with the company long term strategy, as communicated on April 27, 2022, is effective January 9, 2023:

- Charles Edelstenne, Founder, is handing over his position as Chairman of the Board of Directors, remains Director and becomes Honorary Chairman.
- Bernard Charlès, Vice Chairman of the Board of Directors and Chief Executive Officer, becomes Chairman and Chief Executive Officer.
- Pascal Daloz, Chief Operating Officer, is also appointed Deputy Chief Executive Officer. Daloz is member of the Board of Directors.

Laurence Daures (formerly Lescourret), an independent Director and Chair of the Compensation and Nomination Committee, was appointed Lead Independent Director on March 15, 2022. Her missions include organizing the work of independent Directors, the assessment of the Board's operations, and preventing and managing any possible conflicts of interest concerning the Directors.

Charles Edelstenne, Founder, Dassault Systèmes' Honorary Chairman of the Board said:

"For almost 40 years, Bernard Charlès has played a critical role in developing Dassault Systèmes from a start-up to a global player. His passion for science, his unique vision, and his ability to articulate a comprehensive strategy made our dream possible, with Dassault Systèmes solutions transforming many industries, from Aerospace to the future of mobility and now Life Sciences. Our journey together has been an incredibly enjoyable time. Since 2016, Bernard is Vice Chairman of the Board, thus making this evolution a natural and legitimate one. On this special day, as I handover my role as Chairman of the Board, I measure the distance travelled during those four decades. I am proud that Bernard embodies so well Dassault Systèmes and I fully trust him in successfully oversee the future development of the company."

Bernard Charlès, Dassault Systèmes' Chairman of the Board and Chief Executive Officer, commented: "As Charles, a significant shareholder of Dassault Systèmes, takes the position of Honorary Chairman and remains a Director, for which I sincerely thank him, I look forward to his continuous collaboration

CIMdata PLM Industry Summary

with us and to Dassault Systèmes benefitting from his vast experience. This successful tandem approach will also continue with Pascal Daloz, today appointed Deputy Chief Executive Officer, and myself, as we have been working together for more than 20 years. I would like to express my sincere thanks to the Board of Directors and to the Dassault family for their trust and continuous support. Pascal and I share the same common conviction: the power of science-based virtual universes drives value and progress for all stakeholders, be they companies, patients, consumers or citizens. Continuing to develop Dassault Systèmes, helping our customers to create new solutions in the Experience Economy, designing practical sustainable solutions, are some of the company’s ambitious objectives.”

DXC Technology Adds Anthony Gonzalez and Karl Racine to Board of Directors

5 January 2023

DXC Technology announced the appointment of Anthony Gonzalez and Karl Racine to the company’s Board effective immediately. Mr. Gonzalez will serve on the Compensation Committee of the Board and Mr. Racine will serve on the Nominating/Corporate Governance Committee of the Board.

“On behalf of all of our directors, we are excited to welcome Anthony and Karl to the DXC Board,” said Mike Salvino, DXC chairman, president and CEO. “They bring proven leadership abilities and valuable experience to our Board, and our management team is looking forward to working with both of them.”

“Since August of 2020, we have appointed seven new Board members to DXC with a broad set of experience, skills, diversity and perspectives that complement the strengths of Mike Salvino and his leadership team,” said Raul Fernandez, Chair of the Board’s Nominating/Corporate Governance Committee. “We are thrilled to have Anthony and Karl join the DXC Board.”

Mr. Gonzalez is a former U.S. congressman for Ohio’s 16th Congressional District in the United States House of Representatives where he served from January 2019 until January 3, 2023. Mr. Gonzalez served on the House Financial Services Committee and the Committee on Science, Space, and Technology. Additionally, he served on the House China Task Force, the Select Committee on the Climate and was Vice Ranking Member of the Diversity and Inclusion Subcommittee on Financial Services. Prior to that, in July 2015 he joined InformedK12 (formerly Chalk Schools) where he served as Chief Operating Officer and led all commercial and business functions for the company until June 2017, helping to triple the size of the business. From June 2014 until June 2015, Mr. Gonzalez served as the Director of Business Development and Corporate Development for Beneco, Inc., where he was a Board Observer and helped stabilize the business through a change of ownership and multiple CEO transitions. A graduate of The Ohio State University and Stanford University’s Graduate School of Business, Mr. Gonzalez played 5 seasons in the National Football League.

Mr. Racine is the former attorney general of the District of Columbia. He was sworn in as the District of Columbia’s first elected attorney general in 2015 and was reelected to a second term in 2018, where he served until January 2, 2023. Mr. Racine serves on the board of directors of Safe Harbor Financial, a financial services technology firm that serves the regulated cannabis industry. In 2021, Mr. Racine served as President of the bipartisan National Association of Attorneys General (NAAG). In 2022, NAAG awarded Racine the highest honor bestowed to a sitting Attorney General—the Kelley-Wyman Award. Mr. Racine draws on over 30 years of legal and leadership experience. Over the course of his career, he has worked at the D.C. Public Defender Service, where he represented district residents who could not afford a lawyer, served as associate White House counsel to President Bill Clinton, and worked on criminal cases and complex civil litigation at private firms. While in private practice, he was

CIMdata PLM Industry Summary

elected managing partner of his firm, Venable LLP, and became the first African-American managing partner of a top-100 American law firm. Mr. Racine holds a B.A. from the University of Pennsylvania and a J.D. from the University of Virginia School of Law.

Hewlett Packard Enterprise names Frank D'Amelio, former CFO of Pfizer Inc., to Board of Directors

10 January 2023

Hewlett Packard Enterprise announced that Frank D'Amelio, former executive vice president and CFO of Pfizer Inc., has been appointed to HPE's Board of Directors, effective today. D'Amelio will also serve as a member of the Board's Audit Committee.

D'Amelio's expertise and proven leadership in finance, corporate development, and operations across multiple industries will bring additional valuable perspective to the Board, and his experience managing IT will lend a relevant customer lens to his insights.

"Frank has an impressive track record of driving a strategic vision for companies' financial success and guiding large-scale transformations," said Patricia Russo, chair of the Board of Directors, Hewlett Packard Enterprise. "HPE will benefit from his executive leadership experience and deep expertise across finance, corporate development, operations, IT, and supply chain as the company continues to drive performance and increase market differentiation."

D'Amelio is a distinguished leader who has been regularly named one of America's top CFOs. During his tenure as CFO at Pfizer, he was instrumental in leading a multi-year transformation and increased the company's market capitalization by approximately \$165 billion. In addition to his role as CFO at Pfizer, D'Amelio was also responsible for Global Supply from 2018 to 2021, which included the manufacturing and distribution of the COVID-19 vaccine.

Prior to joining the healthcare sector at Pfizer, D'Amelio worked in senior executive roles in the communications industry, including serving as Chief Operating Officer, Chief Administrative Officer, and Chief Financial Officer during his tenure at Lucent Technologies, Inc., which merged with Alcatel S.A. in 2006 to form Alcatel-Lucent.

"HPE's differentiated edge-to-cloud strategy and portfolio are well-positioned to meet the needs of customers and continue to propel the company's transformation and success," D'Amelio said. "I am delighted to join the Board during this exciting period as HPE accelerates its leadership."

D'Amelio also currently serves as a board director for Humana, Inc. and Zoetis, Inc.

iBASEt announces expanded partnership with the Manufacturing Technology Centre (MTC)

10 January 2023

iBASEt, the company that helps its customers simplify how complex products are built and maintained, announced an expanded partnership with the Manufacturing Technology Centre (MTC), by becoming a Tier 1 MTC member. Demonstrating its commitment to the UK manufacturing sector, iBASEt will be making its Digital Operations Suite, powered by Solumina iSeries, available to researchers and members of the MTC's National Centre for Advanced Manufacturing Technologies. The cloud-native system will help UK manufacturers innovate, collaborate and accelerate the move to a fully digital operations system strategy.

The expanded partnership was announced at an Industrial Transformation Roundtable hosted at the

CIMdata PLM Industry Summary

MTC in Coventry. iBASEt was joined by industry experts including Professor Ken Young, Technology Director, MTC; Tony Newman, Principal Engineer, Parker Aerospace; and Brian Harvey, Managing Director, Simportal. The panel discussed how the UK manufacturing industry can collaborate to advance digitalisation, improve productivity, and address sustainability.

Rashpal Mundi, Senior Partner Manager EMEA, iBASEt, said: “Our roundtable discussion highlighted that slow digital adoption is making it difficult to attract and retain talent. The prevalence of paper and spreadsheet-based processes in the manufacturing sector is certainly a factor in people choosing to work in other industries like IT and financial services. In fact, our research shows more than one in four people who left the industry said outdated technology was a key factor in their decision. Running a digital thread across complex operations will be key to driving productivity and engaging with the next generation of UK manufacturing talent.”

Professor Ken Young, Technology Director, MTC, said: “UK manufacturing needs to collaborate to compete. Our expanded partnership with iBASEt provides the digital tools required to bring everything together. We all want to complete the ‘Fourth Industrial Revolution’ and move to digital, but it’s worth remembering the first industrial revolution didn’t happen in a day. We need to work together to digitise and optimise entire supply chains before UK manufacturing can truly reap the rewards.”

Naveen Poonian, CEO, iBASEt, said: “The EMEA market is hugely important to us – a third of our customers are based here. Our expanded partnership with the MTC is a key part of our growth strategy as we look to drive collaboration and digital innovation across the industry. Now we look forward to further collaborating with our key partners, including MTC members ATS, DXC, PTC and Hexagon, pushing the boundaries to benefit our customers in the UK sector. We are excited to be taking even more positive steps to drive change together as part of our long-term commitment to the region.”

IBM - Leadership Updates

5 January 2023

In a letter written by Arvind Krishna | Chairman and Chief Executive Officer, IBM he says:

“I am excited to announce a series of senior leadership changes that take effect immediately.

First, Tom Rosamilia has decided to retire by June 30, 2023. Until then, he will continue working on the various client and partner engagements he leads and will also work on special projects for me as SVP and senior advisor. During his almost 40 years with IBM, Tom has been a key leader with a strong track record of success across software and systems, holding many high-profile leadership roles and delivering outstanding business results. I want to thank Tom for his many years of dedicated service to IBM.

With Tom’s retirement, Rob Thomas will now lead the software segment of our business in addition to his current role and becomes SVP, software and Chief Commercial Officer. He will be supported by three new leaders:

Kareem Yusuf has been named SVP, product management and growth for the software portfolio. He will also be responsible for our product led growth initiative. Kareem’s vast technical experience includes leading our AI applications business with a focus on enabling clients to leverage intelligent insights to transform their operations. He also leads our sustainability software business and the corporate environmental affairs team.

Dinesh Nirmal is now SVP, products for software. His new organization will be supported by the user insights delivered by Kareem’s team. Dinesh has a long, seasoned history of engineering leadership. He

CIMdata PLM Industry Summary

brings his strong leadership in data and analytics transformation, leading strategy and execution for technologies spanning AI-powered automation, machine learning, analytics at the edge, open source, and database.

Sebastian Krause is now SVP and Chief Revenue Officer, leading product and technical sales, sales enablement, client success, and digital sales organizations. In this role, he will also lead our geography sales, global industries, and client engineering organizations. Sebastian has shown a dedication and strong ability to create differentiating value for our clients. Most recently, he led the transformation of our technology go-to-market organization.

Kareem, Dinesh and Sebastian will all report to Rob and become members of the Executive Leadership Team (ELT). These changes help drive greater alignment across our software and go-to-market efforts to further our growth strategy. The software team will focus more on engineering and product management, with the various branches that make up this segment being more connected and working better together. The technology sales team will continue to play a critical role in driving sales for our infrastructure segment.

In addition to these changes, Howard Boville, SVP, IBM Cloud platform, is expanding his scope to also lead IBM Technology Lifecycle Services (TLS). As part of the simplification of our infrastructure segment, Howard will now report to Ric Lewis, who is now SVP, infrastructure.

Paul Papas has been promoted to SVP, IBM Consulting, Americas. He continues reporting to John Granger, SVP of IBM Consulting, and will join the ELT. Paul will bring his stellar leadership experience and strategic and operational expertise to his new role. In this position, he will continue his leadership of the Americas business.

I'm also pleased to welcome Alex Stern back to IBM where he began his professional career. Alex will be SVP, strategy and mergers & acquisitions. He will also lead the investor relations organization. Alex has a wealth of knowledge about the technology landscape and is joining us from Lazard, where he most recently was president. He held several senior leadership roles during his 28 years with Lazard, including chief executive officer of their financial advisory business, chief operating officer, and global head of strategy. While at Lazard he also worked closely with IBM and was a key advisor on a range of transactions including the acquisition of Red Hat and the spin of Kyndryl. He will begin his new role on January 23, 2023, and will be a member of the ELT. Alex will report to me on strategy and Jim Kavanaugh, SVP and Chief Financial Officer, on other aspects of his role.

These senior leadership changes are crucial as we strive to build a better, simpler, more focused, and more productive company. I have full confidence in the capabilities of these leaders, and I am excited to see what they will achieve in their new roles. Please join me in congratulating them.”

Informatica Announces CFO Transition

10 January 2023

Informatica[®], an enterprise cloud data management leader, announced the appointment of Michael McLaughlin, a seasoned finance leader and most recently Chief Financial Officer of FICO, as Informatica's Executive Vice President and Chief Financial Officer effective January 16, 2023. McLaughlin succeeds Eric Brown, who has notified the Informatica Board of Directors of his intention to step down to pursue other opportunities. Brown's departure follows more than four years as Informatica's Chief Financial Officer. Brown will remain a consultant to the company through March 31, 2023, to support a seamless transition.

“On behalf of Informatica, I would like to thank Eric for his leadership and stewardship over the past

CIMdata PLM Industry Summary

four years,” said Amit Walia, Chief Executive Officer of Informatica. “He played an instrumental role in driving our successful public listing, our transition to a SaaS operating model, and setting the foundation for our leadership in cloud. We wish him well in all future endeavors.”

“It’s been a privilege to have played a key part in the evolution of Informatica. I am excited about the strong financial position that I leave Informatica in and have tremendous confidence in the team, its long-term strategy, and its future growth opportunities,” said Brown.

McLaughlin joins Informatica from FICO, where he has served as Executive Vice President and Chief Financial Officer since August 2019. At FICO, McLaughlin led the global finance team responsible for FICO’s Software and Scores business segments. Prior to FICO, McLaughlin spent 26 years in investment banking, advising leading technology, financial services and real estate companies on a wide range of strategic and financial topics, most recently serving as Managing Director and Head of Technology Corporate Finance at Morgan Stanley. He holds a B.A. from Stanford University and a Masters of Public and Private Management from the Yale School of Management.

Walia continued, “We’re thrilled to welcome Michael to the Informatica team. He is a well-rounded and deeply experienced leader with extensive financial experience, and I’m confident that his expertise will help us deliver value for our customers, as we help them tackle their greatest cloud data management challenges, and our shareholders.”

“I am honored to step into this role and to support Informatica’s continued transformation to a cloud-only company,” said McLaughlin. “The company has significant momentum and I look forward to working together with my talented new colleagues to capitalize on the remarkable growth opportunities ahead.”

Fourth Quarter and Full-Year 2022 Financial Outlook and Conference Call

Informatica also today reaffirmed its guidance for the fourth quarter and full-year 2022, which was previously provided on October 26, 2022.

Fourth Quarter 2022 ending December 31, 2022:

- GAAP Total Revenues are expected to be in the range of \$398 million to \$408 million.
- Subscription ARR is expected to be in the range of \$980 million to \$990 million.
- Cloud ARR is expected to be in the range of \$425 million to \$431 million.
- Non-GAAP Operating Income is expected to be in the range of \$93 million to \$103 million.

Full-Year 2022 ending December 31, 2022:

- GAAP Total Revenues are expected to be in the range of \$1,505 million to \$1,515 million.
- Total ARR is expected to be in the range of \$1,505 million to \$1,521 million.
- Subscription ARR is expected to be in the range of \$980 million to \$990 million.
- Cloud ARR is expected to be in the range of \$425 million to \$431 million.
- Non-GAAP Operating Income is expected to be in the range of \$330 million to \$340 million.
- Unlevered Free Cash Flow (after-tax) is expected to be in the range of \$290 million to \$310 million.

Informatica will report financial results for the fourth quarter and full-year 2022 following the close of the U.S. markets on Wednesday, February 8, 2023. Informatica will hold a conference call on the same day at 1:30 p.m. Pacific Time (4:30 p.m. Eastern Time) to discuss its results. The conference call can be accessed by dialing (844) 200-6205 from the United States or (929) 526-1599 internationally with

CIMdata PLM Industry Summary

access code 830565. A live webcast and replay of the conference call can be accessed from the investor relations page of Informatica's company website at <https://investors.informatica.com>.

Matterport Appoints Cloud Industry Executive Natalie Lamb as Managing Director for EMEA

10 January 2023

Matterport, Inc. announced the appointment of Natalie Lamb as Managing Director of EMEA, effective immediately. In this role, Lamb will be responsible for overseeing Matterport's strategic growth in enterprise and SMB segments and expanding Matterport's strategic partnerships in EMEA.

"I'm eager to bring Natalie onto the team at such a pivotal time for Matterport's business in EMEA," said Jay Remley, Chief Revenue Officer, Matterport. "Natalie brings decades of software leadership experience to the company and deeply understands how to build trusted relationships with customers and partners. We have great momentum in EMEA and Natalie will accelerate our growth in this fast-growing enterprise market for digital twins."

Lamb has over 20 years of international experience in the software industry, including a decade working in the B2B cloud application space. After starting her career in a startup, she spent over 12 years at IBM, focused on their Industry Solutions including IoT, Commerce, Supply Chain, and Marketing. She has experience working across multiple industries and verticals, including telecommunications, utilities, travel & hospitality, retail, and government. After IBM, she led the EMEA and APAC businesses for a privately-backed IBM startup, before most recently serving as chief commercial officer for a B2B SaaS Accounting vendor.

"I'm thrilled to be joining Matterport as it becomes increasingly crucial for companies to take advantage of the cost and productivity benefits of digitization," said Lamb. "I am ready to use my extensive experience working in EMEA to expand Matterport's presence in the region as more companies embrace 3D digital twins to transform their businesses and properties."

Robert Karmelich Joins ASME as Senior Managing Director of Corporate Sales and Customer Care

9 January 2023

The American Society of Mechanical Engineers (ASME) announced that Robert Karmelich will join the society as its new senior managing director of corporate sales and customer care. In this role, Karmelich will lead direct and third-party sales of ASME's standards, technical journals and conferences, professional learning courses and other products and services to key customer segments in a variety of industries and educational and technical research communities. He will manage ASME's sales staff and customer care teams and collaborate with business units, sales representatives, and resellers to meet aggressive revenue growth and customer satisfaction targets.

"Robert brings to ASME deep experience in driving revenue growth in market-leading information services companies serving a wide range of the technology value chain," says ASME Chief Operating Officer Jeff Patterson. "He has achieved success throughout his career by understanding and delivering on the needs of customers and channel partners. He has identified and developed talent within his organizations and ensured that credit for success is shared by all. We believe he will make important contributions to ASME and our valued channel partners for many years to come."

An experienced executive and sales leader, Karmelich has developed strategies and led teams to increase

CIMdata PLM Industry Summary

market share and sales volume in education technology, electronic commerce, information technology companies, and government organizations. Most recently, he served as CEO-USA of Design Science Inc./WIRIS of Long Beach, Calif., and Barcelona, Spain., a privately held math and science software company focused on academics, publishers, and government agencies. He is credited with increasing the company's North American business by 20% each year from 2019 through 2021. Previously, he held sales executive positions of increasing responsibility over nearly a decade with SWETS of Runnemede, N.J., the world's largest subscription agency.

SEMI NORTH AMERICA ADVISORY BOARD WELCOMES NEW MEMBERS FROM ADVANTEST, TEL US AND WESTERWOOD GLOBAL

10 January 2023

SEMI announced the election of three new members to the SEMI North America Advisory Board (NAAB): Colin Ritchie, Vice President of Industry & Government Relations at Advantest; Nate Baxter, President of Tokyo Electronic Ltd. (TEL) US; and Nigel Wenden, Chief Executive Officer at Westerwood Global.

The Board appointments took effect Jan. 1, 2023. Members serve a three-year term. The SEMI NAAB is the principal advocate for member companies located in North America. The Board provides guidance on SEMI Americas programs designed to advance the business interests of member companies and address significant challenges in the electronics manufacturing and design supply chain.

“The SEMI North America Advisory Board warmly welcomes Colin, Nate and Nigel,” said Joe Stockunas, president of SEMI Americas. “Each brings extensive industry experience to the Board and are intimately familiar with SEMI through their participation in SEMI events including Industry Strategy Symposium (ISS) and International Trade Partners Conference (ITPC) as well as SEMI workforce development and advocacy programs. Their expertise and stewardship will be vital as member companies face ever-increasing chip industry complexity and look to seize new business and technology opportunities amid strong secular industry growth.”

As Vice President Industry & Government Relations at Advantest, Colin Ritchie leads external industry engagements and government advocacy. Ritchie has more than 30 years of industry experience leading teams in engineering, operations, marketing, product management, investor and corporate relations as well as M&A ventures. He joined Advantest-Verigy (formerly HP and Agilent) in 2008 through the acquisition of Inovys, a venture capital-backed startup that developed innovative Design for Test solutions. Prior to Inovys, Ritchie spent more than 15 years at Schlumberger, where he held key engineering, operations, product line management, and marketing positions in Asia, Europe, and North America. He holds bachelor's and master's degrees in Electrical and Electronic Engineering from Heriot-Watt University, Edinburgh, Scotland.

As President of TEL US, Nate Baxter leads production of semiconductor and flat panel manufacturing equipment. Prior to his current role, Baxter was General Manager of the Development and Production division of TEL US and President of the TEL Manufacturing and Engineering of America, Inc. (TMEA) subsidiary. Baxter's previous roles at TEL included Technology General Manager for one of the company's large customer accounts and President of TEL US subsidiary TEL Epion. Prior to joining TEL in 2007, Baxter worked for more than a decade at Intel in various technology, supplier development and management roles. He holds a master's degree in Materials Science from Georgia Institute of Technology and undergraduate degrees in Physics from Rollins College and Physical Metallurgy from Georgia Institute of Technology.

CIMdata PLM Industry Summary

As Chief Executive Officer of Westerwood Global and President of Westerwood Global Board of Directors, Nigel Wenden oversees private equity, strategy, marketing, and international operations. Westerwood is a leading provider of managed service solutions to the semiconductor, solar, flat panel, LED and storage industries. Prior to Westerwood Global, Wenden served as President of Banner Industries, CEO of MDC Precision and held leadership positions with Mattson Technology, Edwards Vacuum, NWC Consulting and Millipore Corporation. He holds a bachelor of science degree in Electrical & Electronic Engineering from Coventry University and a diploma in Manufacturing and Production Engineering from Anglia Ruskin University.

Spacewell Appoints Wouter Hartemink as New CEO

10 January 2023

Spacewell, a global supplier of smart building and agile workspace management solutions, part of the Nemetschek Group, announced that Wouter Hartemink has been appointed the new CEO of Spacewell as of January 1st, 2023. He reports to César Flores Rodríguez, Chief Division Officer Operate & Manage and Digital Twin at the Nemetschek Group.

Spacewell offers smart building and agile workspace management solutions, including an AI-powered energy management platform. Last year, the company launched a workplace suite integrating its entire portfolio. The focus for the coming years will be on moving towards a full SaaS solution and scaling up the business to enable more customers to benefit from the world's only fully integrated building management software.

“We are very glad to announce Wouter as the new CEO of Spacewell. He has a deep understanding of the business and market and is extremely trusted by our people. He is the right leader for the next phase of Spacewell's journey to become a fully scalable SaaS provider,” said César Flores Rodríguez, Chief Division Officer Operate & Manage and Digital Twin at the Nemetschek Group. “Also, his approach to customers and people makes him a perfect fit to steer the company through the challenging economic and geopolitical conditions.”

Wouter Hartemink has been with Spacewell for almost three years as Chief Revenue Officer and Chief Operating Officer. Prior to Spacewell, Wouter held various leadership roles in Dun & Bradstreet, a global provider of business decision data and analytics, and was responsible for Sales Consultancy for Altares Dun & Bradstreet from 2016 to 2020. As the new CEO of Spacewell, he is succeeding Germon Knoop, who left the company end of 2022 for personal reasons.

“In 2022 Spacewell was rightly recognized as a leader in both IWMS and Smart Building solutions for its excellent portfolio. I am very excited to build on this success and further drive the adoption of building management software in the industry, for a more efficient and sustainable built environment,” said Wouter Hartemink.

Tecsys Completes Workday Certified Integration

9 January 2023

Tecsys Inc., an industry-leading supply chain management and omnichannel commerce software company and a Workday Select software partner, today announced that it has achieved Workday Certified Integration status. Through this certification, Tecsys provides customers with a seamless integration that connects Workday Supply Chain Management (SCM) for Healthcare with Elite™ Healthcare Warehouse Management System (WMS).

Workday Supply Chain Management for Healthcare unifies a full range of sourcing, procurement, and

CIMdata PLM Industry Summary

inventory capabilities to provide healthcare organizations with the real-time insight, agility, and efficiency required to meet the complex needs of today's business landscape.

Tecsys, the market leader in supply chain solutions for health systems and hospitals, integrates with Workday SCM for Healthcare to deliver dynamic and powerful solutions for warehouse and consolidated service center (CSC) management for health systems at customer sites including Prisma Health and Spectrum Health (now Corewell Health). Hospital inventory locations managed by Workday can be configured to replenish from the CSC, generating orders that are integrated to Elite™ Healthcare WMS to be allocated, picked, and shipped to the hospital. Further, when the Tecsys demand planning and replenishment algorithms determine that the CSC needs to be replenished, recommended purchase orders (PO) are created in Workday via the integration.

“Tecsys’ integration with Workday SCM for Healthcare helps to provide seamless enterprise-wide visibility tailored to the unique dynamics of the healthcare setting,” said Jamie O’Halloran, vice president of Global Alliances, Tecsys. “Our partnership with Workday is a great example of how strong teams and best-in-class enterprise solutions can work together to support quality patient care while driving down risk and cost in the supply chain.”

“With the integration of the Corewell Health, I am excited that both divisions are on the same platform of Tecsys, and the Workday Connector will allow for a more streamlined integration as the Beaumont Health division moves to Workday,” said Sarai Vanderwood, senior director, Supply Chain Central Services Operations at Corewell Health. “This will eliminate the need for customizations and focuses on standard information flow, allowing our team to focus more on the business workflows and various aspects of change management. I am looking forward to a seamless integration of the single-instance of Tecsys with the Workday Connector.”

TOLERANCE MANAGEMENT PARTNERSHIP BETWEEN CENIT AND TECHNODAT IN EASTERN EUROPE

11 January 2023

DCS SOLUTIONS OPTIMIZES PRODUCT QUALITY IN INDUSTRY

Companies strive to roll out innovative, high-quality and competitively priced products as quickly as possible. They rely on cross-unit tolerance management as a success factor in optimizing product quality and ensuring process capability in manufacturing and assembly. Design and manufacturing concepts should therefore be validated by virtual simulation as early as possible – ideally during the concept and design phase. In this way, critical aspects can be identified and corrected at an early stage, avoiding costly downstream changes and minimizing production risks.

3DCS variation analysis software is the industry standard for CAD-integrated tolerance analysis, enabling fact-based decision making on quality-relevant criteria that directly impact product costs and manufacturability. The complete DCS software suite, including QDM-SPC, lets companies build closed-loop quality systems along the entire value chain.

A PROMISING PARTNERSHIP

TECHNODAT has implemented the Dassault Systèmes 3DEXPERIENCE® platform (including CATIA, ENOVIA, DELMIA, SIMULIA, 3DVIA and EXALEAD) for various clients throughout the Czech Republic and Slovakia. The company offers significant added value on the strength of deep industry expertise, wide-ranging project experience and a strong track record in customer support. TECHNODAT’s qualified and experienced engineering team also provides hands-on support in development and design.

CIMdata PLM Industry Summary

CENIT is a major reseller of DCS solutions throughout Europe. The agreement between TECHNODAT and CENIT now creates a foundation for strong technical and commercial support of DCS solutions in the Czech Republic and Slovakia.

The partnership offers CENIT's clients in the Czech Republic and Slovakia a regional, local-language counterpart who can advise them on the successful use of the DCS solutions portfolio. In addition, TECHNODAT's proximity to customers in the region should convince new customers of the potentials of tolerance simulation in "design for manufacture and assembly".

Xometry Europe Expands Into The U.K.

11 January 2023

Xometry, Inc., the global online marketplace connecting enterprise buyers with suppliers of manufacturing services, announced it continues to expand its footprint in Europe, with the launch of xometry.uk, a localized marketplace for UK customers.

With the expansion into the UK, Xometry Europe now offers localized marketplaces in 9 languages: English, German, French, Italian, Spanish, Polish, Dutch, Norwegian and Swedish.

Xometry's localized marketplaces are powered by the company's proprietary, AI-driven Instant Quoting Engine and allow regional customers to get quotes and purchase parts directly in local currency.

"Our continued expansion across Europe reflects our commitment to becoming the global marketplace for the large and growing industrial market," said Dmitry Kafidov, the Managing Director of Xometry Europe. "Our localized marketplaces help entrepreneurs, small and medium businesses as well as large enterprise organizations connect with manufacturers to create locally resilient supply chains so that they can bring goods to market faster and operate with greater efficiency. We are proud of our track record in Europe, where we now have 9 localized marketplaces."

The Xometry marketplace for UK customers offers extensive manufacturing capabilities to produce both prototypes and high-volume batches. The service, available today, offers 15 manufacturing technologies, such as CNC machining, 3D printing and injection molding, as well as 120 materials and dozens of finishing options. Xometry UK also offers various types of certifications and quality-control reports for end parts.

Event News

HONEYWELL ANNOUNCES 2023 INVESTOR DAY EVENT IN NEW YORK CITY

10 January 2023

Honeywell announced that it will host its 2023 investor conference at the Nasdaq MarketSite in New York City on Thursday, May 11, 2023. The event will feature presentations and Q&A panels with the Honeywell leadership team. Further details will be provided closer to the event.

Presentation Materials / Webcast Details

A real-time audio webcast of the presentation can be accessed at <http://www.honeywell.com/investor>, where related materials will be posted and a replay of the webcast will be available for 30 days following the presentation.

Markforged to Participate in the 25th Annual Needham Growth Conference

5 January 2023

Markforged (the “Company”), the company strengthening manufacturing resiliency by enabling industrial production at the point of need, announced that the Company will be participating in the 25th Annual Needham Growth Conference on Jan 10, 2023.

The virtual presentation is scheduled for Tuesday, Jan. 10 at 10:15 a.m. ET and can be viewed at this [link](#) or on the Company's website at www.markforged.com under the "Investor Relations" section. Additionally, Mark Schwartz, CFO, will be available for one-on-one meetings with attending investors on Tuesday, Jan. 10.

Meet ZWSOFT at Hannover Messe 2023: The World’s Leading Industrial Fair

11 January 2023

From 17 to 21 April 2023, ZWSOFT, a reliable all-in-one CAx solutions provider, will be present at Hannover Messe 2023 at Messegelände, Hannover, Germany, and showcase its CAx solutions, especially its flagship products ZWCAD and ZW3D.

Hannover Messe: The World’s Leading Industrial Fair

Hannover Messe is the world's leading fair for the manufacturing industry, with over 75, 000 visitors and 2,500 exhibitors worldwide attending in 2022.

It brings the core industrial sectors together at one location – from drive engineering, automation, energy, R&D and industrial IT to subcontracting. This is the place where exhibitors break the boundaries of technology and industry.

Theme of Global Industrie 2023: Industrial Transformation – Making the Difference

Hannover Messe 2023 provides everyone involved with orientation in times of energy shortages, climate change and supply chain problems.

It shows the difference that exhibiting companies can make, the changes they are driving and the innovations they are developing – on the way to a smart, energy-efficient and sustainable industry.

ZWSOFT Attends Hannover Messe 2023 with Its CAx Solutions

ZWSOFT will be present at Hannover Messe 2023 following its success at Hannover Messe last year.

ZWSOFT is a reliable provider of all-in-one CAx solutions founded in 1998. Since its foundation, it has constantly advanced its technologies to help enterprises become more productive and profitable.

At this event, ZWSOFT will showcase its complete all-in-one CAx solutions for digital transformation. It will also have experts on site to discuss industrial solutions and answer any questions. The team of experts can help you find new industrial solutions for your production process, or design a solution that meets your specific needs.

Also, the team will demonstrate the latest advancements of its CAx solutions, especially its flagship products ZWCAD and ZW3D.

Come and see how ZWSOFT’s CAx solutions help you complete industrial transformation and stay competitive in times of uncertainty.

Details:

CIMdata PLM Industry Summary

Expo Name	Hannover Messe 2023
Expo Theme	Industrial Transformation – Making the Difference
Expo Date	17 - 21 April 2023
Venue	Messegelände, Hannover, Germany
Booth No.	Hall 017, Stand F40
Expo Website	https://www.hannovermesse.de/en
Exhibitor	ZWSOFT

Synopsys to Present at Needham Growth Conference

10 January 2023

Synopsys, Inc. announced the following presentation for the investment community.

Needham Growth Conference

Thursday, January 12 at 12:00 p.m. PT / 3:00 p.m. ET

Aart de Geus, Synopsys chairman and CEO

There will be a live audio webcast and a replay will be available following the live event. Both live webcast and replay can be accessed via the Synopsys corporate website at <https://www.synopsys.com/company/investor-relations.html>.

Financial News

IBM to Announce Fourth-Quarter and Full-Year 2022 Financial Results

11 January 2023

IBM will hold its quarterly conference call to discuss its fourth-quarter and full-year 2022 financial results on Wednesday, January 25, 2023 at 5:00 p.m ET.

The live webcast of the earnings call can be accessed at www.ibm.com/investor. Please also visit the investor website for the earnings press release prior to the webcast. A replay, associated charts and prepared remarks will be available after the event.

CIMdata PLM Industry Summary

Infosys to Announce Third Quarter Results on January 12, 2023

8 January 2023

Infosys, a global leader in next-generation digital services and consulting, will announce results for the third quarter ended December 31, 2022 on Thursday, January 12, 2023 around 3.45 p.m. Indian Standard Time (IST) (5:15 a.m. ET; 2:15 a.m. PST; 10:15 a.m. London time; 6:15 p.m. Singapore/Hong Kong time)..

Common press conference (4:30 p.m. IST; 6:00 a.m. ET)

The leadership team will be part of a common press conference at 4:30 p.m. IST on January 12, 2023. The participating executives will address questions from the media during this interaction, which will be streamed live on the Investor Relations section of Infosys website, following which it will be archived here. The archive will be available after 6:30 p.m. IST on January 12, 2023 (after 8:00 a.m. ET). In addition, a transcript of the conference will be available.

Earnings call (6:00 p.m. IST; 7:30 a.m. ET)

The company will conduct a single 60-minute conference call on January 12, 2023, at 6:00 p.m. IST (7:30 a.m. ET; 4:30 a.m. PST; 12:30 p.m. London time; 8:30 p.m. Singapore/Hong Kong time) (open to investors/analysts in all regions), where the senior management will discuss company's performance and answer questions from participants. To participate in the conference call, please dial the numbers provided below 10 – 15 minutes before the scheduled start time of the call. During this time, the operator will provide instructions on how to ask questions. Alternatively, you can also pre-register yourself using the DiamondPass™ link provided below, which will enable you to connect to the conference call without having to wait for an operator. As participation in the call is limited, early registration is encouraged.

This event will be webcast live on the Investor Relations section of Infosys website. The archive will be available after 8:00 p.m. IST on January 12, 2023 (after 9:30 a.m. ET). In addition, a transcript of the conference call will be available.

Infosys: Strong growth of 13.7% in constant currency in a seasonally weak quarter

12 January 2023

Infosys, a global leader in next-generation digital services and consulting, reported strong Q3 performance with year-on-year growth at 13.7% and sequential growth at 2.4% in constant currency. Year on year growth was in double digits for most business segments and geographical regions in constant currency terms. Large deal TCv for the quarter was the strongest in the last 8 quarters at \$3.3 billion. Digital comprised 62.9% of overall revenues and grew at 21.7% in constant currency. Operating margin for the quarter remained resilient at 21.5%. FY23 revenue guidance revised to 16.0%-16.5%. FY23 operating margin guidance retained at 21%-22%.

"Our revenue growth was strong in the quarter, with both digital business and core services growing. This is a clear reflection of our deep client relevance, industry-leading digital, cloud, and automation capabilities, and the unrelenting dedication of our employees", said **Salil Parekh, CEO and MD**. "As reflected in the large deals momentum, we continue to gain market share as a trusted transformation and operational partner for our clients. Our end-to-end capabilities and global scale make us a preferred choice as clients look at consolidating vendors. We remain focused on helping businesses accelerate their digital agenda to uncover new value and growth, as well as improve operational and cost effectiveness", he added.

CIMdata PLM Industry Summary

21.7% YoY	13.7% YoY 2.4% QoQ	21.5 %	13.4% YoY	\$3.3 bn
CC Digital growth	CC Revenue growth	Operating margin	Increase in EPS (INR terms)	Large deal TCV

1. Key highlights:

For the quarter ended December 31, 2022	For nine months ended December 31, 2022
<ul style="list-style-type: none"> Revenues in CC terms grew by 13.7% YoY and 2.4% QoQ Reported revenues at \$4,659 million, growth of 9.6% YoY Digital revenues at 62.9% of total revenues, YoY CC growth of 21.7% Operating margin at 21.5%, decline of 2.0% YoY and stable QoQ Basic EPS at \$0.19, growth of 3.3% YoY FCF at \$576 million, decline of 19.9% YoY; FCF conversion at 72.0% of net profit 	<ul style="list-style-type: none"> Revenues in CC terms grew by 17.8% YoY Reported revenues at \$13,657 million, growth of 13.5% YoY Digital revenues at 61.9% of total revenues, YoY CC growth of 29.5% Operating margin at 21.0%, decline of 2.6% YoY Basic EPS at \$0.53, growth of 1.7% YoY FCF at \$1,821 million, decline of 20.6% YoY; FCF conversion at 81.4% of net profit

"Operating margins in Q3 remained resilient due to cost optimization benefits which offset the impact of seasonal weakness in operating parameters", said **Nilanjan Roy, Chief Financial Officer**. "Attrition reduced meaningfully during the quarter and is expected to decline further in the near-term," he added.

2. Capital Allocation

Pursuant to the Board recommendation and subsequent to shareholders' approval through postal ballot, the company has started share buyback program through open market route from December 7, 2022 and till date, has bought back 31.3 million shares worth ₹4,790 crore (app. \$0.6 billion*) or 51.5% of total authorization of ₹9,300 crore at an average price of approx. ₹1,531 per share (compared to maximum Buyback Price of ₹1,850 per share).

*USD-INR rate of 82.00

3. Client wins & Testimonials

- Centric Brands has selected Infosys to be a strategic technology partner to provide a range of digital, IT, business operations and transformation services. Infosys will leverage its cognitive first IT framework along with its industry leading digital, cognitive AI, cloud and retail industry solution accelerators to improve and transform the technology landscape. **Anurup Pruthi, Global CFO, Centric Brands**, said, "By partnering with Infosys, we will be able to standardize our internal processes, bring in the best practices and tools, and strengthen the skills needed for continued success in the Retail B2B marketplace."
- Infosys helped develop a cloud-based platform to digitize and automate manual processes at Envision AESC, a world-leading battery technology company's Electric Vehicle (EV) battery manufacturing plants. "At Envision AESC, we believe that advancements in battery technology will propel the EV revolution to newer heights. The manufacturing processes of our breakthrough batteries need a robust digital foundation to accelerate the speed and scale of

CIMdata PLM Industry Summary

innovation. We are confident that Infosys, with their trusted cloud technologies and deep expertise in the automotive industry, will help us continue on our journey towards achieving our transformation goals," said, **Brian Sullivan, Executive Vice President of Global Manufacturing and Supply Chain at Envision AESC.**

- Infosys and Microsoft modernized Spark New Zealand's corporate functions to enhance business resilience, operational simplicity, workplace agility, and customer experience. **Mark Beder, Chief Operating Officer, Spark,** said, "As we embarked on a journey to revamp our business operations and step out of our legacy systems, we were looking for partners that understand and provide strength to our vision for an ERP-driven business transformation. It has been great working with Infosys and Microsoft as our transformation partners. The level of ERP implementation expertise and scale they bring to the table in this endeavor underpinned by best-fit digital solutions and resources is helping us to unshackle legacy system constraints and will help us improve operational simplicity, workplace agility and customer experience."
- Infosys collaborated with CIRCOR, one of the world's leading providers of mission critical flow control products and services for the Industrial, Aerospace & Defense markets, to help transform its IT landscape and modernize its IT infrastructure. **Pete Sattler, Chief Information Officer, CIRCOR,** said, "The goal of our alliance with Infosys is to offer all our customers – both internal and external – faster and more reliable service, enhance our cybersecurity, and provide 24x7 monitoring for our global IT environment."
- Avon, part of Natura Group, entered a five-year strategic collaboration with Infosys to advance its digital transformation journey, implement cognitive operations, drive continuous innovation, and help in better serving its customers. **Karen McElhatton, CIO, Avon,** said, "Through this collaboration, Infosys will accelerate the realization of our Digital vision, through a well-planned transformation roadmap to reduce opex spends, increase resilience and reliability of our application landscape, and prepare us better for new digital capabilities. We are confident that Infosys, with its sound expertise in Infrastructure Management Services, Cybersecurity, and Application Services, will enable us to continue to provide cutting-edge services to our members and customers."
- Conagra has entered into a five-year strategic partnership with Infosys to innovate its IT operations. Conagra and Infosys will be implementing product based cognitive-first delivery model, with focus on improving operational excellence, drive continuous innovation, and most importantly improve the quality of service for Conagra's customers. **Andy Xydakis, CTO, Conagra,** said, "We wanted to change the way we run our IT operations. Delivering in true agile fashion where teams focus on value delivery. Our partnership with Infosys will help achieve the vision, given their deep Industry knowledge and ability to align this new way of working to support our overarching business strategy. Through this collaboration, Infosys will help accelerate the adoption of our product based continuous delivery operating model, by creating capacity to deliver features, increase resiliency and reliability of our infrastructure and application landscape, thereby helping Conagra advance new digital capabilities."

Invitation to media and analyst briefing for Ericsson Q4 and full year 2022 report

11 January 2023

Ericsson's financial report for the fourth quarter and full year of 2022 will be published at approximately 7:00 AM CET on January 20, 2023.

CIMdata PLM Industry Summary

The company will issue a press release with the complete financial report attached, including tables, in PDF format.

Following publication of the press release, the financial report will be available on Ericsson's website: www.ericsson.com/en/investors/financial-reports/interim-reports

President and CEO Börje Ekholm and CFO Carl Mellander will comment on the report and take questions at a live video webcast at 9:00 AM CET (8:00 AM GMT London, 3:00 AM EST New York).

[Join the webcast](#) or please go to www.ericsson.com/investors

To ask a question: [Access dial-in information here](#)

The webcast will be available on-demand after the event and can be viewed on our website.

Wipro Announces Third Quarter Results, Delivers Record Total Bookings

13 January 2023

Wipro Limited, a leading technology services and consulting company, announced financial results under International Financial Reporting Standards (IFRS) for the quarter ended December 31, 2022.

Highlights of the Results

Results for the Quarter ended December 31, 2022:

- Gross Revenue reached ₹232.3 billion (\$2.8 billion¹), an increase of 3.1% QoQ and 14.4% YoY
- IT Services Segment Revenue increased to \$2,803.5 million, an improvement of 6.2% YoY
- Non-GAAP² constant currency IT Services segment revenue was up by 0.6% QoQ and 10.4% YoY
- IT Services Operating Margin³ for the quarter was at 16.3%, an increase of 120bps QoQ
- Total Bookings⁴ up by 26% and large deal bookings⁵ up by 69% YoY
- Net Income for the quarter was at ₹30.5 billion (\$369.1 million¹), a growth of 14.8% QoQ and 2.8% YoY
- Earnings Per Share for the quarter was at ₹5.57 (\$0.07¹), an increase of 14.6% QoQ and 2.6% YoY
- Operating Cash Flows at 142.5% of Net Income for the quarter was at ₹43.5 billion (\$526.0 million¹), an increase of 44.7% YoY
- Voluntary attrition⁶ moderated 180 bps from previous quarter, landing at 21.2% for the trailing twelve months for the quarter
- Top 5 clients grew 15.7% YoY and top 10 clients grew 14.7% YoY in constant currency terms, underscoring deepening relationships with top strategic clients
- Wipro declared an interim dividend of ₹1 (\$0.012¹) per equity share/ADS

Performance for the Quarter ended December 31, 2022

Thierry Delaporte, CEO and Managing Director, said, “I am pleased to report that we have delivered another quarter of double-digit revenue growth. Our Total Bookings were over \$4.3 billion, led by solid large deal signings of over \$1 billion. We improved our margins by 120 basis points and our attrition moderated for the fourth quarter in a row.

We are continuing to gain market share as a result of deepening client relationships and higher win rates. Clients are turning to us to help them manage an evolving macro environment and balance their

CIMdata PLM Industry Summary

transformation goals with cost optimization. Our ability to deliver on client objectives regardless of where they are in their cloud journeys is positioning us favourably in a consolidating market.

As we move ahead, we expect to continue to benefit from these trends and help clients build future-proof, resilient enterprises.”

Jatin Dalal, Chief Financial Officer, said, “Our Operating margins are now at 16.3%, which is an expansion of 120 basis points from last quarter. This expansion of margins was after absorbing the investments we made in our people by way of salary increases, promotions and long-term incentives for our senior leadership. Margin growth was led by strong operational improvements and automation-led efficiencies. We generated strong operating cash flows at 143% of our net income for the quarter and our EPS increased by 14.6% quarter-over-quarter.”

Outlook for the Year ending March 31, 2023

We expect Revenue from our IT Services business for the full year to be in the range of 11.5% to 12.0%, in constant currency terms.

* Outlook for the year ending March 31, 2023, is based on the following exchange rates: GBP/USD at 1.36, Euro/USD at 1.16, AUD/USD at 0.73, USD/INR at 74.78 and CAD/USD at 0.79

1. For the convenience of the readers, the amounts in Indian Rupees in this release have been translated into United States Dollars at the certified foreign exchange rate of US\$1 = ₹82.72, as published by the Federal Reserve Board of Governors on December 31, 2022. However, the realized exchange rate in our IT Services business segment for the quarter ended December 31, 2022 was US\$1= ₹82.24
2. Constant currency revenue for a period is the product of volumes in that period times the average actual exchange rate of the corresponding comparative period
3. IT Services Operating Margin refers to Segment Results Total as reflected in IFRS financials
4. Total Bookings refers to the total contract value of all orders that were booked during the period including new orders, renewals, and changes to existing contracts. Bookings do not reflect subsequent terminations or reductions related to bookings originally recorded in prior fiscal periods. Bookings are recorded using then-existing foreign currency exchange rates and are not subsequently adjusted for foreign currency exchange rate fluctuations. The revenues from these contracts accrue over the tenure of the contract.
5. Large deal bookings constitute of deals greater than or equal to \$30 million in total contract value terms
6. Voluntary attrition is at IT Services excluding DOP measured in trailing twelve months for the quarter

IT Services – Large deals

Wipro continued its momentum in winning large deals with our customers as described below:

- A global leader in consumer brands selected Wipro to create a three-year consumer digital & technology transformation roadmap. Wipro is deploying data analytics and AI to help put the consumer at the core of the company’s omni-channel direct-to-consumer operating model. The solution will help strengthen the company's brand building, innovation and sales capabilities and achieve its ambition of driving growth and loyalty among customers.
- Wipro has won a large strategic, multi-year engagement with a leading North American financial institution to modernize and transform their applications portfolio globally. The engagement will

CIMdata PLM Industry Summary

focus on digital transformation and automation for enhanced customer experience and business value creation.

- Wipro has been engaged by a US-based multinational technology conglomerate to build core product platform and design, test and modernize unique silicon chips for its next-generation connected products. The project will tap into Wipro's deep domain expertise in helping enterprises deploy high-performance, new-age chip solutions in sync with changing consumer and enterprise needs. This win places Wipro Engineering Edge at the forefront of silicon innovation with low latency, low power, and ultra-reliable applications which will deliver unparalleled experiences for the end-consumers.

IT Services - Digital services deals

We continue to see increasing traction in digital oriented and other strategic deals as illustrated below:

- A joint Capco and Wipro team is supporting a large UK retail bank with their vision to become the pre-eminent UK digital insurer. Our mission is to drive the end-to-end transformation of the UK General Insurance business, leveraging our deep domain and technological expertise to completely rebuild the customer and employee experience, harnessing the power of data and automation.
- One of the largest Australia-based energy transmission and distribution services businesses has selected Wipro as its strategic partner to integrate and transform its digital operating model. Wipro will leverage innovation, simplification, and automation to deliver business impact and value through technology investments. In this outcome-based partnership, Wipro will help the customer enhance user experience and improve operational efficiency.
- Wipro has expanded its relationship with a leading Middle East-based airport management company with an end-to-end strategic partnership deal, which marks our largest deal in the airport domain in the Middle East. Wipro will run the airport's end-to-end IT operations, upgrade technology infrastructure and expand digital services, leveraging futuristic technologies.
- Wipro is helping a large consumer goods company to move to agile ways of working with a scalable contract that provides flexibility to the business. This is in addition to maintaining best-in-class availability and performance for global platforms across 200 countries. The scope also includes modernizing the platforms.

Quarterly Conference Call

We will hold an earnings conference call today at 07:30 p.m. Indian Standard Time (10:00 a.m. U.S. Eastern Time) to discuss our performance for the quarter. The audio from the conference call will be available online through a web-cast and can be accessed at the following link-

<https://links.ccwebcast.com/?EventId=WIP13012023>

An audio recording of the management discussions and the question-and-answer session will be available online and will be accessible in the Investor Relations section of our website at

www.wipro.com

Implementation Investments

Ansys Simulation Empowers Atomberg to Reduce Home Appliance Energy Consumption by 65%

5 January 2023

Ansys simulation solutions empowered Atomberg, a high-efficiency fan and small appliance manufacturer, to develop a more energy-efficient electric fan motor. The result is a smarter, more sustainable and streamlined internet-of-things (IoT)-enabled ceiling fan design that consumes 65% less electricity than conventionally powered fans.

Traditional ceiling fans consume 70-80 watts of electricity per day, yet only use 22 watts of that energy to power the fan blades — resulting in a net loss of almost 50 watts in the form of heat. This performance has a negative environmental impact on a very large scale. Atomberg was founded to challenge the existing market and deliver new home appliance experiences as part of its "sustainable-by-design" R&D strategy.

The Atomberg team leveraged Ansys software to deliver a more compact, energy-efficient brushless DC motor design that runs on 28 watts of electricity versus the 70-80 watts required by a conventional induction motor. This design enables roughly three Atomberg fans to run on the same amount of power required by a single induction-motor-based fan.

Atomberg also uses Ansys simulation for structural analysis and assessment of fluid dynamics in various aspects of its fan designs to further streamline and improve overall fan performance.

“Our fan designs are undergoing drastic changes in terms of energy efficiency, materials, and overall look and feel,” said Manoj Meena, chief executive officer and founder of Atomberg. “Our motor technology is continuously evolving, and simulation is an important part of that evolutionary journey. Ansys tools help us to efficiently validate all kinds of variables including cost optimization, product design, and performance requirements, reducing our prototyping efforts.”

“Simulation and virtual prototyping can play a powerful role in reducing manufacturing’s carbon footprint and creating novel sustainable solutions by default technologies,” said Walt Hearn, vice president of worldwide sales and customer excellence at Ansys. “Ansys is proud to provide innovators with the engineering simulation to make better decisions more efficiently with the speed and scale required.”

Bianchi Uses Ansys to Reduce Physical Bicycle Prototypes by 70%

5 January 2023

Italian bicycle manufacturer Bianchi used Ansys simulation software to realize a 70% reduction in frame prototyping in the efficient optimization of its road bike and e-bike designs – speeding time to market and reducing development costs. Ansys solutions helped enable stronger, lighter, stiffer bike frame geometries that meet ISO safety standards while satisfying competitive cycling and e-bike design requirements. Bianchi’s E-Omnia e-bike is on display during CES at Ansys booth #4401.

Designing bicycles that conform to numerous applications or environments presents significant challenges for manufacturers. In the world of competitive cycling, there is considerable demand for bikes that are lighter, stiffer and faster. For e-bikes, suspension components must be lightweight, yet strong enough to withstand pavement impacts. To meet these demands, engineers require an understanding of frame design as it relates to material stiffness, weight, component integration, and the

CIMdata PLM Industry Summary

aerodynamics of rider and bike in a variety of environments.

Bianchi used Ansys' multiphysics capabilities to understand the impact of frame geometry on overall performance. Within Ansys® SpaceClaim®, Bianchi used a dynamic 3D model of rider position in combination with drivetrain efficiency data to make predictions about what levels of power and performance can be expected during time trials or specific stages of a competitive race. Ansys® Mechanical™ also helped engineers understand and identify the level of suspension e-bike kinematics needed to withstand hard pavement yet conform with lighter component materials — often revealing interesting mechanical properties that led to new design ideas.

“One of the biggest discoveries we made during testing was that frame stiffness is dependent on the geometrical harmony between all the tubes of the frame, including the top tube, which we had previously overlooked,” said Marco Borgonovo, head of product at Bianchi. “It's just one of many examples of how using Ansys simulation helped us to understand which parts of the frame really influence aerodynamic performance — where it makes sense to work more and optimize more, rather than stick to conventional wisdom and dismiss the importance of the top tube altogether.”

“The role of bicycles has evolved beyond recreation to green transportation,” said Walt Hearn, vice president of worldwide sales and customer excellence at Ansys. “This shift reflects a preference for ergonomic designs influenced by lower drag, lighter frames and greater performance. Using Ansys simulation solutions helps our customers efficiently work through large design challenges like these with fewer prototypes, saving them time, effort and costs on the way to something new.”

Blackline Announces Largest Deployment to Date in Middle East

9 January 2023

Blackline Safety Corp., a global leader in connected safety technology, announced its largest ever order in its Rest of World geography, which includes regions outside North America and Europe.

The customer, one of the world's largest energy and petrochemical companies, signed a new contract with a \$1 million lifetime value. This customer continues Blackline's impressive track record of adding to its extensive blue-chip customer base of high-quality operators that value the Company's connected safety solutions.

Naming Blackline as a preferred supplier, the customer is purchasing G7c cellular wearables and G7 EXO area monitoring devices to protect their workers at various sites across the Middle East.

Blackline's all-in-one solution for lone worker and gas detection improves frontline worker safety and optimizes operations by providing access to real-time information.

“This record-breaking deployment demonstrates the return on investment we are receiving as a result of our marketing and sales efforts in the Middle East. We see significant growth potential in our Rest of World geography and this new deal represents the increased traction we are gaining in these regions. A growing number of global companies are investing in Blackline's connected safety solutions to protect their workers while on the job,” said Sean Stinson, Chief Growth Officer, Blackline Safety.

“Our cloud-connected, location-enabled G7 safety wearables and G7 EXO portable area gas monitors offer 24/7 protection and visibility to workers and worksites of all types.”

Cape Union Mart Elevates its Merchandise Assortment and Operations with Oracle Cloud

5 January 2023

Leading South African retailer Cape Union Mart is a one-stop destination for outdoor enthusiasts, travelers, and explorers. To drive lasting customer loyalty, the brand abides by its DARE initiative, which stands for delivering awesome retail experiences. At the heart of DARE is a global push to adopt the latest technologies to drive operational efficiency and growth. By optimizing its financials, fulfillment, store assortments, and inventory with Oracle Cloud for Retail solutions, the brand will provide its customers with a seamless, cross-channel experience.

“Establishing the core foundation first was critical to our success. By embracing Oracle Cloud technology, we can scale to meet customer demand with a fresh assortment that is accessible wherever our customers choose to shop,” said Grant De Waal-Dubla, Group IT Executive, Cape Union Mart. “The dynamic collaboration with our business partners is the best it’s ever been. By moving to the cloud, we will focus more on business processes and adoption rather than worrying about performance.”

To better serve its customers, Cape Union Mart worked with Oracle Retail Consulting to deploy Oracle Retail Merchandising Cloud Service, Oracle Retail Merchandise Financial Planning Cloud Services, Oracle Retail Assortment Planning Cloud Service, and Oracle Retail Science Cloud Services running on Oracle Cloud Infrastructure (OCI). The brand is also leveraging Oracle Fusion Cloud Supply Chain & Manufacturing (SCM) and Oracle Fusion Cloud Enterprise Resource Planning (ERP).

And with the continued adoption of the Oracle Retail platform, Cape Union Mart will be able to support more accurate forecasts regarding inventory management and merchandise budgeting by streamlining assortments, buying, and allocation processes. Cape Union Mart will also look to leverage Oracle Retail Data Store Cloud Service on OCI. With the solutions, planning teams will be able to deliver optimal recommendations on sizes and styles to get the right merchandise in the right locations to meet customer demand.

“Our development team delivered ground-breaking innovation with Retail Data Store. We have liberated the data and science from the service to open up new possibilities for retailers. We are delighted that Cape Union Mart will be one of the first retailers to embrace the next-generation technology in our platform for modern retail,” said Mike Webster, senior vice president, and general manager of Oracle Retail. “Retailers will have one view of inventory, item, order, and customer across a single foundation, with a prepackaged set of AI components, which supports all of our cloud services with analytical processes to improve productivity and outcomes.”

Centric Software Announces Strategic Retail Planning Partnership with Global Fashion Powerhouse

9 January 2023

Centric Software announced a strategic partnership with PVH Europe on January 9, 2023. To read the full details of the announcement please visit: <https://www.centricsoftware.com/in-the-press/centric-software-announces-strategic-retail-planning-partnership-with-global-fashion-powerhouse/>

Chicago Music Exchange Harmonizes its Business with NetSuite

10 January 2023

Chicago Music Exchange, a premier authority on vintage, new, and used music equipment, is working with Oracle NetSuite to serve musicians, collectors, and friends who want straight answers expertise and first-hand knowledge. With NetSuite, Chicago Music Exchange has been able to take advantage of an integrated business system to enable increased productivity and profitability as it grows its in-store and digital presence.

Since 1990, Chicago Music Exchange has served as a premier destination for musicians globally and now ships more than 120,000 instruments annually from its store in downtown Chicago and through its three ecommerce channels. To help ensure it could continue to help customers quickly and easily find the perfect gear as demand soared, Chicago Music Exchange needed to streamline its operations which included disparate IT systems, a 20,000-square-foot warehouse, and more than 15,000 SKUs. After careful evaluation, Chicago Music Exchange replaced QuickBooks and Lightspeed with NetSuite to help automate its inventory management and ecommerce operations, improve visibility across its organization, and enhance decision making.

“As we reviewed new business opportunities, we realized we were constrained by inefficient processes and needed to rethink our systems,” said Andrew Yonke, CEO, Chicago Music Exchange. “With NetSuite, we now have a single business system that has given us new insights into our business by enabling us to look at ecommerce, inventory, and sales metrics in real time. We have also been able to automate many different processes with NetSuite and that has significantly increased efficiencies and helped us maintain our 24-hour shipping guarantee even as demand has soared. The combination of improved insights and efficiency is having a significant impact on our current business and as we continue to expand, NetSuite scales with us.”

With NetSuite, Chicago Music Exchange has been able to move from several disconnected business applications to a single integrated system. NetSuite ERP has enabled Chicago Music Exchange to streamline inventory management by tracking inventory quantity and location, providing greater insight to make more informed financial and operational decisions. When it’s time to pick an order, NetSuite can save time and increase efficiency by telling employees each item’s exact bin location. In addition, NetSuite can help Chicago Music Exchange avoid overselling items by providing a real-time snapshot of stock on order from vendors and items ordered by its’ site’s customers, so it can calculate how much stock to allocate to Amazon and Reverb. Leveraging the NetSuite Connector, inventory availability is also updated on those sites seamlessly.

NetSuite enables Chicago Music Exchange to track demand in real time to help ensure it stocks the right products. For example, Chicago Music Exchange can now track music equipment attributes – brand, body style, and color – that sell quickly to guide purchase decisions. The enhanced reporting delivered by NetSuite has enabled Chicago Music Exchange to move from manually calculating inventory costs to automatically running inventory reports.

“Retailers are looking to unify and automate business operations across channels in an efficient and profitable way,” said David Rodman, SVP of Customer Success, Oracle NetSuite. “With NetSuite’s centralized and scalable system, Chicago Music Exchange uses one system to manage all transactions, and this increases visibility and control over its business. As a result, Chicago Music Exchange can deliver the shopping experience that customers seek, while tracking product popularity, understanding real-time demand, and driving operational excellence.”

As Chicago Music Exchange enters its seventh year with NetSuite, the organization is looking to realize

the full value NetSuite can bring to its business including exploring the product training available in NetSuite Learning Cloud Support. By saving teams' time on manual work, the organization saves money and can focus valuable resources on what matters most: delighting more guitar enthusiasts nationwide.

Chipletz selects Siemens' EDA solutions for its Smart Substrate IC packaging technology

12 January 2023

Siemens Digital Industries Software announced that Chipletz, an innovative fabless substrate startup, has selected Siemens as its strategic electronic design automation (EDA) provider for the development of its groundbreaking Smart Substrate™ products.

After an extensive technical evaluation of available solutions, Chipletz selected a suite of Siemens' industry-leading EDA tools for the design and verification of its Smart Substrate technology, which facilitates the heterogeneous integration of multiple ICs in a single package for critical artificial intelligence workloads, immersive consumer experiences, and high-performance computing.

“The Chipletz vision is to revolutionize semiconductor in-package functionality through the development of advanced packaging technology that bridges the gap between the slowing of Moore's Law and the rising demand for compute performance,” said Bryan Black, chief executive officer of Chipletz. “Our Smart Substrate designs, now in development, are very demanding. Siemens has demonstrated that they have the ideal technology for our needs.”

To design and verify the heterogeneous integration of multiple ICs into a Smart Substrate based package, Chipletz selected Siemens' Xpedition™ Substrate Integrator software, Xpedition™ Package Designer software, Hyperlynx™ software and Calibre® 3DSTACK software solutions.

“Siemens is honored to be selected by Chipletz as a primary semiconductor packaging design and verification supplier,” said AJ Incorvaia, senior vice president of Electronic Board Systems at Siemens Digital Industries Software. “The Chipletz Smart Substrate technology offers Chipletz customers a robust path to bring multiple ICs, even from different vendors, into a wide range of system-in-package configurations using Siemens' design tools to deliver a high-performing and cost-effective end-product.”

CTBC Bank Selects TCS BaNCS to Digitally Transform its Banking and Wealth Landscape

4 January 2023

Tata Consultancy Services (TCS) announced that CTBC Bank, Taiwan, has selected TCS BaNCS™ for Banking and Wealth Management to digitally transform its business and drive its future growth.

CTBC Bank is one of the pioneering banks in Taiwan and a strong force in the region with an extensive international presence. It selected TCS BaNCS to simplify its IT landscape and create new and engaging digital experiences for its customers.

TCS BaNCS' next-generation digital core will enable the bank to provide specialized financial services across retail, wealth and corporate banking, including money trusts, as well as trade finance and international remittance. The new core banking system will offer solutions for loans, deposits, international and domestic remittances, payments/collection, facility limits and collaterals across both consumer and corporate banking business, while supporting customer services 24x7. It will enhance the banking experience for all customers and support the bank's growth aspirations over the next decade.

CIMdata PLM Industry Summary

TCS BaNCS' depth and breadth of functionality and microservices-based, cloud native architecture will help CTBC innovate and drive its digital strategy, identify new business opportunities, and grow its footprint across the region.

Titan Chia, CTO, CTBC Bank, Taiwan, said, *“Our bank has grown to play a significant role at the forefront of Taiwan’s financial services industry, with a proud history of many firsts. We selected TCS BaNCS for our digital transformation initiatives and to help differentiate our offerings by providing contextual, innovative solutions across banking and wealth management. TCS BaNCS’ cloud native solutions will help simplify our IT landscape, spanning consumer, corporate banking, and trade finance in alignment with our vision for a tiered architecture through front-end agile delivery, and mid-platform shareable modules backed by an intelligent digital core. We look forward to fulfilling our vision of becoming a champion in Taiwan and a leading Bank in Asia.”*

Venkateshwaran Srinivasan, Global Head, TCS Financial Solutions, said, *“The TCS BaNCS solution will bring CTBC Bank onto a modern core across their product lines of banking and wealth management based on a microservices architecture, leveraging cloud native capabilities. This will help the bank deliver customer-centric solutions, and enhance scalability and resilience. The solution’s rich APIs and orchestration capabilities will help the bank integrate larger ecosystems into their core processes and improve time-to-market for innovative new offerings.”*

TCS BaNCS solutions are built on the Digital First, Cloud First philosophy with the outcome being a modern platform in the banking and financial industry in a digital world. The TCS BaNCS solution comprises innovative and adaptive digital apps and a digital core richly enabled for business supporting a wide range of products and services across asset types – assets and liabilities, cash, securities, and crypto assets for a wide variety of use cases in the financial services industry. This solution accelerates the digital transformation of traditional businesses by unshackling them from the constraints of legacy technology and powering the ambition to play into the overall ecosystem powered with a rich catalogue of APIs.

Dassault Systèmes Presents Urban Renaissance, Featuring a 3D Mapping Project Illustrating the City of Tomorrow by Korean Artist Yiyun Kang

12 January 2023

Dassault Systèmes announced Urban Renaissance, the most recent installment in its “The Only Progress is Human” initiative to shape a better future. Urban Renaissance showcases Dassault Systèmes’ vision of the city of tomorrow through an innovative 3D video mapping projection designed by Korean artist and researcher Yiyun Kang and projected onto the Dongdaemun Design Plaza in Seoul.

“‘Geofuture’ is my large-scale public projection work that maps the DDP in Seoul. Inspired by Dassault Systèmes’ vision of designing our city, this project imagines our future life that will be realized by sustainable innovation,” said Yiyun Kang.

“The city of tomorrow needs to be resilient to be sustainable. We need new solutions that enable citizens to benefit from a virtual twin of their city to test solutions in the virtual world before implementing them in the real world,” said Victoire de Margerie, Vice President, Corporate Equity, Marketing & Communications, Dassault Systèmes. “Urban Renaissance will explore how sustainable cities can thrive as urbanization increases. For this, we chose the vibrant city of Seoul, and to collaborate with Yiyun Kang, an exciting, renowned local artist who reflects our vision of urban renaissance – a vision for the sustainable and healthy city of tomorrow.”

The reveal of Urban Renaissance and a related talk show will be broadcast during a live event on

CIMdata PLM Industry Summary

LinkedIn, YouTube and Dassault Systèmes' website on January 31 at 17h00 CET. Viewers will have the opportunity to discover the artist's monumental artwork projected onto the Dongdaemun Design Plaza and learn what the city of tomorrow will look like according to Dassault Systèmes and experts such as Bogdan Zaha from Zaha Hadid Architects.

The virtual twin experience of a city improves quality of life for its citizens

With growing populations and an increasing number of climate issues, cities need to be more sustainable and healthy in all aspects, while also continuing the pursuit of a better quality of life for all. This will be possible by creating sustainable buildings, using renewable materials, involving citizens in the definition of the city of tomorrow, providing more inclusive public services, and finding new solutions for mobility, agriculture and greener energy.

Dassault Systèmes is leading the way by providing the technology to model, simulate, analyze, visualize and experience complete cities in the virtual world, to improve how they are built in the real world and the quality of life within them. These virtual twin experiences – visual, digital, 3D models that represent reality with scientific accuracy and are tested and perfected in the context of their use – consider the city environment as well as the infrastructure and commodities needed to build it. Citizens, businesses and city officials can use them to work together to imagine a more sustainable, circular future while simulating and understanding the social and ecological impacts of every design decision they make, before implementing the optimal solution.

Dongdaemun Design Plaza: a symbolic building for Urban Renaissance

The Dongdaemun Design Plaza is the perfect example of what can be designed using Dassault Systèmes' software, as it was conceived and designed by Zaha Hadid Architects using CATIA - one of Dassault Systèmes' solutions. The Dongdaemun Design Plaza, abbreviated as DDP, is a major urban landmark in Seoul with a neofuturistic design characterized by its powerful curving forms. The building is the centerpiece of South Korea's design, art and fashion hub and a popular destination for both local residents and tourists.

Halodi Robotics Leverages Ansys Simulation to Develop Humanoid Robots to Safely Work Among People

5 January 2023

Halodi Robotics is using Ansys simulation software through the Ansys Startup Program to develop its humanoid robots designed to work among humans in everyday environments. Humanoid robots can help alleviate the growing labor shortage, and free critical personnel to focus on tasks that require their high-level skills. These robots will perform jobs such as patrolling buildings at night, stocking grocery shelves, and executing logistical tasks at hospitals. With Elite Channel Partner EDRMedeso, Ansys enabled Halodi Robotics to shorten development time by months.

Up until now, robotic machines have only been seen working in factories performing repetitive and precise tasks. With humanoid robots, the most significant difference is that they are capable of interacting with the world just like humans do. To be able to do so, safety is the most important factor for ensuring successful deployment. Halodi Robotics engineers used Ansys to develop motors with enough power to lift heavy packages in a warehouse while simultaneously being gentle enough to retrieve a laptop and hand it to a human colleague.

Last spring, Halodi Robotics tested its robot EVE as an assistant to healthcare personnel at Sunnaas Hospital in Norway, executing logistical tasks. The hospital identified that using EVE as an assistant has the potential to free up the approximately 200 hours nurses spend on simple logistics tasks, allowing

them to spend more time caring for patients.

“Safety must come first when designing a humanoid robot that will interact with and work among people. Our goal is to engineer a product that is passively safe, making sure that if everything fails, the robot is still harmless,” said Bernt Øivind Børnich, chief executive officer at Halodi Robotics.

“Simulating the design of powerful yet safe electric motor systems using Ansys software reduced the development time of our second generation of motors by months.”

Halodi Robotics engineers used Ansys Motor-CAD simulation software to develop motors that mimic biological systems, such as human muscles. Synthetic fiber threads connected to actuators are driven by very lightweight, low-speed motors with very high torque. These motors provide the high power and low-energy interactions required by humanoid robots.

“We’re amazed at what Halodi Robotics has been able to accomplish. With the help of Ansys software, engineers are making humanoid robots safe to work around people,” said Walt Hearn, vice president of worldwide sales and customer excellence at Ansys. “Moving robots out of confined, structured industrial settings and enabling them to interact with people in real-world settings is a significant leap forward in robotics technology.”

HCLTech And The ODP Corporation Announce Agreement For IT And Digital Transformation Services

6 January 2023

HCLTech, a leading global technology company, announced that The ODP Corporation (“ODP”), a leading provider of products, services and technology solutions through an integrated business-to-business (B2B) distribution platform and omnichannel presence, has selected the company as its primary IT partner. HCLTech will be the IT partner for ODP for end-to-end IT operations and enterprise-wide digital transformation to support ODP’s business strategy in its Office Depot, ODP Business Solutions and Veyer business units.

As part of this agreement, HCLTech will leverage its automation and artificial intelligence (AI) capabilities to enable efficient IT operations with personalized and intuitive IT services. ODP will also benefit from HCLTech’s vast experience in application modernization and operating model transformation to further evolve as an agile, product-centric IT organization.

“Consistent with our low-cost business model approach and new four business unit structure, we’re excited to partner with HCLTech, a world-class IT organization, to support our evolving IT needs and priorities,” said Gerry Smith, Chief Executive Officer for The ODP Corporation. “HCLTech’s extensive IT expertise provides greater agility and differentiated IT capabilities to help accelerate our transformation and positions us to expand services to our customers, today and in the future.”

“The infusion of HCLTech’s digital transformation and IT modernization expertise into The ODP Corporation’s robust operations will create a stronger and more flexible foundation for ODP amid constant technological advances and shifting consumer demands and expectations,” said C Vijayakumar, Chief Executive Officer & Managing Director, HCLTech. “We’re excited to supercharge progress for ODP as they evolve their IT capabilities and services and look forward to setting new industry benchmarks in terms of operational and customer experiences.”

HCLTech Selected As Mattel's Primary Digital Transformation Partner

12 January 2023

HCLTech, a leading global technology company, announced that Mattel Inc., a leading global toy company and owner of one of the strongest portfolios of children's and family entertainment franchises in the world, has selected HCLTech to drive transformation across Mattel's global technology landscape cutting across applications, infrastructure and information security domains.

HCLTech will serve as Mattel's primary IT digital transformation partner for the next several years. With its rich experience in executing such multi-dimensional engagements, HCLTech will support Mattel's future direction and continued digital transformation journey.

"With operations in more than 35 locations around the world, it is vital to have an IT services partner that can match our scale and adjust for our growth as an IP-driven, high-performing toy company," said Sven Gerjets, Chief Technology Officer at Mattel. "Due to their extensive experience in modernizing large enterprises across sectors and around the world, HCLTech is the right partner at the right time for Mattel."

"We're excited to partner with Mattel to help them move to a product IT operating model," said Anand Birje, President of Digital Business at HCLTech. "We will help them with their business applications and enterprise platform modernization while shifting their underlying digital foundations to resilient, modern, and efficient cloud infrastructure."

HUS Logistics chooses the FidaWare WMS SaaS solution from Roima

5 January 2023

HUS Logistics selected Roima's FidaWare WMS to improve HUS Logistics' role in providing efficient logistics services to customers.

About HUS Logistics

HUS Logistics provides logistics services, material services, and medical engineering services for the entire HUS.

HUS, formally the Hospital District of Helsinki and Uusimaa, is made up of five hospital areas: Helsinki University Hospital, Hyvinkää, Lohja, Porvoo, and Västra Nyland. HUS is the largest healthcare provider and the second-largest employer in Finland.

Clients of HUS Logistics include all HUS hospitals and treatment units. In addition, they provide services to the HUS member municipalities and the Helsinki University Hospital Specific Catchment Areas that have signed a service agreement with them.

Background

The HUS Logistics WMS project was launched in the spring of 2021 with a survey on customer references of domestic WMS suppliers.

During the WMS project and together with HUS Logistics warehouse staff, we visited the Masku Kalustetalo's logistics center in Mäntsälä. HUS Logistics conducted a market presentation where we reviewed successful WMS projects and highlighted key issues based on our expertise.

The HUS Logistics WMS procurement was published in the Finnish public procurement portal Hilma on 25 May 2022.

Solution

CIMdata PLM Industry Summary

The decision of selection was announced on 15 August 2022 and Roima's FidaWare WMS won the tender. The competition was very tuff, but FidaWare WMS was the customer's choice, says Arto Pellonpää, from Roma and WMS solution sales.

The implementation of the FidaWare WMS system started with a SaaS delivery model in September 2022. The aim is to significantly improve throughput, increase storage capacity and reduce the number of times items are processed.

Paula Mikkonen, logistics manager of HUS Logistics has been very satisfied with the FidaWare WMS selection and Roima's project model and WMS implementation project.

Norwegian Public Roads Administration Selects Trimble for Asset Lifecycle Management

10 January 2023

Trimble announced that Norwegian Public Roads Administration (NPRA) Operations and Maintenance has selected **Trimble's AgileAssets**[®] infrastructure enterprise asset management software to manage, maintain and operate the country's 10,600-km road network and associated transportation infrastructure. The selected software complements **Trimble's Quadri**[®] software, a cloud-based Building Information Modeling (BIM) collaboration solution that NPRA already uses for construction projects. As Norway's road network becomes increasingly complex, the powerful combination of Trimble's Quadri and AgileAssets will enable NPRA to meet growing demands by leveraging connected data to improve performance throughout the entire asset lifecycle, from design and construction to operations and maintenance.

"Trimble has been heavily involved in the road design and construction process in Norway for years and is a trusted partner in our digital transformation," said Bjørn Laksforsmo, division director at NPRA. "Efficiently maintaining our road network and related assets is critical for keeping our citizens safe, maximizing the benefits from our infrastructure investments and meeting the country's evolving mobility needs. With a holistic, lifecycle view of assets and as-built data, we can more efficiently perform preventive maintenance and make better-informed decisions for all of our assets as we plan for the future."

NPRA's asset lifecycle management approach began with the requirement that all new projects use constructible models and a common data environment. NPRA began using Trimble's Quadri, which provides both constructible models and an object-based common data environment, to streamline the flow of real-time data across project stakeholders. Extending that data to the maintenance and operations phase with Trimble's AgileAssets will give NPRA a holistic view of assets and a better understanding of road objects and conditions for easier diagnosis and faster resolution of maintenance issues. The combination of Trimble's common data environment and asset management software will also improve the usefulness and fidelity of data throughout the asset lifecycle, driving greater predictability, sustainability and lower lifetime costs, as well as informing decisions about future expansions and improvements.

"Delivering safe, cost-effective and sustainable transportation infrastructure increasingly depends on closing the data gap between construction, maintenance and operations," said Shelly Nooner, vice president of Innovation and Platform in Trimble's Owner and Public Sector. "Today, design data is as important during maintenance as it is during construction. As infrastructure needs increase in size and complexity, and data continues to accumulate through an asset's lifecycle, the ability to share, analyze and build on that data at every stage will be transformative. NPRA has been a pacesetter in digital

adoption and serves as a model for other agencies looking to improve performance, cost-effectiveness and sustainability through asset lifecycle management.”

Praan Speeds Development of Sustainable Air Purification Technology with Ansys Simulation

5 January 2023

US and India-based technology startup Praan, Inc. (Praan) developed its latest filterless air purification technology using Ansys’ industry-leading simulation solutions. The company’s advanced technology includes filterless purifiers for indoor air in large spaces with near-zero maintenance costs, and an advanced tablet-based activated carbon filter. Praan’s technology is currently on display at CES at Ansys’ booth, #4401.

To help mitigate the worldwide problem of air pollution, Praan designed the MK One and MK Two for large spaces. The advanced air purification technologies — designed with Ansys® Fluent® computational fluid dynamics — capture polluted air, separate microscopic particulate matter (particle pollution) into a collection chamber, and release cleaner air back into the atmosphere. Additionally, Praan offsets any carbon dioxide emitted during manufacturing through afforestation or direct air capture methods, making all their products net-zero.

“With Ansys simulation, our team significantly reduced the development time of functional prototypes from four and a half years to 45 days,” said Angad Daryani, founder and chief executive officer at Praan. “Without simulation, it would have cost tens of millions of dollars and lots of time. It’s just not feasible when building large devices to build multiple physical prototypes, which is why it’s essential for us to incorporate Ansys simulation and virtual prototyping into our development and design processes.”

Beyond its strides with filterless technology in industrial markets, Praan also used Ansys simulation to develop the HIVE air purifier for smaller spaces. The HIVE uses an advanced tablet-based activated carbon filter and a recyclable high-efficiency particulate air (HEPA) filter, ensuring complete reuse without the disposal of unsustainable materials. HEPA filtration was instrumental during the COVID-19 pandemic and continues to be a vital tool in mitigating airborne bacteria. For the HIVE, Praan used Ansys simulation solutions to understand fan requirements and develop specifications in two weeks, rather than the estimated four months it would have taken without simulation.

“Ansys is committed to sustainability, and we are grateful that Ansys’ simulation solutions have enabled Praan to contribute to the global clean-air mission,” said Walt Hearn, vice president of worldwide sales and customer excellence at Ansys. “By developing advanced air purification technology for small and large spaces, Praan is helping improve air quality in a wide range of environments around the world.”

Sub-Zero Group, Inc. Expands Use of Ansys’ Simulation Solutions to Drive Digital Transformation and Sustainable Product Development

5 January 2023

Building on a longstanding relationship, Ansys signed a multiyear agreement with Sub-Zero Group, Inc. (Sub-Zero Group) to expand Sub-Zero Group’s use of Ansys’ simulation solutions and digitally transform its research and development (R&D) processes to optimize designs, efficiency, and product quality. The industry-leading manufacturer of premium kitchen appliance brands Sub-Zero, Wolf, and Cove, Sub-Zero Group implements Ansys’ industry-leading simulation tools to inform designs from early stages, reduce physical prototypes by up to 50%, and accelerate development by nearly 20%.

CIMdata PLM Industry Summary

Historically, Sub-Zero Group integrated simulation as a late-stage verification method. Today, Ansys helps Sub-Zero Group create and maintain an infrastructure that includes automated and semi-automated workflows in which simulation is used to ideate and fine-tune designs before a physical prototype is ever made. Further, by shifting to virtual prototyping and testing, Sub-Zero Group improves sustainability by decreasing material usage and manufacturing time, which preserves energy and eliminates unnecessary waste.

“By incorporating Ansys’ simulation solutions earlier in our R&D processes, we are now beginning with the end in mind,” said Terry Hoffman, senior director at Sub-Zero Group. “With simulation front and center from early-stage design, we can see the bigger picture and better inform our development process, accelerate timelines, reduce physical prototyping, and, ultimately, enhance product quality and safety. Essentially, Ansys simulation enables us to deliver our brand promise of producing world-class kitchen appliances.”

Under the agreement, Sub-Zero Group will continue to leverage tools such as Ansys® Mechanical™ for structural analyses, Ansys® Fluent® for computational fluid dynamics, and developing Ansys® HFSS™ capabilities to understand electromagnetic phenomena. From noise to thermal stresses, connectivity, and more, Ansys simulation provides Sub-Zero Group with insight into areas that could not be fully explored with physical testing alone.

“Ansys is proud to collaborate with Sub-Zero Group to drive digital transformation and sustainable product development by encouraging simulation as an active part of development,” said Walt Hearn, vice president of worldwide sales and customer excellence at Ansys. “Simulation integration not only saves time and cost but provides critical insight to optimize product performance, safety, and efficiency.”

Turntide Leverages Ansys to Reduce Development Costs for Electric-Powered Construction Vehicles

5 January 2023

Turntide Technologies (Turntide), developer of electrification and sustainable operations technologies, is leveraging Ansys solutions to produce electric vehicle powertrain components that help its customers transform commercial and industrial vehicles from gas and diesel engines to clean, quiet battery electric machines — a significant step towards achieving global net-zero goals.

While many automakers electrify passenger vehicles, Turntide is focused on supplying electrification solutions for commercial and industrial vehicles, such as construction equipment, agricultural machines, trains, marine and freight movers. These vehicles present greater sustainability challenges than passenger vehicles because of their heavy-duty loads, work cycles, and vibration. Timely, cost-effective simulation is essential to develop the solution components.

Turntide uses a suite of Ansys tools to design and test components for construction equipment such as front wheel loaders or mini excavators. These simulations show the impact of extreme scenarios including weather, vibration, impact, and corrosive exposure to salt, sand and chemicals and provide performance and safety data.

“Typically, testing a product prototype for electromagnetic compatibility at an accredited test facility costs more than \$34,000 over a two-week period,” said Biswadip Shome, senior director, simulation and analysis at Turntide. “Instead of performing prototype-based trial and error solutioning, which is not only time consuming but also expensive, a physics-based simulation using Ansys toolsets provides a significant business advantage. We estimate that we save about 25% on development costs by using

simulation.”

Critical simulations for inverters, one of the most important components for electric vehicles, are conducted for shock and vibration to ensure the printed circuit board assembly can endure rugged environments, and thermal systems are simulated to evaluate coolant pressure drops and effectiveness in harsh climates.

“It's astounding to see the energy and carbon emissions savings that Turntide is achieving by using Ansys simulation to develop electric powertrains,” said Walt Hearn, vice president of worldwide sales and customer excellence at Ansys. “We are proud to be part of their success story.”

VDL Enabling Technologies Group Chooses Infor for ERP Modernization

11 January 2023

Infor®, the industry cloud company, announced that VDL Enabling Technologies Group (ETG) of Eindhoven, The Netherlands, is deploying Infor CloudSuite Industrial Enterprise to modernize its enterprise resource planning (ERP) Baan solution. Infor is supporting VDL ETG with this move to the cloud and the realization of its "digital factory" vision.

VDL ETG will use Infor CloudSuite Industrial Enterprise for ERP rollout in this high-tech cluster of VDL Groep. VDL ETG's responsibilities include producing modules of microchip machines for customers in the semiconductor industry. This move will bring the core production processes, financial and business administration, and various other components to the cloud. The implementation of Infor's cloud ERP solution will shape the intended digital transformation, further automation of processes, and improved real-time information provision. With this, VDL ETG expects to optimize production quality, efficiency and scalability of operational processes.

The deployment of Infor CloudSuite is necessary because there are many rapid developments in the field of semiconductor equipment manufacturing, which also often involve complex configurations. In addition, the demand for chips continues to skyrocket. Infor's solution improves the manufacturing process, increases efficiency and reduces risk in the supply chain through improved visibility and control. Infor makes it possible to modernize the ERP environment and shape all core components in VDL ETG's production process in a single integrated architecture. This facilitates VDL ETG's "digital factory" vision. The implementation of Infor CloudSuite will be carried out in cooperation with implementation partner Merino Consulting Services.

Minimal risk, maximum possibilities

"We were working with a Baan system. Because Baan was merged into Infor and Infor offers a good fit with our business processes, the choice was logical and we were able to avoid a big-bang switch," explains Charel van Hoof, digital transformation executive at VDL ETG. "We are switching 'horizontally' so that the processes and, for example, code numbers remain recognizable for people. So digital transformation in small, clear parts of our systems each time. The big advantage for us is that many features are integrated into Infor's CloudSuite. We used to develop many partial applications ourselves. Now that is no longer necessary. Minimal change management and therefore minimal risk, but maximum features and possibilities."

Growth and scalability

Hein Kivits, Infor's country manager for the Benelux region, said, "Infor CloudSuite is particularly well suited for deployment at VDL ETG because it is precisely designed to facilitate these types of high-tech industrial companies in their digital transformation and improving their business processes. It enables

growth and scalability and facilitates continuous innovation, which is important for the future-proofing of companies like VDL ETG, in a market where a lot is happening. The solution's rich standard functionality combined with the unbundling that Infor's software-as-a-service CloudSuite offers means that VDL ETG can focus primarily on its intended business transformation and making operational processes more efficient."

Infor CloudSuite Industrial Enterprise

Infor CloudSuite Industrial Enterprise is a modern ERP solution designed specifically for industrial manufacturers to make business processes more efficient and productive. The software provides in-depth, proven capabilities to help companies meet customer demands, maintain employee productivity and get products to market as quickly as possible.

Delivered as software-as-a-service in the cloud, CloudSuite Industrial Enterprise offers best practice industry functionality as well as benefits including cost efficiency and scalability, state-of-the-art security and continuous innovation, making costly ERP upgrades a thing of the past.

Product News

Altair Announces Release of Simulation 2022.2 Software Update

9 January 2023

Altair, a global leader in computational science and artificial intelligence (AI), announced the latest updates to its simulation portfolio, Simulation 2022.2. These updates build on the enhancements brought by Simulation 2022.1 and improve Altair's cloud elasticity and scalability, electrification, and product development capabilities.

Cloud Elasticity and Scalability

Simulation 2022.2 offers an enhanced Altair One experience by providing users with flexible access to solutions, applications, data, and compute, allowing users to launch leading tools like Altair® HyperMesh®, Altair® HyperView®, Altair® SimLab®, and Altair® Inspire™ in browsers or on the desktop/laptop. Altair One is a turnkey marketplace that connects users – from any device at any time – to their solutions, data, teams, and compute infrastructure.

In addition, users can submit solver jobs covering structural, thermal, and computational fluid dynamics (CFD), and high/low frequency electromagnetics disciplines in Altair's scalable, elastic cloud infrastructure – making it easier for organizations with limited IT and high-performance computing (HPC) resources to meet budgets and demand.

Moreover, self-service allows users to create pre-configured HPC appliances through a simple button click. Users can create these private appliances on their preferred cloud provider, allowing them to utilize the best compute hardware to run simulation solvers and applications that can be run on GPU nodes for visualizing fluid dynamics or bulk and granular material simulations. Access to Altair solutions through the Altair Units value-based licensing system empowers users to maximize the power of existing HPC investments in-house, in the cloud, on-demand, and/or in hybrid approaches.

Reliable, Efficient Electronics Systems Development

The latest software updates enable product teams to collaborate on all aspects of electronic systems, printed circuit board (PCB), firmware, and 5G connectivity development in a connected, end-to-end environment so they can reach their goals faster. Simulation 2022.2 features tighter integration between Altair® Flux®, Altair® FluxMotor®, Altair® SimLab®, and Altair® Material Data

CIMdata PLM Industry Summary

Center™ to help users streamline workflows and provide advanced modeling capabilities, electrical system design exploration and optimization, and faster acoustic and thermal flow analysis. Debugging and post-production servicing updates are also available with Altair EEVision for electronic system design.

With Simulation 2022.2's latest improvements, organizations and teams can develop comprehensive workflows from concept to production in a single, unified environment to reduce development costs, organizational friction, time-to-market, waste, and material usage.

Enabling Confident Developmental Decisions

Altair's integrated software solutions allow users to make confident, informed decisions at every stage of the product lifecycle. Simulation 2022.2 improves integration between Altair simulation products for streamlined project management and lead-time reduction.

In Simulation 2022.2, users see significant improvements to Altair® HyperWorks®, HyperMesh, Altair® Pulse™, and Altair® HyperWorks® CFD. These improvements enable better modeling analysis through low- and no-code design and engineering tools, reduced pre- and post-processing lead times, improved surface modeling, integrated solver and dashboard capabilities, expanded fluid topology optimization coupling with Altair® AcuSolve® and Altair® EDEM™, and more. These features allow users to get their designs right the first time, without the hassle. Additionally, HyperWorks has been augmented with AI to enhance the modeling experience with automated part identification, characterization, and grouping as well as geometry feature recognition and management for use in downstream processes and further end user recommendations.

Cadence Tensilica HiFi DSP Enables Highly Energy-Efficient Audio Playback for Dolby Atmos for Cars

5 January 2023

Cadence Design Systems, Inc. announced that Cadence® Tensilica® HiFi DSP IP now supports Dolby Atmos® for cars, making it the first DSP IP with this capability. Cadence has optimized Dolby car experience technology to run on the Tensilica HiFi DSP for audio playback of Dolby Atmos for cars. Offloading Dolby Atmos to the low-energy, high-performance Tensilica HiFi DSP enables system-on-chip (SoC) providers to offer automotive OEMs and Tier 1 suppliers a more energy-efficient implementation without affecting the audio experience.

Dolby Atmos for cars immerses drivers and passengers in the future of in-car entertainment with greater audio details, clarity and sound separation that bring listeners closer to their favorite content. Dolby Atmos brings music to life by providing artists an expanded palette that can be used to express their creativity in an entirely new way. With Dolby Atmos, drivers can experience entertainment that has been created, delivered and played back as the artist intended.

“At Dolby we are passionate about expanding the options for consumers to enjoy Dolby Atmos experiences and music is an important aspect of any in-car experience,” said Andreas Ehret, Director of Automotive at Dolby Laboratories. “Dolby is a long-standing Cadence partner, and enabling Dolby Atmos on the popular Tensilica HiFi DSP allows OEMs and users to optimize their automotive infotainment experience.”

“The Tensilica HiFi DSP is the most widely used audio DSP on the market. HiFi DSPs are licensed by 19 of the top 20 semiconductor companies, with more than 1.5 billion HiFi DSP cores shipping per year. In collaboration with Dolby, we have brought Dolby technology to billions of consumer devices over the years, including the first-ever Dolby Atmos TV,” stated Yipeng Liu, group director of marketing,

CIMdata PLM Industry Summary

Tensilica audio/voice IP at Cadence. “Offering Dolby car experience technology on Tensilica HiFi DSPs enables our customers to deliver Dolby Atmos for cars to the market with extremely high performance, energy efficiency and value.”

Cadence’s comprehensive audio ecosystem includes more than 180 partners ranging from industry giants like Dolby to other companies providing innovative sensor fusion, always-on, sound-enhancement and noise-reduction software. More than 300 audio, voice, speech recognition and voice enhancement software packages have already been ported to the Tensilica HiFi DSP architecture, enabling customers to get up and running very quickly and easily port their proprietary software with the same or higher performance as other DSP solutions.

CMS IntelliCAD 11.1 Available Now Based on IntelliCAD 11.1

4 January 2023

Ready for more CAD in the new year? Just-released CMS IntelliCAD 11.1 includes all the new features found in the IntelliCAD 11.1 engine, focusing on new commands and abilities in dimensioning, blocks, and tables. More features throughout the program also include turning live sectioning on/off, aligning model space entities in layout viewports with entities in paper space or other model space viewports, drawing facet model helices, extracting isolines, custom paper sizes for .pc3 files, and more.

CMS IntelliCAD versions, some of which include BIM technology, can be purchased and downloaded with a perpetual or subscription license and can include a USB dongle for portable licensing. New users can try a free trial at <https://us.intellicadms.com>. Existing CMS IntelliCAD 11.0 users can update for free—simply uninstall version 11.0 before installing CMS IntelliCAD 11.1.

CMS IntelliCAD 11.1 is based on the IntelliCAD 11.1 engine which was released to ITC members just two weeks ago.

Ganister v2.11 is released !

9 January 2023

Performance tuning and Gift Feature

Still working on v3, we still have some work to maintain and enhance v2. There's a mix of enhancements from v3 that we like to add to v2 and it obviously goes in both directions. Any performance improvement we can find while we are working with v2 is getting implemented in v3 if that makes sense. Having customers on v2 helps us getting more feedbacks and perf logs to evaluate our enhancements.

Tag based client elements filtering

So far we have only been limiting access to data based on the relationship between a user and the data. A few times we received the request to adapt the UI to users, mainly on the node listing grids. We agree, that even though we are 100% right on information access. It doesn't make sense sometimes to access the list of softwares if you don't have access to softwares. We thought about it for a while and we came up with this tag concept defined at group level. It spreads along the groups & users structures to give every user, tags from the groups he belongs to. We also wanted to make sure that a user could not overcome this by changing something client side. This filtering is done server side, securing accesses.

Change Log

- [Main Client] harmonize modals
- [Main Client] Change the intro loader, less code and faster loading

- [Main Client] hide lockedby button on nodeform if node is loading
- [Main Client & API] add getnodelifecycle role custom method
- [Main Client & API] add tag based UI flexibility
- [Ganister Server] Performance enhancement on relationship creation
- [Ganister Server] Improve CSP security configuration
- [G-Config] add rights and permission reports

Looking forward

Getting closer to V3 !!

Intelligent P&ID exchange format DEXPI boosts management of digital design data

10 January 2023

Cadmatic now supports DEXPI version 1.3 for both import and export to and from CADMATIC P&ID. DEXPI is an open XML format that enables process-related data to be easily transferred from one software program to another.

Interoperability is a cornerstone of the Cadmatic software development philosophy. According to Cadmatic Product Owner Liisa Rosenqvist, the DEXPI cooperation allows Cadmatic customers to ensure the reliability and integrity of the data that they get from different stakeholders, operational phases, and software systems.

“When you use DEXPI for smooth import of data into CADMATIC P&ID and Plant Modeller, it can shorten the time you use for the preliminary phase of your brownfield project. The P&ID data can be further used in CADMATIC eShare in the form of intelligently linked documents to the digital twin of the facility,” Rosenqvist explains.

Cadmatic P&I data can also be exported via DEXPI to other software programs that support the DEXPI import. This could, for example, be the export of P&I data for use in external simulation or automation design software.

MachineWorks releases Polygonica 3.2

11 January 2023

Polygonica is a **component software library for working with polygon meshes** that helps companies in a range of industrial markets solve complex 2D and 3D geometrical problems.

The main functions of Polygonica include healing, Booleans, offsetting, remeshing, simplification, shrinkwrap, surface and feature detection and point-cloud manipulation and meshing

Polygonica 3.2 includes new smooth mesh morphing functionality based on control points and regions. The image shows a vector field representing deformation compensation for additive manufacturing, automatically generated by Polygonica 3.2 from comparison of the printed part with the design part. Deformation magnitudes are amplified for rendering.

Headline improvements in Polygonica 3.2 include:

- Mesh deformation for AM compensation:
 - General smooth mesh morphing operations.
 - Computation of accurate deformation fields between two meshes

CIMdata PLM Industry Summary

- Application can define deformation from CAE simulation or scanned part
- Mesh registration:
 - Accurately register two meshes from different coordinate spaces
 - Refine registration based on application defined regions
 - Register scanned mesh with CAD part.
- 3D Medial Axis:
 - Compute the medial axis of a solid as a set of points and corresponding radii
- Remeshing enhancements:
 - Keep exact shape of original model.
 - Adapt triangle edge lengths to small features on the mesh.
 - Specify vertices to preserve during remeshing.
 - Specify minimum edge lengths during curvature-sensitive remeshing.
- Extensions to offsetting to allow deeper analysis of the offset result:
 - Create a new offset with faces, edges and vertices mapped from the original
 - Report significant intersection edges between the resulting offset faces that were part of different surfaces on the original solid.
- Hatch and infill extensions:
 - A new dilation operation has been added to offset open, self-intersecting polylines that do not represent closed regions.

Managing Director of MachineWorks Ltd, Dr Fenqiang Lin, stated “Much of the headline functionality in Polygonica 3.2 is based on direct requests from customers in the AM, CAE and CAM fields. We are really pleased with what the product team has been able to deliver during this release cycle, which continues to advance Polygonica’s technology while helping to solve some of the most challenging geometric problems our customers are facing today.”

Modelithics® Releases the Modelithics MACOM® GaN Library v23.2.1

10 January 2023

Modelithics, Inc., (Modelithics) the world’s leading independent provider of RF and microwave models, is pleased to announce version 23.2.1 of the Modelithics MACOM GaN Library. **With this latest version, the library now includes a total of nine models for MACOM PURE CARBIDE™ GaN devices.**

Version 23.2.1 of the Modelithics MACOM GaN Library introduces a new model for the MACOM MAPC-A1505 GaN device. The MAPC-A1505 GaN amplifier is intended for operation from 2.7 to 3.1 GHz and is suitable for linear and saturated applications. It supports pulsed operation and delivers >700 W of output power. The MAPC-A1505 device comes in an air cavity ceramic package and is intended for 50 or 65 V operation.

The Modelithics MACOM GaN Library also includes models for MACOM’s MAPC-A1000, MAPC-A1100, MAPC-A1101, MAPC-A1102, MAPC-A1103, MAPC-A1500, MAPC-A1501, and MAPC-S1101 GaN devices. Each model in the library is developed and validated using extensive linear and nonlinear data sets and is intended for high-power microwave applications. In addition, each model

CIMdata PLM Industry Summary

includes intrinsic IV sensing as an advanced feature. Additional models will continue to be added to the Modelithics MACOM GaN Library on an ongoing basis.

The models in the Modelithics MACOM GaN Library are compatible with Keysight Technologies' PathWave Advanced Design System (ADS) and Cadence AWR Design Environment®.

TOPSOLID INTEGRATES MSA FRANCE LIBRARY

10 January 2023

TOPSOLID SAS has just signed a partnership with MSA FRANCE allowing TopSolid user to access some of their product models inside TopSolid.

Once downloaded from TopSolid'Store, TopSolid'Wood users will be able to access this products directly in TopSolid. Search functions will allow them to find the required item and create advanced libraries to boost their productivity.

Available in French, these items provide:

- Item designation
- Item reference
- Supplier information
- Some of these components are parameterized and provide key points and machining processes.

Vectorworks, Inc. Announces New Cloud and Mobile Enhancements Built on Apple Technology

10 January 2023

Global design and BIM software provider Vectorworks, Inc. has released key updates to the Vectorworks 2023 product line focused on providing users with a more efficient and reliable experience on Vectorworks Cloud Services and the Vectorworks Nomad mobile app utilizing Apple's innovative technology.

“We are using the power of the Cloud to bring the latest Apple technologies to our users and speed up and streamline their reality capture workflows,” said Iskra Nikolova, Vectorworks quality assurance manager for Cloud and mobile.

The existing Photos to 3D Model feature in Vectorworks Cloud Services has been upgraded to take advantage of Apple's new photogrammetry API on macOS, known as Object Capture. Job submissions now incorporate this framework on the Cloud infrastructure, desktop app, web portal and Nomad mobile app.

“Apple's Object Capture framework replaces our old photogrammetry framework used for the generation of 3D models from photos. It has higher success rates and creates a more optimized geometry in less time,” said Nikolova. “Plus, additional metadata generated by supported iOS devices is used by the algorithm to recover actual object size and orientation, which was not possible before.”

In addition, using Apple's room scanning framework, RoomPlan, the Nomad mobile app can now produce models with classified geometry, such as walls, windows, openings and doors, which can be imported directly into a Vectorworks model. Users can quickly scan an existing room layout using their iOS mobile device to create a robust reality capture that is accessible and easy to use.

“Apple's RoomPlan scanning framework is great for capturing existing room layouts and bringing them into Vectorworks with almost no effort or time,” said Nikolova.

CIMdata PLM Industry Summary

Building on modern technology gives Vectorworks the ability to continuously provide further updates to the Nomad mobile app. This latest update gives users more control over light representation in their 3D models. The new Lights panel in the 3D model viewer allows for light object visibility control from the viewer, which aids in design presentation. Individual light objects exported from .vwx files can be turned on and off, and heliodon or directional lights can now also set the position of the Light direction control when opening a model in the Unity-based 3D viewer.

Users can try out the latest Vectorworks Cloud Services features by logging into cloud.vectorworks.net. To access the new features in the Vectorworks Nomad mobile app, download the latest version from the Apple App Store or Google Play Store.